STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SANTA ANA REGION

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ORDER NO. R8-2010-0036
NPDES NO. CAS618036

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR THE SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT, THE COUNTY OF SAN BERNARDINO, AND THE INCORPORATED CITIES OF SAN BERNARDINO COUNTY WITHIN THE SANTA ANA REGION

AREA-WIDE URBAN STORM WATER RUNOFF MANAGEMENT PROGRAM

The following Dischargers (Table 1) are subject to waste discharge requirements as set forth in this Order:

Table 1. Municipal Permittees

Principal Permittee	San Bernardino County Flood Control District (SBCFCD)	
Co-Permittees	1. County of San Bernardino	9. City of Loma Linda
	2. City of Big Bear Lake	10. City of Montclair
	3. City of Chino	11. City of Ontario
	4. City of Chino Hills	12. City of Rancho Cucamonga
	5. City of Colton	13. City of Redlands
	6. City of Fontana	14. City of Rialto
	7. City of Grand Terrace	15. City of San Bernardino
	8. City of Highland	16. City of Upland
		17. City of Yucaipa

The Principal Permittee and the Co-Permittees are collectively referred to as the Permittees or the Dischargers.

Table 2. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**January 29, 2010**
This Order shall become effective on:	**January 29, 2010**
This Order shall expire on:	**January 29, 2015**
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Board have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than 180 days in advance of the Order expiration date.	

IT IS HEREBY ORDERED, that this Order supersedes Order No. R8-2002-012 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Dischargers shall comply with the requirements in this Order.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on January 29, 2010.

Gerard J. Thibeault, Executive Officer

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I. FACILITY INFORMATION

A. Each of the Permittees listed in Table 1, above, owns and/or operates storm water and urban runoff conveyance systems, including flood control facilities. These conveyance systems are commonly referred to as municipal separate storm sewer systems (MS4s[1]) or storm drains, through which storm water and urban runoff are discharged into waters of the United States (Waters of the U.S.) that are located within the Santa Ana Region. Some of the natural channels, streambeds and other drainage facilities that are generally considered as Waters of the U.S. have been converted to flood control facilities. In such cases, where a natural streambed is modified to convey storm water flows, the conveyance system becomes both an MS4 and a water of the U.S. The primary purpose for which these MS4s were constructed was for flood control to minimize threat to public safety and property damage. 40 CFR 122.26(b) categorizes MS4s as follows: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) an MS4 which contributes to a violation of a water quality standard; (3) an MS4 which is a significant contributor of pollutants to waters of the United States; or (4) an MS4 owned and/or operated by a small municipality that is interrelated to a medium or large municipality. Urban Runoff[2] from these MS4 systems must be regulated under a National Pollutant Discharge Elimination System (NPDES) permit as per Section 402(p) of the federal Clean Water Act (CWA).

B. This Order regulates the discharge of pollutants (as defined in Attachment 4, Glossary) in Urban Runoff from anthropogenic (generated from non-agricultural human activities) sources from MS4s that are either under the jurisdiction of the Permittees, and/or where Permittees have MS4 maintenance responsibility, or have authority to approve modifications of the MS4s. Urban Runoff includes those discharges from residential, commercial, industrial and construction areas within the permitted area and excludes discharges from feedlots, dairies, and farms or other agricultural activities. The Permittees have jurisdiction over and/or maintenance responsibility for storm water conveyance systems within San Bernardino County. The Permittees lack legal jurisdiction over storm water discharges into their systems from State and federal facilities, e.g., schools and hospitals, utilities and special districts, Native American tribal lands, wastewater management agencies and other point and non-point source discharges otherwise permitted by the Regional Board. The Regional Board recognizes that the Permittees should not be held responsible for such facilities and/or

[1] A MS4 (municipal separate storm sewer system) system is any conveyance or a system of conveyances designed to collect and transport storm water which is not part of a Publicly Owned Treatment Works (i.e., not a combined sewer).

[2] Urban runoff is defined as all flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) authorized non-storm water discharges

discharges. The Regional Water Board will coordinate with these entities to implement programs that are consistent with the requirements of this Order. The Regional Board, pursuant to 40 CFR 122.26(a), has the discretion and authority to require non-cooperating entities to participate in this Order. The Regional Board may also consider such facilities for coverage under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.

C. To the extent that the Permittees authorize the connection of these discharges into their MS4s, this Order requires the Permittees to provide written notification of Water Quality Management Plan (WQMP) requirements for post-construction BMPs and/or other applicable requirements of this Order. A WQMP approved by the Permittee who owns the MS4 may constitute compliance with the General Construction Permit post-construction requirements[3] for the Permit Area.

D. Certain activities that generate pollutants present in storm water runoff may be beyond the ability of Permittees to prevent or eliminate. Examples of these include, but are not limited to: emissions from internal combustion engines, brake pad and tire wear, atmospheric deposition, bacteria from wildlife (including feral dogs and cats) or from bacterial resuscitation or reactivation from treated waters or growth of bacteria in the environment (such as in sediments, surface water, or other substrate), and leaching of naturally occurring nutrients and minerals from local soils. This Order is not intended to address background or naturally occurring pollutants or flows.

E. The Permittees serve a population of approximately 1.5 million[4] (75% of the County population), occupying an area of approximately 620 square miles[5]. The permitted area is shown on Attachment 1.

F. The Permittees' MS4 systems include an estimated 378 miles of above-ground channels and 485 miles of underground storm drain channels, for a total of 863 miles within the permitted area. Approximately seven percent (7%) of the San Bernardino County area drains into water bodies within this Regional Board's jurisdiction. This Order regulates urban and storm water runoff from areas within the Santa Ana Regional Board's jurisdiction. Approximately 50% of the remaining San Bernardino County drainage areas are within the jurisdiction of the Lahontan Regional Board. Urban and storm water runoff from those areas is regulated by the Lahontan Regional Board. The other 43% is within the jurisdiction of the Colorado River Basin Regional Board. The Colorado River Basin Regional Board regulates urban and storm water runoff from those areas. As indicated above, most of the urbanized areas of San Bernardino County are located within the Santa Ana Regional Board's jurisdiction.

[3] The State General Construction Permit Order No. 2009-0009-DWQ Section XIII.
[4] Per 2006 Report of Waste Discharge (ROWD).
[5] Per 2006 ROWD.

II. FINDINGS

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter the Regional Board) finds that:

A. Background

1. The Co-Permittees own and operate flood control facilities.
2. The discharge of Urban Runoff from the San Bernardino County areas within the Santa Ana Region is currently regulated under Order No. R8-2002-0012, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS 618036. Order No. R8-2002-0012 expired on April 27, 2007 and was administratively extended until adoption of this Order in accordance with Title 23, Division 3, Chapter 9, §2235.4 of the California Code of Regulations.
3. The Permittees jointly submitted a Report of Waste Discharge (ROWD) on October 26, 2006, as application to renew their NPDES permit. To effectively carry out the requirements of this Order, the Permittees have agreed that the San Bernardino County Flood Control District (SBCFCD) will continue as the Principal Permittee and the County and the 16 incorporated cities will continue as the Co-Permittees.
4. The ROWD proposed revisions to the Municipal Storm Water Management Plan (MSWMP) that includes performance commitments for each program element, letters of intent from each of the eighteen Permittees listed in Table 1, and proposed activities to be conducted during the fourth term permit. The MSWMP incorporated a number of other documents by reference. The ROWD, the letters of intent, the MSWMP and the documents referenced therein are hereby made enforceable elements of this Order. The ROWD included: (a) a summary of accomplishments; (2) discharge characterization; (3) program effectiveness analysis; and (4) recommendations for program improvements.
5. This Order, Order No. R8-2010-0036 (hereinafter the Order or the Permit), renews NPDES Permit No. CAS618036 that was first issued on October 19, 1990 (Order No. 90-136, first-term permit) and renewed on March 8, 1996 (Order No. 96-32, second-term permit) and October 25, 2002 (Order No. R8-2002-0012, third-term permit). Order No. R8-2010-0036 is the fourth-term permit. The Permit outlines additional steps for an effective, risk-based, storm water management program and specifies requirements to meet applicable water quality standards. This Order requires the Permittees to investigate sources of pollutants in storm water runoff where activities that the Permittees conduct, approve, regulate or authorize through their licensing and permitting processes, have a reasonable potential to exceed water quality standards.

B. **Regulatory Basis/Legal Authorities**

1. This Order is issued pursuant to CWA Section 402(p) (USC §1342(p)) and implementing regulations adopted by the United States Environmental Protection Agency (USEPA) as codified in Code of Federal Regulations, Title 40, Parts 122, 123, and 124 (40 CFR 122, 123 & 124); the Porter Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000); all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board (State Board); the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan); the California Toxics Rule (CTR); and the California Toxics Rule Implementation Plan. The Basin Plan also incorporates all state water quality control plans and policies. This Order also serves as Waste Discharge requirements (WDRs) pursuant to Article 4, Chapter 4, Division 7 of the Water Code (commencing with Section 13260).

2. This Order is consistent with the following precedential Orders adopted by the State Board addressing municipal storm water NPDES permits: Order 99-05-DWQ (Petition of Environmental Health Coalition/Receiving Water Limitation Language for Municipal Storm Water Permits); Order WQ-2000-11 (Petitions of Bellflower, City of Arcadia, Western States Petroleum Association/Review of RWQCB and Its Executive Officer Pursuant to Order 96-054, Permit for Municipal Storm Water and Urban Run-Off Discharges within Los Angeles County); Order WQ 2001-15 (In the Matter of the Petitions of Building Industry Association of San Diego County and Western States Petroleum Association); and Order WQO 2002-0014 (Petitions of Aliso Viejo, et al/Order to stay provision F.5.f of the permit and part of last sentence of Finding 26 (permit issued by San Diego Regional Board)).

3. The requirements contained in this Order are deemed necessary to protect water quality standards[6] of the receiving waters and to implement the plans and policies described in Finding 1, above. These plans and policies contain numeric and narrative water quality standards for the waterbodies in this Region. In accordance with Section 402(p)(2)(B)(iii) of the CWA and its implementing regulations (40 CFR Parts 122, 123, & 124), this Order requires the Permittees to develop and implement programs and policies necessary to reduce the discharge of pollutants in Urban Runoff to Waters of the U.S. to the maximum extent practicable (MEP). The legislative history and the preamble to the federal storm water regulations (40 CFR Parts 122, 123 and 124) indicate that Congress and the USEPA were aware of the difficulties in regulating Urban Runoff solely through traditional end-of-pipe treatment. Consistent with the CWA, it is the Regional Board's intent that this Order require the implementation of

[6] Under the Clean Water Act, the beneficial uses and the water quality objectives to protect those beneficial uses are collectively referred to as water quality standards.

best management practices (BMPs)[7] to reduce, consistent with the MEP standard, the discharge of pollutants in urban storm water from the MS4s in order to support attainment of water quality standards.

4. On June 17, 1999, the State Board adopted Water Quality Order No. 99-05. This is a precedential Order that incorporates the receiving water limitations language recommended by USEPA. Consistent with the State Board's order, this Order requires the Permittees to comply with the applicable water quality standards, which is to be achieved through an iterative approach requiring the implementation of BMPs that are designed to meet water quality standards. Most municipal storm water permits issued in California specify certain minimum control measures and incorporate an iterative process that requires increasingly more effective control measures if the water quality standards are not met.

5. This Order is also consistent with the 2006 San Bernardino County Superior Court decision related to storm water permitting that upheld the Regional Board's position regarding the City of Rancho Cucamonga's appeal of the 2002 San Bernardino County MS4 Permit, Order No. R8-2002-0012 (City of Rancho Cucamonga vs. Regional Water Quality Control Board – Santa Ana Region, Fourth Appellate Court, Super. Ct. No. RCV 071613).

6. This Order does not constitute an unfunded mandate subject to subvention under Article XIII.B, Section (6) of the California Constitution for several reasons, including the following:

   a. This Order implements federally mandated requirements under Clean Water Act Section 402(p)(3)(B). (33 USC §1342(p)(3)(B)).
   b. The Permittees' obligation under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental dischargers who are issued NPDES permits for storm water discharges.
   c. The Permittees have the authority to levy service charges, fees, or assessments to pay for compliance with this Order. Certain assessments may require voter approval[8].
   d. The Permittees requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in federal Clean Water Act Section 301, subdivision (a). (33 USC §1311(a)).

[7] Best Management Practices (BMPs) are programs, policies and practices, including structural and engineering controls, to control the discharge of pollutants that are maximized in efficiency. Also see BMP definition under Glossary.

[8] For example, the City of Santa Cruz voted to raise property taxes to fund the storm water program at the November 4, 2008 election (see: http://www.santacruzsentinel.com/localnews/ci_10904561).

C. **Rationale for Requirements**

1. The Regional Board developed the requirements in this Order based on information submitted as part of the ROWD, the MSWMP, monitoring and reporting data, program audits, and other available information and these requirements are consistent with the federal and state laws and regulations. The Fact Sheet (Attachment 6) contains additional regulatory background information and rationale for requirements in this Order. The Fact Sheet is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments 1 through 9 are also incorporated into this Order.

2. The ROWD included a program effectiveness analysis and recommended a shift in the San Bernardino County MS4 program from programmatic/administrative tasks to compliance based on water quality standards and on tasks identified in the implementation plans for total maximum daily loads (TMDLs). The MSWMP includes risk-based, outcome-oriented and compliance-focused programs and performance commitments. The MSWMP is a dynamic document that implements programs and policies to control the discharge of pollutants in Urban Runoff consistent with the MEP standard. If the control measures proposed and implemented as per the MSWMP and other requirements included in this Order are not effective in meeting water quality standards, the Permittees are required to revise the MSWMP with more effective control measures.

3. The MSWMP includes the Permittees' performance commitments for each of the major program elements and those performance commitments are incorporated into this Order.

4. Regional Board staff evaluated each of the Permittees' storm water programs and determined that one of the major deficiencies in the programs was a lack of a written procedure on how to implement various elements of the MSWMP. This Order requires each of the Permittees to develop and implement its own Local Implementation Plan (LIP). The LIP should document internal procedures for implementation of the program elements described in the MSWMP.

5. This Order requires the Permittees to revise the MSWMP and associated documents, as needed, to incorporate any applicable requirements in this Order, any applicable TMDLs adopted by the Regional Board and approved by the State Board, Office of Administrative Law and the USEPA, and to incorporate any additional applicable BMPs needed to meet water quality standards. All documents submitted in accordance with this Order for approval by the Executive Officer or the Regional Board

will be publicly noticed prior to approval by the Executive Officer or the Regional Board[9].

D. **California Environmental Quality Act (CEQA)**

1. Under Water Code Section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code Sections 21100 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 142 Cal.App.4th 985, mod. (Nov 6, 2006, B184034) 50 Cal. Rptr.3d 619, 632-636.) This action also involves the re-issuance of waste discharge requirements for existing MS4s that discharge storm water and urban runoff and as such, is exempt from the provisions of California Environmental Quality Act (commencing with Section 21100) in that the activity is exempt pursuant to Title 14 of the California Code of Regulations Section 15301.

E. **Discharge Characteristics/Risk-Based Storm Water Management**

1. This Order regulates the discharge of pollutants from anthropogenic (generated from human activities, excluding agricultural activities) sources and/or activities in urban and storm water runoff, and certain types of de-minimus discharges specifically authorized under Section V of this Order, from areas under the jurisdiction of the Permittees. The term storm water as used in this Order includes storm water runoff, snowmelt runoff, and surface runoff and drainage. Storm water discharges consist of surface runoff that discharges into Waters of the U.S. The quality of these discharges varies considerably and is affected by land use activities, hydrology and geology, season, the frequency and duration of storm events, and the presence of illicit disposal practices and illegal connections.

2. Studies conducted by the USEPA, the states, counties, cities, flood control districts and other political entities dealing with urban and "storm water" runoff identified the following major sources of urban runoff "pollution" nationwide[10]:

   a. Industrial sites where appropriate pollution prevention and best management practices (BMPs) are not implemented;

[9]The Executive Officer shall provide members of the public with notice and at least a 30-day comment opportunity for all documents submitted in accordance with this Order. If the Executive Officer, after considering timely submitted comments, concludes that the document is adequate or adequate with specified changes, the Executive Officer may approve the document or present it the to Board for its consideration at a regularly scheduled and noticed meeting. If there are significant issues that cannot be resolved by the Executive Officer, the document will be presented to the Board for its consideration at a regularly scheduled meeting.

[10] See Attachment 4-Glossary, for definition of "storm water", and "pollution".

b. Construction sites where erosion and siltation controls and other BMPs are not implemented; and,
c. Runoff from urbanized areas; and
d. Natural background, including leaching of naturally-occurring nutrients and minerals from local soils.

3. A number of permits have been adopted to address pollution from the anthropogenic sources identified in Finding 2, above. The State Board issued three statewide general NPDES permits: one for storm water runoff from industrial activities (NPDES No. CAS000001, General Industrial Activities Storm Water Permit), a second permit for storm water runoff from construction activities (NPDES No. CAS000002, General Construction Activity Storm Water Permit) and a third permit for Storm Water Runoff Associated with Small Linear Underground/Overhead Construction Projects (CAS000005, now incorporated into NPDES No. CAS000002). Industrial activities (as identified in 40 CFR 122.26(b)(14)) and construction sites of one acre or more, are required to obtain coverage under these statewide general permits. The permittees have developed project conditions of approval for projects requiring coverage under the State's General Permits to be effective at the time of grading or building permit issuance for construction sites on one acre or more and at the time of local permit issuance for industrial facilities.

4. The State Board also adopted NPDES No. CAS000003 for storm water runoff from facilities (including freeways and highways) owned and/or operated by California Department of Transportation (Caltrans) and NPDES No. CAS000004, for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems. The Regional Board adopted Order No. R8-2007-0001, NPDES No. CAG018001, for concentrated animal feeding operations, including dairies. The Regional Board also issues individual storm water permits for certain industrial facilities within the Region. Currently there are two facilities located within San Bernardino County (California Steel and Ecology Auto Wrecking[11]) with individual storm water permits. Additionally, for a number of facilities that discharge process wastewater and storm water, storm water discharge requirements are included with the facilities' NPDES permit for process wastewater.

5. In most cases, the industries and construction sites covered under the Statewide General Industrial and Construction Permits discharge into storm drains and/or flood control facilities owned and operated by the Permittees. The Permittees have enacted a system of local ordinances, building permits and business licensing practices to regulate residential, industrial and construction sites within their jurisdiction for the purpose of reducing storm water pollution consistent with the maximum extent practicable standard.

[11] Ecology Auto Wrecking does not discharge storm water into waters of the U.S.

6. The Regional Board administers compliance with the State's General Industrial and Construction Activities Storm Water Permits. A coordinated effort between the Permittees and the Regional Board staff is critical to avoid duplicative effort when overseeing the compliance of dischargers covered under these General Permits. As part of this coordination, the Permittees have been notifying Regional Board staff when, during their routine activities, they observe conditions that pose a potential threat to water quality or when they discover an industrial facility or construction activity that failed to obtain coverage under the applicable general storm water permit.

7. The Permittees have conducted storm water and receiving water monitoring as required under the first, second and third term permits. These monitoring data and data from other sources have confirmed that urban and storm water may contain waste, as defined in CWC § 13050, and pollutants that adversely affect the quality of the Waters of the U.S. The discharge of Urban Runoff from an MS4 is defined in the CWA as a "discharge of pollutants from a point source" into Waters of the U.S.

8. Urban and storm water runoff may contain elevated levels of pathogens (bacteria, protozoa, viruses), sediment, trash, fertilizers (nutrients: nitrogen and phosphorus compounds), pesticides (DDT, chlordane, diazinon, chlorpyrifos, etc.), heavy metals (cadmium, chromium, copper, lead, zinc, etc.), and petroleum products (oil, grease, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, etc.). Storm water can carry these pollutants to rivers, streams, lakes, bays and the ocean (receiving waters).

9. These pollutants can impact the beneficial uses of the receiving waters and can cause or threaten to cause a condition of pollution or nuisance.

10. Pathogens (from sanitary sewer overflows, septic system leaks, spills and leaks from portable toilets, pets, wildlife, and human activities) can impact water contact recreation and non-contact water recreation. Runoff from San Bernardino County areas is tributary to the Santa Ana River which periodically discharges into the Pacific Ocean in Orange County. Although microbial contamination of the beaches from urban runoff and other sources has resulted in beach closures and health advisories in Orange County, discharges from San Bernardino County are typically captured and infiltrated in designated recharge areas downstream of Prado Dam. In the middle Santa Ana River basin areas, the bacterial levels exceed the Basin Plan objectives (see Finding F, below).

11. The Santa Ana River Watershed has been hydraulically separated into the Upper SAR Watershed (upstream from Prado Dam), and the Lower SAR Watershed (downstream from Prado Dam) since the construction of Prado Dam in 1941. The Regional Board regulates discharges from sewage treatment plants upstream of the dam. According to the USGS (2004[12]),

[12] Water Quality in the Santa Ana Basin, California, 1999-2001, Kenneth Belitz, et al, USGS Circular 1238.

water managers utilize almost all of the base flow and most of the stormflow to recharge the coastal aquifer system. Baseflow consists primarily of treated wastewater. Baseflows from the dam are managed, in coordination with the US Army Corps of Engineers, to be captured and infiltrated downstream from the dam; stormflows occasionally exceed the infiltration capacity (OCWD 2009[13]). Water quality in flows from the dam have been monitored for over 40 years and generally found to meet water quality standards specified in the Basin Plan. The dam and the wetlands help to reduce pollutant transport from the upper watershed to the lower watershed. The impoundment area also reduces the transport of trash and debris. As such, water quality management in the upper watershed is targeted to primarily address problems upstream from Prado Dam. Addressing pollutants of concern above Prado Dam will also improve water quality downstream. Augmentation of groundwater through infiltration of baseflow and stormflow is also actively managed in the upper watershed area (e.g. 2006 Chino Creek Integrated Plan: Guidance for Working Together to Protect, Improve, and Enhance the Lower Chino Creek Watershed).

12. Oil and grease from spills can coat birds and aquatic organisms, adversely affecting respiration and/or thermoregulation. Other petroleum hydrocarbon components may cause toxicity to aquatic organisms and may impact human health.

13. Suspended and settleable solids (from construction sites, other sediment sources, trash, and industrial activities) may be deleterious to benthic organisms and may cause anaerobic conditions to form. Sediments and other suspended particulates can cause turbidity, clog fish gills and interfere with respiration in aquatic fauna. They may also screen out light, hindering photosynthesis and normal aquatic plant growth and development.

14. If released into the environment, toxic substances (including pesticides, petroleum products, metals, and industrial wastes) can cause acute and/or chronic toxicity, and can bioaccumulate in organisms to levels that may be harmful to human health.

15. Excessive levels of nutrients (from fertilizer use, fire fighting chemicals, decaying plants, confined animal facilities, pets, and wildlife) can cause excessive algal blooms. These blooms may lead to problems with taste, odor, color and increased turbidity, and may depress the dissolved oxygen content, leading to fish kills.

16. Trash and debris, in particular plastics, are aesthetic nuisances and as threats to freshwater and marine environments. Plastic debris harms hundreds of wildlife species through ingestion, entanglements and

[13] Orange County Water District: Groundwater Management Plan, 2009 Update. July 9, 2009, pp. 4-4

entrapment. Plastic nurdles[14] have the capability of absorbing pollutants, such as PCBs, and when ingested by wildlife, expose those animals to pollutant concentrations that are orders of magnitude higher than the surrounding water. Water Code Section 13367 requires the State Board and the regional boards to implement a program to control discharges of pre-production plastic from point and nonpoint sources. "Floatables" (from trash and debris) are an aesthetic nuisance and can be a substrate for algae and insect vectors. This Order requires the Permittees to control the discharge of trash and debris, including plastic nurdles, from the MS4s to Waters of the U.S.

17. Management of dry weather discharges resulting from urbanization provides an opportunity to promote water conservation as well as address water quality. This Order requires the Permittees to promote and implement best management practices for water conservation, and thereby, minimize non-stormwater flows into and from the MS4s.

18. In order to characterize storm water discharges, to identify problem areas, to determine the impact of urban runoff on receiving waters, and to determine the effectiveness of the various BMPs, an effective monitoring program is critical. The Principal Permittee administers the monitoring program for the Permittees. This program includes storm drain outfall monitoring, receiving water monitoring, and dry weather monitoring. The ROWD compared the monitoring results to: (a) water quality objectives in the Basin Plan; (b) CTR objectives; and (c) USEPA storm water benchmarks contained in the USEPA Multi-Sector Industrial Storm Water Permit. In order to ascertain overall water quality conditions in the permitted area, the Permittees also evaluated monitoring data from other sources such as: (a) National Water Quality Assessment conducted by the USGS[15] (NAWQA); and (b) Santa Ana Regional Water Quality Board's Water Quality Assessment per Section 305(b) of the CWA (RWQCB 305(b) Assessment).

19. The Permittees' water quality monitoring data submitted to date document a number of exceedances of water quality objectives specified in the Basin Plan, CTR criteria and/or USEPA's storm water bench mark for fecal coliform bacteria, total suspended solids, nutrients, COD and metals These findings indicate that urban and storm water runoff is causing or contributing to water quality impairments.

20. Comparison of wet weather water quality monitoring data for 2000-2006[16] with that from 1994-1999[17] shows that the median concentrations for most

[14] Nurdles: pre-production plastic pellets or plastic resin pellets

[15] Belitz, K., Hamlin, S.N.,Burton, C.A., Kent, R., Fay, R.G., and Johnson, T., 2004. *Water Quality in the Santa Ana Basin, California,* 1999-2001.Circular 1238. U. S. Geological Survey. (This is only one of several USGS reports.)

[16] 2006 ROWD

[17] 2002 ROWD

constituents have not changed significantly. Furthermore, monitoring data for the period 1994-2006 indicate that median concentrations of wet weather composite samples at monitoring stations[18] 2, 3, and 8 exceeded the USEPA benchmarks for TSS, COD, NO_3-N, and metals. With the exception of Site 10 (Santa Ana River upstream of Seven Oaks Dam, with drainage from mostly undeveloped areas), coliform bacteria concentrations were far above the Basin Plan water quality objectives. These data support the need for continued monitoring and additional control measures to control the discharge of pollutants from the MS4s.

21. A limited number of constituents were monitored during dry weather at representative urban runoff locations and some of these constituents also exceeded the Basin Plan objectives. These findings indicate that additional surveillance and controls may be needed to minimize and/or eliminate dry weather flows into and from the MS4s.

22. The Principal Permittee conducted an analysis of the receiving water monitoring data collected during the last 15 years for a number of monitoring sites (Sites 2, 3, 8[19], and 10[20]). This analysis indicates that the most significant water quality problem associated with urban and storm water runoff is bacterial contamination. It also showed that Basin Plan objectives for metals such as lead, copper, and zinc[21] are exceeded more frequently than Federal promulgated standards. The Permittees monitoring data were then compared to monitoring data available from other sources (NAWQA, RWQCB 305(b) Assessment) to determine beneficial use impacts and pollutants causing the impacts. This analysis was then used to prioritize problem areas and to propose a risk-based approach to address these problems.

23. Based on the evaluation of monitoring data described above, the ROWD prioritized the pollutants of concern with regards to storm water management as follow:

    a. High Priority: Coliform bacteria
    b. Medium Priority: Zinc, copper, lead
    c. Low Priority: Nutrients, COD, TSS

[18] Drainage at Site 2 (Cucamonga Creek @ Hwy 60) is predominantly urban, influenced by commercial and industrial land uses with some contribution from open space/rural and residential land uses. The predominant land use at Site 3 (Cucamonga Creek @ Hellman) is agricultural, but there is contribution from open space/rural, and discharge from a municipal wastewater treatment plant between Sites 2 and 3. Monitoring site 5 (Hunts Lane n/o Hospitality Lane) is within a constructed storm drain system and flow is mostly from commercial and light industrial land uses with some urban contribution.

[19] Site 8 station is located in the Santa Ana River (SAR) at Hamner Avenue, runoff is mostly from urban land uses.

[20] Site 10 station is located at SAR, upstream of Seven Oaks Dam; runoff is mostly from open/rural areas.

[21] There is no Basin Plan objective for zinc, USEPA benchmark is 0.117 mg/l.

F. **CWA Section 303(d) Listed Waterbodies and TMDLS (Also see Section L)**

1. Considerable sampling data have been collected to characterize ambient receiving water quality in the Region. Water quality assessments conducted by the Regional Board have identified a number of beneficial use impairments, due in part, to urban runoff. Section 305(b) of the CWA requires each of the regional boards to routinely monitor and assess the quality of waters of its region. If this assessment indicates that beneficial uses are not met, then that waterbody must be listed under Section 303(d) of the CWA as an impaired waterbody.
2. The Regional Board's 2006 water quality assessment listed a number of water bodies within the permitted area under Section 303(d) as impaired water bodies (see Table 3)[22].
3. Federal regulations require that a total maximum daily load (TMDL) be established for each 303(d) listed waterbody for each of the pollutants causing impairment. The TMDL is the maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. A TMDL is the sum of the individual wasteload allocations (WLA) for point source inputs, load allocations (LA) for non-point source inputs and natural background, with a margin of safety. The TMDLs are one of the bases for limitations established in waste discharge requirements.
4. For 303(d) listed waterbodies without a TMDL, the Permittees are required to participate in the development and implementation of TMDLs and Watershed Action Plans. If a TMDL has been developed and an implementation plan is yet to be developed (e.g., when the USEPA has established the TMDL), the Permittees are required to develop constituent specific source control measures, conduct additional monitoring and/or cooperate with the development of an implementation plan.

Table 3. CWA Section 303(d) List of Water Quality Limited Segments, Santa Ana Region {Waterbodies Requiring a TMDL in San Bernardino County[1]}

Water Body Name	Pollutant / Stressor	Potential Sources	Proposed TMDL Completion
Big Bear Lake	Copper[2]	Resource extraction	2007
	Mercury	Resource extraction[5]	2007
	Metals	Resource extraction	2007

[22] On April 24, 2009, the Regional Board adopted Resolution No. R8-2009-0032 approving the 2008 Integrated Report of Federal Clean Water Act Section 305(b) and Section 303(d) List of Water Quality Limited Segments. Minor additional modifications were approved by the Regional Board on October 23, 2009. When the revised list is approved by the State Board and the USEPA, the 2006 list will be updated.

	Noxious aquatic plants	Construction/Land development, Unknown point source	2006
	Nutrients	Construction/Land development, Snow skiing activities	2006
	PCBs (Polychlorinated biphenyls)	Source unknown	2019
	Sedimentation/Siltation[3]	Construction/Land development, Snow skiing activities, Unknown nonpoint source	2006
Summit Creek	Nutrients	Construction/Land development	2008
Knickerbocker Creek	Pathogens[4]	Unknown nonpoint source	2005
	Metals	Unknown nonpoint source	2007
Grout Creek	Metals	Unknown nonpoint source	2007
	Nutrients	Unknown nonpoint source	2008
Rathbone (Rathbun) Creek	Sedimentation/Siltation	Unknown nonpoint source Snow skiing activities	2006
	Nutrients	Unknown nonpoint source Snow skiing activities	2008
Mountain Home Creek	Pathogens	Unknown nonpoint source	2019
Mountain Home Creek, East Fork	Pathogens	Unknown nonpoint source	2019
Lytle Creek	Pathogens	Unknown nonpoint source	2019
Mill Creek (Prado Area)	Nutrients	Agriculture, Dairies	2019
	Total Suspended Solids (TSS)	Dairies	2019
Prado Park Lake	Nutrients	Nonpoint source	2019
Chino Creek Reach 1	Nutrients	Agriculture, Dairies	2019
Mill Creek Reach 1	Pathogens	Unknown nonpoint source	2019
Mill Creek Reach 2	Pathogens	Unknown nonpoint source	2019
Santa Ana River, Reach 4	Pathogens	Nonpoint source	2019

[1] Based on STATE BOARD 2006 CWA Section 303(d) List of Water Quality Limited Segments, Santa Ana Regional Water Quality Control Board, USEPA Approved June 28, 2007 (http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r8_06_303d_reqtmdls.pdf)

[2] Big Bear Lake is recommended for delisting for copper in the Proposed 2008 303(d)-305(b) Integrated Report

[3] Big Bear Lake is recommended for delisting for sedimentation/siltation in the Proposed 2008 303(d)-305(b) Integrated Report

[4] (See Section 6, below).

[5] Resource extraction was removed as a potential source for Mercury in Big Bear Lake and replaced with atmospheric deposition in the Proposed 2008 303(d)-305(b) Integrated Report

5. Big Bear Lake is included under the 2006 CWA Section 303(d) list for mercury. Historical and recent monitoring conducted by Regional Board staff and other entities confirm that the Office of Environmental Health

Hazard Assessment's (OEHHA) mercury fish tissue screening level of 0.3 mg/kg has been exceeded. This finding is likely to impact REC1 (fishing) uses of Big Bear Lake. Recent monitoring efforts and technical support documents (Tetra Tech, 2008)[23] to determine the source of mercury and to develop TMDLs indicate that though majority of the watershed load originates from atmospheric deposition, delivery is dependent on runoff and sediment transport to the lake. However, there is insufficient data to draw conclusions about the effect of urbanization on mercury input to the Lake.

a. It has been demonstrated that mercury loadings are proportional to fine sediment loads and sediment loads are directly proportional to increases in flow rates.

b. Urbanization generally increases impermeable surfaces and that results in increased flow rates which in turn could increase mercury loadings to Big Bear Lake.

c. The Big Bear Lake Mercury TMDL is expected to be completed and approved within this permit cycle. This Order may be reopened to include any additional requirements from the Mercury TMDL Implementation Plan.

d. Pending adoption of the Big Bear Lake Mercury TMDL, this Order requires the stakeholders to participate in the implementation of control measures to minimize the impact of urbanization on water quality.

6. **Knickerbocker Creek Sole Source Pathogen Investigation and Control:**

a. Knickerbocker Creek is one of Big Bear Lake's tributaries. It is engineered and constructed of concrete through the Big Bear Village area to carry flows from 100-year frequency flood event, but is a natural channel within the upper boundaries of the City and the Forest Service area. The Creek is an ephemeral stream that flows largely in response to storm events or during the spring when runoff is comprised largely of snowmelt.

b. The Basin Plan designates municipal and domestic water supply (MUN), water contact recreation (REC1) and non-contact water recreation (REC2) as beneficial uses of Knickerbocker Creek.

c. To protect MUN beneficial use, the Basin Plan specifies a numeric water quality objective for total coliform of less than 100 organisms/100 mL. To protect REC1 beneficial use, the Basin Plan specifies numeric water quality objectives for fecal coliform indicator bacteria of log mean less than 200 organisms/100 mL based on five or more samples/30

[23] Big Bear Lake Technical Support Document for Mercury TMDL,, September 2008, Prepared by Tetratech for U.S EPA Region 9 and Santa Ana Regional Water Quality Board

day period and not more than 10% of the samples shall exceed 400 organisms/100 ml for any 30-day period.

d. In 1994, Regional Board issued a report titled "The Investigation of Toxics and Nutrients in Big Bear Lake" which included test results for Big Bear Lake and many of its tributaries for bacterial indicators.

e. The test results indicated that Knickerbocker Creek had bacteria indicator levels that exceeded the MUN and REC1 Basin Plan objectives for total coliform and fecal coliform. In 1994, Knickerbocker Creek was placed on the Clean Water Act Section 303(d) List as impaired for pathogens.

f. As a result of the 303(d) listing, the Regional Board needed to develop a regulatory strategy to address the elevated bacterial levels. Typically, this is the development and implementation of TMDLs.

g. In 2000, Regional Board staff initiated development of TMDLs in the Big Bear Lake watershed, including the Knickerbocker Creek bacteria indicator TMDL. A sampling program was conducted from June 2002 through April 2003, on five sites along the Creek, to identify potential sources of elevated bacteria levels, if any.

h. The results of the sampling program indicated that at times, bacterial indicators exceeded the Basin Plan objectives for total and fecal coliform objectives at the sampling sites located within city boundaries. However, data from the station representing drainage from the forested area indicated that bacterial indicator concentrations complied with the Basin Plan objectives.

i. The monitoring results indicated that although bacteria were also detected outside of city boundaries, the concentrations were not high enough to cause water quality objectives to be exceeded in Knickerbocker Creek.

j. The sampling program identified the runoff from the City as a sole source of bacteria contamination in Knickerbocker Creek. Regional Board staff determined that the bacteria sources in Knickerbocker Creek could be addressed through the MS4 permit without developing a detailed TMDL.

k. Since most of the inlets to Knickerbocker Creek are from a conduit or other channelized systems from the City, the City was required to address this bacterial problem.

l. Pursuant to Provision IV, Receiving Water Limitations, Order No. R8-2002-0012 (third-term permit), the Executive Officer directed the City of Big Bear Lake to submit by September 30, 2005: (i) a plan and a schedule for identification and investigation of the sources of bacteria; (ii) a list of the BMPs that are currently being implemented and additional BMPs that must be implemented to address the exceedance

of bacteria in Knickerbocker Creek; (iii) a plan and a schedule for implementation of additional control measures (including BMPs) to reduce or eliminate the exceedances; and (iv) a plan and a schedule for implementation of a monitoring program to evaluate the efficacy of any control measures implemented[24].

m. In compliance with the above, the City of Big Bear Lake submitted a plan and a schedule and conducted a source identification study and Phase 1 of the water quality monitoring program in 2006. The City investigated the entire sewer and septic systems located near Knickerbocker Creek and found no sanitary sewer leaks or septic system problems in the area.

n. Molecular DNA analysis confirmed that the bacteria contamination was not from human sources, but more likely from canine sources (domestic dogs).

o. In December 2007, the City purchased and installed several pet waste stations in the Knickerbocker Creek catchment areas, and installed portable toilets near parks and other recreation areas to reduce the potential for bacteria contamination in the Creek. The City believes that these control measures should address the bacteria problems in the Creek.

p. The City is currently implementing Phase 2 of the water quality monitoring program[25] to assess the effectiveness of these control measures. Three sampling locations in the Creek within City boundaries were selected based on increased frequency of high bacteria levels and availability of sustained flows.

q. This Order requires the City to continue monitoring and assessment of the effectiveness of its control measures and to submit an annual progress/status report.

7. Within the permitted area, there are six fully approved TMDLS: (a) five Middle Santa Ana River Bacterial Indicator TMDLs (MSAR TMDL); and (b) one Big Bear Lake Nutrient TMDL for Dry Hydrological Conditions. The Basin Plan amendment incorporating the MSAR TMDLs was approved by the Regional Board on August 26, 2005 (Resolution No. R8-2005-0001), by the State Board on May 15, 2006, by the state's Office of Administrative Law on September 1, 2006, and by the USEPA on May 16, 2007.

[24]Santa Ana Regional Water Quality Control Board, Letter from Gerard J. Thibeault, July 31, 2005, "Determination of Water Quality Standards Exceedance in Knickerbocker Creek Being Caused by MS4 Discharges in the City of Big Bear Lake".

[25]City of Big Bear Lake, January 2008, "Bacteria Monitoring Plan for Knickerbocker Creek Phase 2.

8. The MSAR TMDLs established limits for bacterial source indicators for Santa Ana River (Reach 3) (not in San Bernardino County), Chino Creek (Reaches 1 and 2), Prado Park Lake, Mill Creek (Prado Area), and Cucamonga Creek (Reach 1).

9. The purpose of the MSAR TMDL is to assure that REC1 beneficial uses are protected. To that end, the Regional Board adopted wasteload allocations for fecal coliform and *E. coli* in the above impaired waterbodies. There are two components in the MSAR TMDL (fecal coliform and *E. coli*). The Basin Plan currently does not have an established objective for *E. coli*. Stakeholders in the Santa Ana Region have formed the Storm Water Quality Standards Task Force (SWQSTF) to evaluate USEPA's bacterial indicator recommendations and appropriate recreational beneficial use designations for waterbodies throughout the Region. The SWQSTF is expected to make recommendations for the adoption of alternative bacterial indicators such as *E.coli,* based on USEPA's "Ambient Water Quality Criteria for Bacteria - 1986". These and other recommendations of the SWQSTF are likely to result in changes to recreational water quality objectives. When and if the Basin Plan is amended to incorporate new beneficial use definitions, designations and/or bacterial standards, the MSAR TMDLs will be revised, as appropriate.

10. The MS4 dischargers are required to develop and implement BMPs designed to reduce bacterial pollution to the maximum extent practicable and to evaluate the effectiveness of those efforts towards attainment of WLAs by the compliance dates. The TMDL implementation plan envisioned short-term solutions, including monitoring, and development of a long-term plan designed to achieve compliance by the deadlines specified in the TMDL.

11. The MSAR TMDL Implementation Plan assigns responsibilities to MS4 dischargers and other stakeholders. These responsibilities include monitoring and evaluating compliance, identifying sources of impairment, and evaluating the effectiveness of BMPs and other control actions. The MSAR TMDL implementation plan assigns responsibilities for urban discharges to specific MS4 dischargers to identify sources of impairment, to propose BMPs to address those sources, and to monitor, evaluate, and revise BMPs as needed, based on the effectiveness of the BMP implementation program. These are generally considered as the short-term solutions. Specific implementation plan tasks are described in Chapter 5 of the Basin Plan and are assigned to one or more of the Permittees. Requirements of the TMDL implementation plan tasks are incorporated into this Order. A number of these implementation plan tasks are also jointly assigned to non-Permittee stakeholders. The stakeholders have established TMDL task forces to jointly implement and coordinate the TMDL implementation plan tasks.

12. The MSAR TMDL Task Force members are listed in Table 4:

Table 4. Middle Santa Ana River Bacterial Indicator TMDL Task Force

MS4 Permittees	Non-MS4 Permittees
San Bernardino County Flood Control District (as Principal Permittee and on behalf of the Co-Permittees named in the TMDL)	Santa Ana Watershed Project Authority (SAWPA)
Corona, City of (Riverside County MS4 Permittee)	
Norco, City of (Riverside County MS4 Permittee)	US Department of Agriculture-Forest Service
Riverside, City of (Riverside County MS4 Permittee)	Milk Producers Council
Riverside, County of (Riverside County MS4 Permittee)	Chino Basin Watermaster Agricultural Pool
Riverside County Flood Control and Water Conservation District (Riverside County MS4 Principal Permittee)	Region 4 MS4 Permittees: Cities of Claremont and Pomona (pending formal agreement)

13. Requirements in the MSAR TMDLs include the following:

a. WLAs for urban discharges and for CAFOs (Concentrated Animal Feeding Operations), and LAs for agriculture and natural sources (open space and undeveloped forest land) during wet and dry weather conditions.

b. Numeric targets for fecal coliform and *E. coli*.

c. Specific implementation tasks to ensure compliance with the numeric targets, WLAs and LAs. Some of these tasks have been completed.

i. Pursuant to Task 3, the MSAR TMDL Task Force submitted a monitoring plan which was approved by the Regional Board on June 29, 2007 (Resolution No. R8-2007-0046). A revised monitoring plan that included a BMP effectiveness study was approved by the Regional Board on April 18, 2008 (Resolution No. R8-2008-0044).

ii. A BMP effectiveness study was completed as part of the watershed-wide BMP effectiveness component of the Middle Santa Ana River Water Quality Monitoring Plan (dated April 3, 2008). The results of this study will be incorporated into BMP selection criteria that will be utilized as a guide to address bacterial indicator sources within the MSAR watershed. The Riverside County Flood Control District plans to conduct a phase 2 study at its LID testing facility to evaluate the effectiveness of several LID-based BMPs, which will further guide BMP selection in the watershed.

iii. Pursuant to Task 4.1, the MSAR TMDL Task Force submitted an Urban Bacterial Indicator Source Evaluation Plan (USEP) that was approved by the Regional Board on April 18, 2008 (Resolution No. R8-2008-0044). The USEP is a phased approach. The first phase

of the approved USEP has been completed and a report is currently under review by Regional Board staff. Several discrete sources of bacterial indicator were identified, controlled or eliminated as a result of this effort. Based on the outfall monitoring data collected to date, additional sites are identified, monitored and prioritized yearly for further evaluation. The next phase of the USEP will focus on BMP retrofit implementation to address elevated indicator bacteria from urban drainage areas flowing into Mill Creek and Cucamonga Creek.

iv. Consistent with Task 4.2, this Order requires the Permittees to revise the MSWMP to incorporate the results of the USEP and/or other studies. The MSWMP revisions shall include schedules for meeting the bacterial indicator wasteload allocations based on the schedule established in the MSAR TMDLs and the results of the USEP and/or other studies.

v. Pursuant to Task 4.4, the Permittees are required to revise the Water Quality Management Plan to incorporate BMPs as per the USEP, Task 4.1, for new development and significant redevelopment projects.

vi. Based on the results of pre-compliance evaluation monitoring[26], it has been determined that the short-term solutions discussed above are not expected to achieve the WLAs by the compliance dates. This Order requires the MSAR Permittees to develop a long-term plan (a comprehensive bacteria reduction plan, CBRP) designed to achieve compliance with the WLAs by the compliance dates.

vii. If necessary, the CBRP will be updated based on an evaluation of the effectiveness of the BMPs implemented. In the absence of an approved CBRP the WLAs become the final numeric water quality-based effluent limit that must be achieved by the compliance dates.

14. On April 21, 2006, the Regional Board adopted the Big Bear Lake Nutrient TMDL for Dry Hydrological Conditions (Resolution R8-2006-0023); the State Board approved the Basin Plan Amendment on April 3, 2007 and the Office of Administrative Law approved the Basin Plan Amendment on August 21, 2007. USEPA approved the TMDL on September 25, 2007. There were insufficient watershed and in-lake nutrient data to support development of TMDLs, load allocations, and wasteload allocations for average and/or wet hydrologic conditions; therefore the TMDL is specific to dry hydrological conditions. This Order requires the Permittees to implement the tasks identified in the implementation plan for the Big Bear Lake Nutrient TMDL for Dry Hydrological Conditions (Big Bear Lake Nutrient TMDL).

[26] Pre-compliance evaluation monitoring is monitoring conducted prior to the TMDL compliance date to assess the effectiveness of BMPs implemented in reducing pollutant(s) of concern by the compliance date.

15. Some of the details of the implementation plan for the Bear Lake Nutrient TMDL are described below.

    a. The Big Bear Lake Nutrient TMDL includes an urban WLA for total phosphorus for dry hydrologic conditions. Phosphorus is the primary limiting nutrient in Big Bear Lake and nitrogen can be a limiting nutrient under certain conditions.

    b. Nutrient discharges to the Lake have promoted the proliferation of nuisance aquatic plants which have impacted the Lake's beneficial uses and dissolved oxygen levels.

    c. The Big Bear Lake Nutrient TMDL specifies response targets for chlorophyll a, macrophyte coverage and percentage of nuisance aquatic vascular plant species for Big Bear Lake. These response-targets provide a method to track improvements in water quality resulting from reductions in phosphorus loading.

    d. Whereas the Big Bear Lake Nutrient TMDL is applicable only to dry hydrologic conditions, the numeric targets specified in the TMDL apply to all hydrological conditions. The TMDL specifies that these targets be achieved no later than 2015 for dry hydrological conditions and no later than 2020 for all other hydrological conditions. The Regional Board will judge BMP effectiveness primarily on the basis of how well the MS4s adaptive management program does at meeting these targets for the controllable sources within their jurisdiction.

    e. The urban wasteload allocations are currently being met. This Order requires the County of San Bernardino, San Bernardino County Flood Control District and the City of Big Bear Lake (the Big Bear Lake MS4 Permittees) to continue to monitor and to develop and implement additional BMPs, if necessary.

    f. The Big Bear Lake MS4 Permittees also participate in a stakeholder effort to achieve the following Big Bear Lake Nutrient TMDL numeric targets:

Table 5. Big Bear Lake Nutrient TMDL Numeric Targets

Indicator	Target Value[a]
Total P concentration	Annual average[b] no greater than 35 µg/L; to be attained no later than 2015 (dry hydrological conditions), 2020 (all other times)[c]
Macrophyte Coverage	30-40% on a total lake area basis; To be attained by 2015 (dry hydrological conditions), 2020 (all other times)[c,d]
Percentage of Nuisance Aquatic Vascular Plant Species	95% eradication on a total area basis of Eurasian Watermilfoil and any other invasive aquatic plant species; to be attained no later than 2015 (dry hydrological conditions), 2020 (all other times) [c,d]
Chlorophyll a concentration	Growing season[e] average no greater than 14 µg/L; to be attained no later than 2015 (dry hydrological conditions), 2020 (all other times)[c]

a Compliance with the in-lake targets to be achieved as soon as possible, but no later than the dates specified

b Annual average determined by the following methodology: the nutrient data from both the photic composite and discrete bottom samples are averaged by station number and month; a calendar year average is obtained for each sampling location by averaging the average of each month; and finally, the separate annual averages for each location are averaged to determine the lake-wide average. The in-lake open-water sampling locations used to determine the annual average are MWDL1, MWDL2, MWDL6, and MWDL9 (see 1.B.4. Implementation Task 4.2, Table 5-9a-i).

c Compliance date for wet and/or average hydrological conditions may change in response to approved TMDLs for wet/average hydrological conditions.

d Calculated as a 5-yr running average based on measurements taken at peak macrophyte growth as determined in the Aquatic Plant Management Plan (see 1.B.4. Implementation, Task 6C)

e Growing season is the period from May 1 through October 31 of each year. The open-water sampling locations used to determine the growing season average are MWDL1, MWDL2, MWDL6, MWDL9 (see 1.B.4. Implementation Task 4.2, Table 5-9a-i). The chlorophyll a data from the photic samples are average by station number and month; a growing season average is obtained for each sampling location by averaging the average of each month; and finally, the separate growing season averages for each location are averaged to determine the lake-wide average.

g. Continued compliance with the WLA will be determined by watershed modeling conducted and reported by the Big Bear Lake MS4 Permittees. By March 31, 2010, the Big Bear Lake MS4 Permittees will submit a final watershed modeling plan that is ready to be implemented and that details how compliance with the WLA will be determined and evaluated. This plan is to be implemented upon approval by the Executive Officer.

h. Where effectiveness assessments indicate WLAs are not being achieved, Big Bear Lake MS4 Permittees must develop and implement additional BMPs or demonstrate that no additional practicable BMPs are available. Compliance with the WLAs is to be achieved through the Permittees' implementation of

BMPs in accordance with the TMDL Implementation Plans or as identified as a result of TMDL special studies approved by the Regional Board.

i. The Big Bear Lake Nutrient TMDL Implementation Plan requires the collection and evaluation of nitrogen data to determine compliance with the existing total inorganic nitrogen (TIN) objective for Big Bear Lake.

j. The Big Bear Lake Nutrient TMDL does not specify nutrient reductions from external watershed sources, which include urban discharges (WLAs), resorts and open space/forested lands (LAs). Instead, the TMDL for Dry Hydrological Conditions specifies a reduction in phosphorus from internal nutrient sources, which are lake sediment and macrophytes. External load dischargers are responsible for reducing their contributions to the internal nutrient loads.

k. On December 6, 2006, the City of Big Bear Lake and Snow Summit, Inc., signed a Memorandum of Understanding (MOU) regarding Snow Summit's storm water discharges into the City's MS4 system. The City of Big Bear Lake and Snow Summit agreed that the City has the authority to regulate storm water discharges from properties, including Snow Summit's facilities; to the extent such storm water discharges enter lands within the boundaries of the City, any waters within the jurisdiction of the City, or the City's MS4 facilities. This provides the City an additional tool to control nutrient discharges to the Lake. Responsible agencies and dischargers in the Big Bear Lake watershed have formed a Big Bear Lake TMDL Task Force. The Big Bear TMDL Task Force members are working jointly to implement requirements of the Big Bear Lake Nutrient TMDL.

l. On May 4, 2009, the Big Bear Lake TMDL Task Force submitted a revised watershed-wide monitoring plan. At the May 22, 2009 board meeting, the Regional Board approved the Big Bear Lake Watershed-wide Nutrient Monitoring Plan by adopting Resolution No. R8-2009-0043. This includes a watershed-wide monitoring plan. The Big Bear Lake In-lake Monitoring Plan was adopted on July 18, 2008 (Resolution No. R8-2008-0070). The monitoring program is designed to determine the sources of phosphorus; support the development of TMDLs applicable to other hydrologic conditions; and evaluate progress towards meeting (by the specified compliance dates) the numeric targets specified in the TMDLs.

m. The Big Bear Lake Nutrient TMDL Task Force has also submitted a lake management plan that is currently being revised based on Regional Board staff comments.

n. Based on a weight of evidence evaluation, if the numeric targets for the Lake are met through in-lake controls or other techniques, this would constitute compliance with the requirements of the TMDL implementation plan.

16. As indicated in Table 3 above, bacteria, metals and nutrients are the pollutants of concern for a majority of the waterbodies within the permitted area. One of the major sources of bacteria and nutrients is concentrated animal feeding

operations. Dairy facilities within the region are regulated under the Regional Board's Concentrated Animal Feeding Operations (CAFO) Permit. The Regional Board enforces the CAFO Permit. The Permittees are required to identify and control urban sources of bacteria, nutrients and other pollutants within their jurisdictions, consistent with the MEP standard.

G. **New Development/Significant Redevelopment – WQMP/LID**

1. Significant numbers of development projects have taken place in San Bernardino County in the last decade. These developments have increased the area of the urbanized portion of the watershed. As development occurs, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, impervious surfaces (e.g., concrete surface) can neither absorb water nor remove pollutants, and the natural purification characteristics are lost. Urbanization generally increases storm water runoff, volume, and flow velocity. Additionally, conventional urban development significantly increases pollutant loads as the increased population density causes proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage wastes, pesticides, household hazardous wastes, lawn fertilizers, pet wastes, trash, and other anthropogenic pollutants.

2. Impacts from urbanization can especially threatens environmentally sensitive riparian areas as well as stream habitat and structure. Such areas may be much more susceptible to degradation from increased pollutant loads. Therefore, development that would otherwise have minimal impact on the environment may adversely impact a sensitive environment. These State-designated environmentally sensitive areas (ESAs) include those areas designated in the Basin Plan as supporting the following beneficial uses: (1) "Rare, Threatened, or Endangered Species (RARE)"; and (2) "Preservation of Biological Habitats of Special Significance (BIOL)".

3. Increased volumes and velocities of storm water discharges from MS4s into natural watercourses can cause stream bank erosion and physical modifications that adversely impact aquatic ecosystems and stream habitat. The collective changes in the hydrologic regime caused by development is termed hydromodification. For the permitted area, the remaining natural streams in the mountains and in lightly urbanized or undeveloped portions of the watershed are most likely to experience adverse impacts from any new development or significant redevelopment projects that are built.

4. On October 5, 2000, the State Board adopted Order No. WQ-2000-11, which required that urban runoff generated by 85th percentile storm events from specific types of development categories (priority projects) be infiltrated, filtered or treated. The essential elements of this precedential Order were incorporated into the third-term permit. The Permittees developed a model Water Quality

Management Plan (WQMP) Guidance and Template and are currently implementing the essential elements of the approved model WQMP.

5. Recent studies have indicated that low impact development[27] LID is an effective storm water management approach that minimizes adverse impacts on storm water runoff quality and quantity resulting from urban developments. The Southern California Monitoring Coalition (SMC), including the project lead agency (the San Bernardino County Flood Control District), in collaboration with SMC member Southern California Coastal Water Research Project (SCCWRP) and the California Storm Water Quality Association (CASQA), with funding from the State Water Resources Control Board and CASQA is developing a Low Impact Development Manual for Southern California. This manual will be incorporated into the CASQA BMP Handbooks. The Permittees will incorporate, where feasible and practicable, the LID process outlined in this manual into a revised version of the WQMP.

6. This Order requires project proponents to first consider preventative and conservation techniques (e.g., preserve and protect natural features to the maximum extent practicable) prior to considering mitigative techniques (structural treatment, such as infiltration systems). The mitigative measures should be prioritized with the highest priority for BMPs that remove storm water pollutants and reduce runoff volume, such as infiltration, then other BMPs, such as harvesting and use, evapotranspiration and bio-treatment[28] should be considered. To the maximum extent practicable, these LID BMPs must be implemented at the project site. The Regional Board recognizes that site conditions, including site soils, contaminant plumes, high groundwater levels, etc., could limit the applicability of infiltration and other LID BMPs at certain project sites. Where LID BMPs are not feasible at the project site, more traditional[29], but equally effective control measures should be implemented. This Order provides for alternatives and in-lieu programs where the preferred LID BMPs are infeasible.

7. The USEPA has determined that LID can be a cost-effective and environmentally preferable approach for the control of storm water pollution and to minimize downstream impacts by mimicking pre-development hydrology and minimizing changes in site hydrology. LID techniques promote the reduction of impervious areas which may achieve multiple environmental and economic benefits in addition to enhanced water quality and supply, stream and habitat protection,

[27] LID a set of technologically feasible and cost-effective approaches and practices that are designed to reduce runoff of water and pollutants from the site at which they are generated. By means of infiltration, evapotranspiration, and use of rainwater, LID techniques manage water and water pollutants at the source. LID and Green Infrastructure are sometimes used interchangeably. See also Attachment 4-Glossary, for definition of LID.

[28] In general, these types of BMPs utilize vegetation that promote pollutant uptake and evapotranspiration and/or natural or soil type media filtration with volume retention capacity and ability to reduce pollutant concentration.

[29] Typical engineered and/or proprietary treatment devices that capture/filter pollutants but do not contribute to maintenance of pre-development site hydrology. Examples are vortex separators, catch basin filters.

cleaner air, reduced urban temperature, increased energy efficiency and other community benefits such as aesthetics recreation, and wildlife areas. This Order incorporates a volume capture metric based on the use of preferred LID BMPs.

8. It is recognized that LID principles are universal concepts, however, their applicability is dependent on site-specific factors such as: soil conditions including soil compaction and permeability, groundwater levels, soil contaminants (brown field development), space restrictions (in-fill projects, redevelopment projects, high density development, transit-oriented developments), etc. In the event that LID BMPs techniques, particularly infiltration, evapotranspiration, capture-use, and/or biotreatment, are not feasible at a site, alternatives and in-lieu programs are included that will address water quality/quantity concerns.

9. The model WQMP Guidance and Template provide a framework to incorporate some of the watershed protection principles into the Permittees' planning, construction and post-construction phases of priority projects. The model WQMP requires site design (including, where feasible, LID principles), source control and treatment control elements to reduce the discharge of pollutants in urban runoff. On April 30, 2004, the Regional Board approved the model WQMP Guidance and Template. The Permittees are requiring project proponents to develop and implement site-specific WQMPs. This Order requires the Permittees to verify functionality of post-construction structural BMPs prior to issuance of certificate of occupancy and to track and ensure long term operation and maintenance of post-construction BMPs in approved WQMPs.

10. An audit of each of the Permittees' storm water management programs during the third-term permit indicated a need for improved integration of the watershed protection principles, including LID techniques, specified in the WQMP into the Permittees' General Plan or related documents such as Development Standards, Zoning Codes, Conditions of Approval, Project Development Guidance, etc. It appears that many of the existing procedures, Development Standards, Ordinances and Municipal Codes may include barriers for implementation of LID techniques. This Order requires the Permittees to review and revise the Permittees' CEQA documentation, General Plan, Comprehensive or Master Plan, Municipal Codes, Subdivision Ordinances, Project Development Standards, Conditions of Approval or related documents to remove any barriers, as necessary, and within their control, for implementation of LID techniques and other requirements of this Order.

11. This Order requires the Permittees to ensure that Covenants, Conditions and Restrictions (CC&R) or other mechanisms for proper long term operation and maintenance of post-construction BMPs are carried out in perpetuity.

12. In addition to addressing post-development urban storm water quality, the WQMP includes requirements to protect environmentally sensitive areas and to address potential hydromodification issues that may result from each project. Section 2.3 of the WQMP requires identification of hydrologic conditions of concern (HCOC). An HCOC exists when a site's hydrologic regime is altered

and there are likely to be significant[30] impacts on downstream channels and aquatic habitats, alone or in conjunction with impacts of other projects. Currently, new development and significant re-development projects are required to perform this assessment and incorporate appropriate BMPs to ensure existing hydrologic conditions are maintained. This Order requires the Permittees to implement, where feasible, LID techniques to minimize HCOC and supports the implementation of in-stream hydromodification protection and/or mitigation alternatives where appropriate.

13. Management of the impacts of urbanization on water quality, stream stability and aquatic habitats can sometimes be more effective if the techniques are implemented based on an overall watershed plan, whether done at the project site, within the neighborhood or within each municipality. During the third term permit, the Permittees initiated a watershed mapping project to develop a GIS-based map of the permitted area with the goal of identifying and developing specific action plans for protecting those segments of streams and channels that are vulnerable to impacts from urbanization.

14. This Order also requires the Permittees to develop a Watershed Action Plan to address cumulative impacts of development on vulnerable streams, preserve or restore to the maximum extent practicable the structure and function of streams in the permitted area, and protect surface water quality and groundwater recharge areas. The Watershed Action Plan should integrate hydromodification and water quality management strategies with land use planning policies, ordinances, and plans within each jurisdiction.

15. Pending approval of a Watershed Action Plan, the Permittees are required to address the impacts of urbanization as required under the approved model WQMP by requiring project proponents to develop and implement project-specific WQMPs.

16. If not properly designed and maintained, the structural treatment control BMPs could create a nuisance and/or habitat for vectors[31] (e.g., mosquitoes and rodents). Third term permit required the Permittees to closely collaborate with the local vector control agencies during the development and implementation of such treatment systems. The Permittees should continue these collaborative efforts with the vector control agencies to ensure that treatment control systems do not become a nuisance or a potential source of pollutants. The requirements specified in this Order include identification of responsible agencies for maintaining the systems and for providing funding for operation and maintenance.

17. If not properly designed and maintained, groundwater infiltration systems could also adversely impact groundwater quality. Restrictions placed on urban runoff

[30] It is expected that the current HCOC mapping effort and stream/risk characterization effort will define what should be considered as significant impact or stream vulnerability to hydromodification on a watershed basis.

[31] Managing Mosquitoes in Stormwater Treatment Devices, Marco E. Metzger, University of California Davis, Division of Agriculture and Natural Resources, Publication 8125.

infiltration in this Order (Section XI.D.8) are based on recommendations provided by the USEPA Risk Reduction Laboratory. The Permittees should continue to work closely with the water districts and water conservation districts to ensure groundwater protection.

H. **Municipal Inspection Programs**

1. The Permittees are required to conduct inspections of construction sites, industrial facilities, and commercial establishments. An evaluation of the Permittees' inspection programs during the third-term permit indicated a wide range of compliance and non-compliance with the inspection requirements. In many instances, the facilities' return to compliance was not properly documented. This Order includes requirements for a more effective inspection program and includes a performance measure, time to return to compliance, as a metric for program effectiveness.
2. During the third term, the Permittees initiated development of a risk-based prioritization scheme to prioritize facilities for inspections. In the absence of an approved risk-based prioritization scheme, the Permittees are required to use the prioritization methodology specified in the third-term permit. Upon approval of the risk-based prioritization scheme, the Permittees are required to utilize that system to prioritize their inspections.

I. **Illegal Discharges/Illicit Connections**

1. Illegal discharges to the MS4s could contribute to storm water and other surface water contamination. During the second term permit, the Permittees completed a reconnaissance survey of their open channels and underground storm drains to detect and eliminate any illicit connections (undocumented or unpermitted connections to the MS4s). The Permittees have trained their staff on illegal discharge surveillance/cleanup procedures. Audits conducted during the third-term permit indicated that this program element is generally carried out through complaint response. This Order requires each Permittee to revise this program element based on the Center for Watershed Protection's Illegal Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments.

J. **Technology-Based Effluent Limitations (Not Applicable)**

K. **Non-storm Water/De-Minimus Discharges**

1. The MS4s generally convey non-storm water flows such as irrigation runoff, runoff from non-commercial car washes, runoff from miscellaneous washing and cleaning operations, and other nuisance flows generally referred to as de-minimus discharges. Federal regulations, 40 CFR Part 122.26(d)(2)(i)(B), prohibit the discharge of non-storm water containing pollutants into the MS4s and to Waters of the U.S. unless they are regulated under a separate NPDES permit or are exempt as indicated in Effluent Limitations and Discharge Specifications,

Section V.A of this Order. On March 24, 2009, the Regional Board adopted Order No. R8-2009-0003, to address de-minimus types of discharges. The Permittees need not get coverage under the de-minimus permit for the types of discharges listed under Section V.B, as long as they are in compliance with the conditions specified in this Order and the substantive requirements of Order No. R8-2009-0003.

L. **Water Quality-Based Effluent Limitations (WQBELs) and TMDL WLA**

1. 40 CFR 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving waters. Where numeric water quality criteria have not been established, 40 CFR 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed state criteria or a state policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter. In *Defenders of Wildlife, et al* v. *Browner,* No. 98–71080 (9th Circuit, October 1999). The Court held that the CWA does not require "strict compliance" with State water quality standards for MS4 permits under section 301(b)(1)(C), but that at the same time, the CWA does give EPA discretion to incorporate appropriate water quality-based effluent limitations under another provision, CWA section 402(p)(3)(B)(iii). 40 CFR 122.44(k)(3) allows the use of BMPs to control or abate the discharge of pollutants when numeric effluent limitations are infeasible or when practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. The legislative history and the preamble to the federal storm water regulations indicated that Congress and the USEPA were aware of the difficulties in regulating urban and storm water runoff solely through traditional end-of-pipe treatment. It is the Regional Board's intent to require the Permittees to implement best management practices consistent with the MEP standard in order to support attainment of water quality standards. This Order includes receiving water limitations based on applicable water quality standards; it prohibits the creation of nuisance and requires the reduction of water quality impairment in receiving waters. The Permit includes a procedure for determining whether storm water discharges are causing or contributing to exceedances of receiving water limitations and for evaluating whether the MSWMP must be revised to include additional or more effective BMPs designed to meet water quality standards. The Order establishes an iterative process to determine compliance with the receiving water limitations.

2. To support attainment of water quality standards, consistent with MEP, this Order requires the Permittees to implement a number of management practices and an iterative process to ensure that water quality standards are achieved. The Permittees are required to:

   a. Implement BMPs at all their facilities and for all their activities,

b. Require BMPs, including, where appropriate, LID techniques, to be implemented at new and re-development project sites prior to accepting discharge from these sites into their MS4s,

c. Implement and annually evaluate the MSWMP and each Permittee's LIP for effectiveness in reducing pollutants in urban and storm water runoff, and

d. Perform monitoring and reporting to determine the adequacy of BMPs within the permitted area and to determine the pollutants of concern based on comparisons of monitoring data with the applicable water quality standards.

3. Federal regulations (40 CFR 122.44(d)(1)(vii)(B) require inclusion of effluent limits that are "consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA." Consistent with this requirement, this Order includes a process for developing a BMP-based approach, which, if adopted by the Regional Board prior to the compliance date(s) specified in the associated TMDL Implementation Plan, shall become the final water quality-based effluent limitation(s). Permittees are required to submit a BMP-based comprehensive plan (comprehensive plan) describing the proposed BMPs and the documentation demonstrating that the BMPs are expected to attain the WLAs by the compliance dates when implemented. Once the Regional Board approves this comprehensive plan, this Order will be amended to include the comprehensive plan as the final water quality-based effluent limit that is consistent with the WLAs. If the Regional Board does not approve the comprehensive plan prior to the compliance date(s), the WLAs will become the final water quality-based effluent limits on the applicable compliance date and will remain in effect until a BMP comprehensive plan is approved by the Regional Board. The comprehensive plan will be updated, as necessary, to reflect evaluations of the effectiveness of the BMPs, including evaluations presented in the annual reports. The WLAs for Big Bear Lake Nutrient TMDLs are currently being achieved. The Permittees in the Big Bear Lake area are required to continue to implement BMPs (specific tasks identified in the Big Bear Lake Nutrient TMDL Implementation Plan) and to monitor to ensure continued compliance with the WLAs.

4. If water quality standards in the irnpaired receiving waters are met through implementation of appropriate control measures, this would constitute compliance with the effluent limits.

5. Maximum daily concentration limits are also included for de-minimus types of discharges from Permittee owned and/or operated facilities and activities and for total dissolved solids and total inorganic nitrogen for dry weather discharges.

M. Water Quality Control Plan (Basin Plan)

1. The Regional Board adopted a revised Water Quality Control Plan for the Santa Ana River Basin (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality

objectives, and contains implementation programs and policies to achieve those objectives for all waters in the Santa Ana Region addressed through the Plan.

2. More recently, the Basin Plan was amended significantly to incorporate revised boundaries for groundwater sub-basins, now termed "management zones", new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters. This Basin Plan Amendment (R8-2004-0001) was adopted by the Regional Water Board on January 22, 2004. The State Water Resources Control Board (State Water Board) and Office of Administrative Law (OAL) approved Order No R8-2004-0001 on September 30, 2004 and December 23, 2004, respectively. The U.S. Environmental Protection Agency approved the surface water quality standards and related provisions of Order R8-2004-0001 on June 20, 2007. Order R8-2004-0001 includes TDS/TIN limits for direct dry weather discharges into surface waters within the permitted area based on the objectives specified in Table 4-1 of the Basin Plan, as amended. Storm water was considered to be an insignificant source for nitrogen/TDS in groundwater. These amendments were all incorporated into and updated in a single revised basin plan in February 2008.

3. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic water supply. Beneficial uses recognized in the Basin Plan for surface waters in the permitted area are as follows:

   a. Municipal and Domestic Supply,
   b. Agricultural Supply,
   c. Industrial Service Supply,
   d. Industrial Process Supply,
   e. Groundwater Recharge,
   f. Hydropower Generation,
   g. Water Contact Recreation,
   h. Non-contact Water Recreation,
   i. Warm Freshwater Habitat,
   j. Limited Warm Freshwater Habitat,
   k. Cold Freshwater Habitat,
   l. Preservation of Biological Habitats of Special Significance,
   m. Wildlife Habitat,
   n. Rare, Threatened or Endangered Species, and
   o. Spawning, Reproduction, and Development

   The existing and potential beneficial uses of groundwater that could be impacted by the discharge of urban and storm water runoff within the permitted area include the following:

   a. Municipal and Domestic Supply,
   b. Agricultural Supply,

c. Industrial Service Supply, and
d. Industrial Process Supply

4. The Basin Plan also incorporates by reference all State Board water quality control plans and policies including the 1990 Water Quality Control Plan for Ocean Waters of California (Ocean Plan) and the 1974 Water Quality Control Policy for Enclosed Bays and Estuaries of California (Enclosed Bays and Estuaries Plan). This Order implements the Basin Plan and other statewide plans and policies incorporated into the Basin Plan.

N. **National Toxics Rule (NTR) and California Toxics Rule (CTR)**

Regional Board believes that compliance with water quality standards through implementation of best management practices is appropriate for regulating urban and storm water runoff. EPA articulated this position on the use of BMPs in storm water permits in the policy memorandum entitled, "Interim Permitting Approach for Water Quality-Based Effluent Limitations In Storm Water Permits" (61 FR 43761, August 9, 1996).[32] NTR and CTR are blanket water quality criteria that apply to all surface water discharges. Water quality objectives specified in the Basin Plan are local numeric and narrative objectives that may be more stringent than the national or statewide water quality criteria.

O. **State Implementation Policy (SIP) (Not Applicable)**

See Section N., above.

P. **Compliance Schedules and Interim Requirements**

The Basin Plan contains schedules for achieving compliance with wasteload allocations for MSAR TMDLs and the Big Bear Lake Nutrient TMDLs. This Order requires the Permittees within these watersheds to comply with those time schedules for various deliverables as specified in the approved implementation plans. Consistent with the State Board's Compliance Schedule Policy, Resolution No. 2008-0025, this Order incorporates interim and final effluent limits, where appropriate. Additionally, since the final TMDL compliance dates are outside the term of this permit, this Order also requires the Permittees to monitor and report the effectiveness of BMPs implemented to evaluate progress towards attainment of TMDL WLAs by the time schedules specified in the implementation plans.

Q. **Antidegradation Policy**

40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the

[32]See discussions on Wet Weather Flows in the Federal Register/Vol. 65, No. 97/Thursday, May 18, 2000/Rules and Regulations

federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet, the permitted discharges are consistent with the antidegradation provisions of 40 CFR 131.12 and State Board Resolution No. 68-16.

R. **Anti-Backsliding**

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations of 40 CFR 122.44(*l*) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order. Therefore this Order conforms with the anti-backsliding requirements of the CWA.

S. **Public Education/Participation**

1. Public participation during the development of urban runoff management programs and implementation plans is necessary to ensure that all stakeholder interests and all applicable control measures are considered. In addition, the storm water regulations require public participation in the development and implementation of the storm water management program. As such, the Permittees are required to solicit and consider all comments received from the public and submit copies of the comments to the Executive Officer of the Regional Board with the annual reports. In response to public comments, the Permittees may modify reports, plans, or schedules prior to submittal to the Executive Officer.

2. Urban runoff can contain pollutants from privately owned and operated facilities such as residences, businesses and commercial establishments, and from public and private institutions. A successful storm water management program should include the participation and cooperation of public entities, private businesses, and public and private institutions. The MSWMP recognizes public education as a critical element. As the population increases in the permitted area, it will be even more important to continue to educate the public regarding the impact of human activities on the quality of urban runoff.

3. In addition to the Regional Board, a number of other stakeholders are involved in the management of the water resources of the Region. These include, but are not limited to, the incorporated cities in the Region, Publicly Owned Treatment Works, Orange, Riverside, and San Bernardino counties, and the Santa Ana Watershed Project Authority and its member agencies. The entities listed in Attachment 3 are considered as potential dischargers of urban runoff in the permitted area. It is expected that these entities will also work cooperatively with the Permittees to manage urban runoff. The Regional Board, pursuant to 40 CFR 122.26(a), has the discretion and authority to require non-cooperating

entities to participate in this Order, or to issue individual discharge permits to these entities.

4. Cooperation and coordination among the stakeholders (regulators, Permittees, the public, and other entities) are critical to optimize the use of finite public resources, and to ensure economical management of water quality in the Region. Recognizing this fact, this Order focuses on watershed management and seeks to integrate the programs of the stakeholders, especially the Permittees under the Orange, Riverside, and San Bernardino County MS4 permits within the Santa Ana Watershed.

5. Public education is an important aspect of every effective urban runoff management program and can promote changes in behavior at a societal level. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions affect receiving water quality and how adverse effects can be minimized.

6. Some urban runoff issues, such as general education and training, can be effectively addressed on a regional basis. Regional approaches to urban runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs. In particular, the counties of San Bernardino, Riverside and Orange and the municipalities within these counties are encouraged to cooperatively work together and generate a unified education and training program.

T. **Monitoring and Reporting**

1. 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements.

2. An effective monitoring program should characterize urban runoff, identify problem areas, determine the impact of urban runoff on receiving waters and assess the effectiveness of BMPs. The Principal Permittee administers and conducts the storm water monitoring program for the Permittees. The third-term Permit includes only wet weather monitoring of MS4 outfalls and receiving waters.

3. The Regional Board and the Permittees recognize the importance of watershed management initiatives and regional planning and coordination in the development and implementation of programs and policies related to water quality protection, including urban runoff and TMDL programs. A number of such efforts are underway where the Permittees are active participants, including the Storm Water Quality Standards Task Force, the Middle Santa Ana River Watershed TMDL Task Force, and the Big Bear TMDL Task Force. This Order encourages continued participation in such programs. Furthermore, this Order recognizes that some of these planning efforts may result in significant changes

to the Basin Plan. If this occurs, the Regional Board may reopen the permit to modify applicable terms and conditions through a public hearing process. In addition, the Regional Board also recognizes that in certain cases it may be necessary and appropriate to fund regional water quality monitoring programs by reallocating funds from lower priority local monitoring programs. The Executive Officer is authorized to approve, after public notification and consideration of all comments received, changes to the watershed management initiatives, regional planning and coordination activities and regional monitoring programs. If the Executive Officer receives any significant comments during the public notification process that cannot be resolved, it shall be scheduled for a public hearing during a regularly scheduled Board meeting. To improve the effectiveness of adopted TMDLs and TMDLs that are expected to be adopted in the near future, this Order requires the Permittees to develop an Integrated Watershed Monitoring Plan that will comprehensively integrate the various urban run-off related monitoring programs, TMDLs and program effectiveness assessments. The Monitoring and Reporting Program is provided in Attachment 5.

4. The Stormwater Monitoring Coalition[33], with technical guidance from the Southern California Coastal Water Research Project prepared "Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California", August 2004 Technical Report No. 419. This report indicated that "...the lack of mass emissions stations in the inland counties hampers their ability to estimate the proportional contribution of these inland areas to cumulative loads downstream." Accordingly, the Monitoring and Reporting Section requires the establishment of urban discharge mass emission stations. An integrated Watershed Monitoring Plan should address any shortcomings in the overall monitoring programs and avoid duplicative efforts within the same watershed.

5. The Storm Water Monitoring Coalition, in partnership with the Southern California Coastal Water Research Project, is conducting a Regional Bioassessment Monitoring effort. This Order requires the Permittees to continue their participation in this regional effort.

U. Standard and Special Provisions

Standard Provisions, reporting requirements, and notifications which apply to all NPDES permits are specified in Federal NPDES Regulation 40 CFR122.41, and additional conditions applicable to specified categories of permits are specified in 40 CFR 122.42. The discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42.

[33] The Stormwater Monitoring Coalition consists of representatives from the Counties of Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego, the Cities of Long Beach and Los Angeles, the SWRCB, CRWQCB Regions 4, 8, and 9, the USEPA, and Caltrans.

V. **Notification of Interested Parties**

The Regional Board has notified the dischargers and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

W. **Consideration of Public Comment**

The Regional Board has notified the Permittees, all known interested parties, and the public of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge and the requirements of this Order.

X. **Alaska Rule**

On March 30, 2000, USEPA revised its regulation that specifies when new and revised State and Tribal water quality standards (WQS) become effective for CWA purposes (40 CFR 131.21, 65 FR 24641, April 27, 2000). Under the revised regulation (also known as the Alaska rule), USEPA must approve new and revised standards submitted to USEPA after May 30, 2000 before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

Y. **Compliance with CZARA**

The Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), Section 6217(g), requires coastal states with approved coastal zone management programs to address non-point source pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This Order addresses the management measures required for the urban category. Compliance with requirements specified in this Order relieves the Permittees of developing a non-point source plan, for the urban category, under CZARA. .

Z. **Stringency Requirements for Individual Pollutants (Not Applicable)**

PERMIT REQUIREMENTS:

IT IS HEREBY ORDERED that the Permittees, in Order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act, as amended, and the regulations and guidelines adopted thereunder, shall comply with the following:

III. PERMITTEE RESPONSIBILITIES

A. Responsibilities of the Principal Permittee:

1. The Principal Permittee shall be responsible for managing the overall storm water program and shall:

   a. Conduct chemical, biological, bacteriological water quality and other monitoring as required by this Order and any additional monitoring directed by the Executive Officer.

   b. Prepare and submit to the Executive Officer of the Regional Board, unified reports, plans, and programs necessary to comply with this Order.

   c. Coordinate and conduct Management Committee meetings as specified in the MSWMP.

   d. Coordinate permit activities and participate in any subcommittees formed as necessary, to coordinate compliance activities with this Order.

   e. Provide technical and administrative support and inform the Co-Permittees of the progress of other pertinent municipal programs, pilot projects, research studies, and other information to facilitate implementation of Co-Permittees' storm water program.

   f. Coordinate the implementation of area-wide storm water quality management activities such as the monitoring program, public education, pollution prevention, etc.

   g. Gather and disseminate information on the progress of statewide municipal storm water programs and evaluate the information for potential use in the execution of this Order.

   h. Monitor the implementation of the plans and programs required by this Order and determine their effectiveness in attaining water quality standards.

   i. Coordinate with the Regional Board on activities pertaining to implementation of this Order, including the submittal of all reports, plans, and programs as required under this Order.

   j. Develop and implement mechanisms, performance standards, design standards, etc., and assist in the consistent implementation of BMPs to the maximum extent practicable among the Permittees.

   k. Cooperate in watershed management programs and regional and/or statewide monitoring programs.

   l. Solicit and coordinate public input for any proposed major changes to areawide storm water management programs (MSWMP) and implementation plans.

   m. In collaboration with the Co-Permittees, develop guidelines for defining expertise and competencies of storm water program managers and inspectors

and develop and submit for approval a training program for various positions in accordance with these guidelines

n. Within 18 months of permit adoption, the Principal Permittee shall coordinate a review of areawide documents with the Co-Permittees to determine the need for update or revisions and establish a schedule for those revisions. These documents include but are not limited to the Enforcement Consistency Guide, the Municipal Activities Pollution Prevention Strategy, Water Quality Management Plan Guidance and Template, BMP brochures and other areawide documents.

o. Within 6 months of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees, shall develop and submit an area-wide model Local Implementation Plan (LIP) to the Executive Officer of the Regional Board. The submitted model LIP shall be deemed acceptable to the Regional Board if the Executive Officer raises no written objections within 30 days of submittal. The model LIP should describe each program element per the MSWMP; the departments and personnel responsible for its implementation; applicable standard operating procedures, plans, policies, checklists, and drainage area maps; and tools and resources needed for its implementation. The model LIP should also establish internal and external reporting and notification requirements to ensure accountability and consistency. The model LIP should also describe the mechanisms, procedures, and/or programs whereby the Permittees' individual LIPs will be coordinated through the WAP.

2. In addition, the activities of the Principal Permittee shall include but not be limited to the following for MS4 systems owned or operated by the Principal Permittee:

   a. Within 18 months of adoption of this Order, the Principal Permittee shall develop and implement a Principal Permittee-specific LIP, based on the areawide model LIP. A copy of the LIP, signed by the Chair of the Board of Directors for the Principal Permittee, shall be submitted to the Executive Officer within 18 months of the adoption of this Order.

   b. Take appropriate enforcement actions necessary to ensure compliance with Water Quality Management Plans, ordinances, implementation plans, and other applicable plans and policies.

   c. Inspect, clean, and maintain the MS4 systems within its jurisdiction consistent with the MEP standard.

   d. Review Water Quality Management Plans or other post-construction management plans requiring local agency permits.

   e. Prior to accepting permanent connections to its MS4 from entities outside its jurisdictional authority, the Principal Permittee shall notify the entities in writing of the General Stormwater Permit (Order No. 2009-0009-DWQ) post-construction standards and the regulatory requirements for control of pollutants in MS4 discharges (including relevant requirements from the MSWMP and WQMP), where feasible, and consistent with the MEP standard. A WQMP

approved by the Co-Permittee with jurisdictional authority may constitute compliance with the General Construction Permit post-construction requirements[34].

f. Review and revise, if necessary, policies and ordinances necessary to establish and maintain adequate legal authority, as required by the federal storm water laws and regulations.

g. Respond to or arrange for responding to emergency situations such as accidental spills, leaks, illicit connections/illegal discharges, etc., to prevent or to reduce the discharge of pollutants to storm drain systems and Waters of the U.S.

h. Track, monitor, and keep training records of all personnel involved in the implementation of the Principal Permittee's LIP.

i. Implement management programs, monitoring programs, and related plans as required by this Order.

j. Solicit and coordinate public input for any proposed major changes to its LIP, the MSWMP, and/or Model WQMP, as appropriate.

B. Responsibilities of the Co-Permittees

1. Within 18 months of adoption of this Order, each Co-Permittee shall develop and implement an LIP for its jurisdiction. The LIP shall describe the Co-Permittee's legal authority, its ordinances, policies and standard operating procedures; identify departments and personnel for each task and needed tools and resources. The LIP shall establish internal departmental coordination and reporting requirements to ensure accountability and consistency. Within 18 months from the adoption of this Order, each Co-Permittee shall adopt a Permittee-specific LIP, based on the areawide model LIP. The LIP shall have the written approval of the Permittee's City Manager or County Supervisor prior to its implementation and shall be updated on an as needed basis. Each Permittee's approved LIP shall be submitted, in electronic format, to the Executive Officer within 18 months of the adoption of this Order.

2. Each Co-Permittee shall be responsible for managing the storm water program within its jurisdiction and shall:

   a. Implement all applicable program elements including but not limited to the management programs, monitoring programs, implementation plans and appropriate BMPs outlined in the MSWMP and the LIP within each respective jurisdiction, and take such other actions as may be necessary to meet the maximum extent practicable (MEP) standard.

   b. Review and revise policies and ordinances necessary to establish and maintain adequate legal authority as stated in Section VI.1 of this Order and

[34] The State General Construction Permit Order No. 2009-0009-DWQ Section XIII

as required by the federal storm water regulations, 40CFR, Part 122.26(d)(2)(i)(A-F).

c. Obtain public input for any proposed major changes to its storm water management program and implementation plans.

d. Inspect, clean, and maintain the MS4 systems within its jurisdiction.

e. Maintain up-to-date GIS-based MS4 facility maps. Annually review these maps and, if necessary, submit revised maps to the Principal Permittee for integration with the HCOC mapping and with the information required for preparation of the Annual Report.

f. Prepare and submit to the Principal Permittee in a timely manner all required information necessary to develop a unified Annual Report for submittal to the Executive Officer of the Regional Board.

3. The Co-Permittees' activities shall include, but not be limited to, the following:

a. Designate at least one representative to the Management Committee and attend at least 7 out of the 8 Management Committee meetings per year. The Principal Permittee shall be notified immediately, in writing, of any changes to the designated representative to the Management Committee.

b. Conduct, and/or coordinate with the Principal Permittee to conduct, any surveys and/or characterizations needed to identify pollutant sources from specific drainage areas.

c. Review and comment on all plans, strategies, management programs, monitoring programs, as developed by the Management Committee, the Principal Permittee or any subcommittee to comply with this Order.

d. Participate in committees or subcommittees formed to address storm water related issues to comply with this Order.

e. Respond to or arrange for responding to emergency situations such as accidental spills, leaks, illegal discharges/illicit connections, etc. to prevent or reduce the discharge of pollutants to storm drain systems and Waters of the U.S.

f. Pursue enforcement actions as necessary within its jurisdiction for violations of storm water ordinances, prohibitions on illicit connections and illegal discharges, and other elements of its storm water management program.

g. Track, monitor, and keep training records of all personnel involved in the implementation of its LIP.

h. Track and monitor operation and maintenance of post-construction BMPs installed in areas within each Permittee's jurisdiction.

i. Prior to accepting permanent connections to its MS4 from entities outside its jurisdictional authority, the co-Permittee shall notify these entities in writing of General Stormwater Permit post-construction standards and the regulatory requirements for control of pollutants in MS4 discharges (including relevant

requirements from the MSWMP and WQMP), where feasible, and consistent with the MEP standard. A WQMP approved by the Co-Permittee with jurisdictional authority may constitute compliance with the General Construction Permit post-construction requirements[35]. The Permittees will also send these notifications to the Regional Board.

j. Track and monitor operation and maintenance of post-construction BMPs installed in areas within each Permittee's jurisdiction.

C. Implementation Agreement

1. As needed, the Permittees shall evaluate the storm water management structure and the Implementation Agreement and determine the need for any revision. The annual report shall include the finding of any such review and provide a schedule if revisions are planned. The Implementation Agreement shall be reviewed and revised, if necessary, to include any cities that were not signatories to this agreement or other non-traditional entities that own or operate conveyance systems within the permitted area. See Attachment 3. If the Implementation Agreement is revised, a copy of the signature page and any revisions to the Agreement shall be included in the annual report.

IV. DISCHARGE PROHIBITIONS

A. In accordance with the requirements of 40 CFR 122.26(d)(2)(i)B) and 40 CFR 122.26(d)(2)(i)(F), the Permittees shall prohibit illegal connections and illicit discharges (non-storm water) from entering municipal separate storm sewer systems unless such discharges are either authorized by a NPDES permit or Waste Discharge Requirements issued by the Regional Board, or not prohibited in accordance with Section V, below.

B. The discharge of Urban Runoff from Permittees' municipal separate storm sewer systems, containing pollutants, including trash and debris that have not been reduced to the maximum extent practicable, to waters of the U. S. is prohibited.

C. The Permittees shall effectively prohibit the discharge of non-storm water into the MS4s unless authorized by a separate NPDES permit, granted a waiver or as otherwise specified in Section V, below.

D. Non-storm water discharges from Permittee activities into Waters of the U.S. are prohibited unless the non-storm water discharges are permitted by a NPDES permit, granted a waiver, or are as otherwise specified in Section V, below.

E. Discharges from the MS4s shall be in compliance with the discharge prohibitions contained in Chapter 5 of the Basin Plan.

F. Discharges into and from the MS4s in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance, as that term is defined in Section 13050 of the Water Code, into waters of the State are prohibited.

[35] The State General Construction Permit Order No. 2009-0009-DWQ Section XIII

G. The discharge to Waters of the U.S., of any substances in concentrations toxic to animal or plant life is prohibited.

H. The discharge to Waters of the U.S., of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

V. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

For purposes of this Order, a discharge may include storm water or other types of discharges identified below.

A. **Authorized Discharges:**

The discharges identified below need not be prohibited by the Permittees except if identified by the Permittees or the Executive Officer as a significant source of pollutants or as a significant vehicle that may cause pollutants to migrate to Waters of the U.S. The MSWMP shall include public education and outreach activities directed at reducing these discharges even if they are not substantial contributors of pollutants to the MS4s and/or the receiving waters.

1. Discharges composed entirely of storm water;
2. Air conditioning condensate;
3. Irrigation water. These discharges shall be minimized through public education and water conservation efforts. Also see Section X.E, Residential Program, and Section C., Nonpoint Source Discharges, below;
4. Passive foundation drains[36];
5. Passive footing drains[37];
6. Water from crawl space pumps[38];
7. Non-commercial vehicle washing, ,e.g. residential car washing (excluding engine degreasing) and car washing for fundraisers by non-profit organizations[39];
8. Dechlorinated swimming pool discharges (cleaning wastewater and filter backwash shall not be discharged into the MS4s or to Waters of the U.S.)
9. Diverted stream flows[40];

[36]The discharge is allowed only if the source water drained from the foundation is stormwater or uncontaminated groundwater. Discharges from contaminated groundwater may require coverage under the General Groundwater Cleanup Permit (Order No. R8-2007-0008, NPDES Permit No CAG918001) or its latest version.

[37]Only uncontaminated discharge is allowed. Otherwise, coverage under Order No. R8-2007-0008 may be required.

[38]The discharge is allowed only if it is uncontaminated; otherwise permit coverage under the General Permit for Discharges from Utility Vaults and Underground Structures, Water Quality Order No. 2006-0008-DWQ (NPDES No. CAG990002) may be required.

[39]Charity car washes should be limited to bona-fide 501 agencies.

[40]Diversion of stream flows that encroach into Waters of the U.S. requires a 404 permit from the U.S. Army Corps of Engineers and a 401 Water Quality Certification from the Regional Board. Stream diversion that requires active pumping may also require coverage under the De Minimus Permit, Order No. R8-2009-0003.

10. Rising ground waters and natural springs[41];
11. Uncontaminated ground water infiltration as defined in 40 CFR 35.2005 (20) and uncontaminated pumped groundwater,
12. Flows from riparian habitats and wetlands;
13. Emergency fire fighting flows (i.e., flows necessary for the protection of life and property do not require BMPs and need not be prohibited. However, appropriate BMPs to reduce the discharge of pollutants consistent with the MEP standard must be implemented when they do not interfere with health and safety issues.
14. Waters not otherwise containing wastes as defined in California Water Code Section 13050 (d), and
15. Other types of discharges identified and recommended by the Permittees and approved by the Regional Board.
16. The Permittees must evaluate the authorized discharges listed above to determine if any are a significant source of pollutants to the MS4, and notify the Executive Officer if any are a significant source of pollutants to the MS4. If the Permittee determines that any are a source of pollutants that exceed water quality standards, the Permittee(s) shall either:
    a. Prohibit the discharge from entering the MS4; or
    b. Authorize the discharge category and ensure that "Source Control BMPs" and Treatment Control are implemented to reduce or eliminate pollutants resulting from the discharge; or
    c. Require or obtain coverage under a separate Regional Board or State Board permit for discharge into the MS4.

B. **Discharge Specifications/De-Minimus Discharges from Permittee Owned and/or Operated Facilities/Activities:**

1. The Permittees shall prohibit the following categories of non-storm water discharges (de minimus discharges) into Waters of the U.S. from Permitttee-owned and/or operated facilities/activities unless the stated conditions are met. The de minimus types of discharges listed in the General De Minimus Permit shall be in compliance with the Regional Board's General De Minimus Permit for Discharges to Surface Waters, Order No. R8-2009-0003, NPDES No. CAG 998001:
    a. Discharges from potable water sources, including water line flushing, superchlorinated water line flushing; discharges resulting from the maintenance of potable water supply pipelines, tanks, reservoirs, etc.; discharges from potable water supply systems resulting from initial system startup, routine startup, sampling activities, system failures, pressure release, etc.; fire hydrant system testing or flushing; and hydrostatic test water: Planned discharges shall be dechlorinated to a

[41] Discharge of rising ground water and natural springs into surface water is only allowed if the groundwater is uncontaminated. Otherwise, coverage under Order No. R8-2007-0008 may be required.

concentration of 0.1 ppm[42] or less, pH adjusted if necessary, and volumetrically and velocity controlled to prevent hydrologic conditions of concern in receiving waters.

b. Dechlorinated swimming pool discharges: Dechlorinated to a concentration of 0.1 ppm[43] or less, pH adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent hydrologic condition of concern in receiving waters. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4s or to Waters of the U.S.

c. Construction dewatering wastes[44] and dewatering wastes from subterranean seepage[45], except for discharges from utility vaults: The following limits shall be met at approved monitoring locations. The maximum daily concentration limit for total suspended solids shall not exceed 75 mg/l, sulfides 0.4 mg/l, oil and grease15 mg/l, total petroleum hydrocarbons 0.1 mg/l; the pH of the discharge shall be within 6.5 to 8.5 pH units and there shall be no visible oil and grease in the discharge.

d. Discharges from facilities that extract, treat and discharge water diverted from waters of the U.S[46]. These discharges shall meet the following conditions: (1) The discharges to Waters of the U.S. must not contain pollutants added by the treatment processes or pollutants in greater concentration than the influent; (2) The discharge must not cause or contribute to a condition of erosion; (3) The extraction and treatment must be in compliance with Section 404 of the Clean Water Act; and (4) Conduct monitoring in accordance with Monitoring and Reporting Program attached to this Order.

2. Discharges from lawn, greenbelt and median watering and other irrigation runoff[47] from Permittee's facilities shall be minimized through water conservation efforts. Also see Section X.E, Residential Program

3. Table 4-1 of the Basin Plan incorporates TDS/TIN[48] limits for direct discharges into surface waters in specified management zones within the Santa Ana Region. Permittees discharging to those receiving waters shall comply with the following for dry weather conditions.

   a. For discharges to surface waters, where groundwater will not be affected by the discharge, the maximum daily concentration (in mg/L) for TDS and/or TIN of the

[42] Total residual chlorine = 0.1 mg/l or parts per million (ppm) or less; compliance determination shall be at a point before the discharge mixes with any receiving water.

[43] See footnote 42.

[44] Requirements for construction dewatering of stormwater are covered under the General Permit for Stormwater Discharges Associated with Construction Activity Order No. 99-08-DWQ.or the latest version. Where pollutants other than TSS, sulfides, oil and grease, TPH and pH are a concern in the groundwater, coverage under Order No. R8-2007-0008 may be required.

[45] Discharge of dewatering wastes from subterranean seepage into surface water is only allowed if the groundwater meets specifications. If other pollutants of concern are present or discharge specifications are exceeded, coverage under Order No. R8-2007-0008 may be required.

[46] Diversion of stream flows that encroach into Waters of the U.S. requires a 404 permit from the U.S. Army Corps of Engineers and a 401 Water Quality Certification from the Regional Board.

[47] Non-agricultural irrigation using recycled water must comply with the statewide permit for Landscape Irrigation Using Recycled Water and the State Department Health guidelines.

[48] TDS/TIN=Total dissolved solids/total inorganic nitrogen.

discharge shall not exceed the water quality objectives for the receiving surface water where the effluent is discharged, as specified in Table 4-1 of the Basin Plan.

b. For discharges to surface waters, where the groundwater will be affected by the discharge, the TDS and/or TIN concentrations of the effluent shall not exceed the water quality objectives for the surface water where the effluent is discharged and the affected groundwater management zone, as specified in Table 4-1 of the Basin Plan. The more restrictive water quality objectives shall govern. However, treated effluent exceeding the groundwater management zone water quality objectives may be returned to the same management zone from which it was extracted without reduction of the TDS or TIN concentrations so long as the concentrations of those constituents are no greater than when the groundwater was first extracted. Incidental increases in the TDS and TIN concentrations (such as may occur during air stripping) of treated effluent will not be considered as increases for the purposes of determining compliance with this discharge specification.

4 The Regional Board may add categories of non-storm water discharges that are not significant sources of pollutants or remove categories of non-storm water discharges listed above based upon a finding that the discharges are a significant source of pollutants.

5 See Section XV for additional requirements for de-minimus types of discharges.

C. Non-point Source (NPS) Discharges

Consistent with the State Water Resources Control Board's 2004 "Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program," the Regional Board may issue Waste Discharge Requirements for non-point source (NPS) pollutant discharges, such as agricultural irrigation runoff or return flows that are not subject to NPDES requirements, if identified as a significant source of pollutants. In addition, if the water quality significance of NPS discharges is not clearly understood, the Regional Board may issue conditional waivers of Waste Discharge Requirements to NPS dischargers, and require monitoring to gather the information necessary to effectively manage these discharges.

D. Water Quality Based Effluent Limitations to Implement the Total Maximum Daily Loads (TMDLs)

1. The Middle Santa Ana River (MSAR) Watershed Bacterial Indicator TMDL-Interim WQBELs (effective upon adoption of this Order)

a. The MSAR Permittees[49] shall:

[49] MS4 Permittees in the MSAR watershed (County, Chino, Chino Hills, Fontana, Montclair, Ontario, Rancho Cucamonga, Rialto and Upland) are collectively referred to as the "MSAR Permittees"

i. Continue to implement the watershed-wide water quality monitoring program (including any future amendments thereto) approved by the Regional Board (Resolution No. R8-2007-0046) as per Task 3 of the MSAR-TMDL Implementation Plan.

ii. Submit reports summarizing all relevant data from the watershed-wide water quality monitoring program. Beginning in 2010, the wet season report is due to the Executive Officer by May 31st of each year (for monitoring conducted from November 1st through March 31st) and the dry season report is due to the Executive Officer by December 31st of each year (for monitoring conducted from April 1st through October 31st).

iii. Submit comprehensive reports every three years summarizing the data collected for the preceding 3 year period and evaluating progress towards achieving the urban wasteload allocation by the dates specified in the TMDL. The first report is due to the Executive Officer on February 15, 2010.

iv. Continue to implement the approved (Regional Board Resolution No. R8-2008-0044) urban source evaluation plan (USEP) developed as per Task 4.1 of the MSAR-TMDL Implementation Plan. The USEP must describe the specific methods that will be used to identify urban sources and BMPs to address those sources. Submit semi-annual reports on January 31st and July 31st of each year as required under the approved USEP, and any amendments thereto. In years where the comprehensive report referenced in V.D.1.a.iii above is due on February 15, the comprehensive report, Dry Season report (Due December 31st) and the January 31st USEP reports may be combined into a single submittal due February 15th

v. Revise the Municipal Storm Water Management Plan (MSWMP) as specified in Task 4.2 of the MSAR-TMDL Implementation Plan. Summarize any such revisions in the annual report due to the Executive Officer by November 15 of each year.

vi. Revise the Water Quality Management Plan (WQMP) as specified in Task 4.4 of the MSAR-TMDL Implementation Plan. Summarize any such revisions in the annual report due by November 15 of each year.

vii. Amend the Local Implementation Plans (LIP) to be consistent with the revised MSWMP and WQMPs within 90 days after said revisions are approved by the Regional Board. Summarize any such LIP amendments in the annual report due November 15 of each year.

2. Final WQBELs for MSAR Bacterial Indicator TMDL under DRY Weather Conditions

a. The final WQBELs for bacterial indicators under Dry Weather Conditions contained in this section shall be achieved no later than December 31, 2015. These final effluent limits shall be considered effective for enforcement purposes on January 1, 2016.

b. The Final WQBELs for MSAR Bacterial Indicator TMDL under Dry Weather conditions shall be developed and implemented in the following manner.

i. The MSAR Permittees shall prepare for approval by the Regional Board a Comprehensive Bacteria Reduction Plan (CBRP) describing, in detail, the specific actions that have been taken or will be taken to achieve compliance with the urban wasteload allocation under dry weather conditions (April 1st through October 31st) by December 31, 2015. The CBRP must include:

(a) The specific ordinance(s) adopted to reduce the concentration of indicator bacteria in urban sources.

(b) The specific BMPs implemented to reduce the concentration of indicator bacteria from urban sources and the water quality improvements expected to result from these BMPs.

(c) The specific inspection criteria used to identify and manage the urban sources most likely causing exceedances of water quality objectives for indicator bacteria.

(d) The specific regional treatment facilities and the locations where such facilities will be built to reduce the concentration of indicator bacteria discharged from urban sources and the expected water quality improvements to result when the facilities are complete.

(e) The scientific and technical documentation used to conclude that the CBRP, once fully implemented, is expected to achieve compliance with the urban wasteload allocation for indicator bacteria by December 31, 2015.

(f) A detailed schedule for implementing the CBRP. The schedule must identify discrete milestones to assess satisfactory progress toward meeting the urban wasteload allocations for dry weather by December 31, 2015. The schedule must also indicate which agency or agencies are responsible for meeting each milestone.

(g) The specific metric(s) that will be established to demonstrate the effectiveness of the CBRP and acceptable progress toward meeting the urban wasteload allocations for indicator bacteria by December 31, 2015.

(h) The MSWMP, WQMP and LIPs shall be revised consistent with the CBRP no more than 180 days after the CBRP is approved by the Regional Board.

(i) Detailed descriptions of any additional BMPs planned, and the time required to implement those BMPs, in the event that data from the watershed-wide water quality monitoring program indicate that water quality objectives for indicator bacteria are still being exceeded after the CBRP is fully implemented.

(j) A schedule for developing a CBRP needed to comply with the urban wasteload allocation for indicator bacteria during wet weather conditions (November 1st thru March 31st) to achieve compliance by December 31, 2025.

ii. The draft CBRP must be submitted to the Regional Board no later than December 31, 2010. The Permittees may submit the plan individually, jointly or through a collaborative effort with other urban dischargers such as the existing MSAR-TMDL Task Force. Regional Board staff will review the document and recommend necessary revisions no more than 90 days after receiving the draft plan. The MSAR Permittees must submit the final version of the plan no more than 90 days after receiving the comments from Regional Board staff. The Regional Board will schedule a public hearing to consider approving the CBRP, as a final water quality-based effluent limitation for the Dry Weather Urban Wasteload Allocation, no more than 120 days after the final plan is submitted by the MSAR Permittees. In approving the CBRP as the final WQBELs, the Regional Board shall make a finding that the CBRP, when fully implemented, shall achieve the urban wasteload allocations for indicator bacteria by no later than December 31, 2015.

iii. Once approved by the Regional Board, the CBRP shall be incorporated into this Order as the final WQBELs for indicator bacteria under Dry Weather Conditions. Based on BMP effectiveness analysis, the CBRP shall be updated, if necessary. The updated CBRP shall be implemented upon approval by the Regional Board.

c. Should the process set forth in subdivision, b, of this section not be completed by December 31, 2015, then the urban wasteload allocations for dry weather conditions specified in the MSAR-TMDL shall become the final numeric WQBELs for indicator bacteria in Dry Weather Conditions, effective January 1, 2016 as follows:

i. Wasteload Allocation for Fecal Coliform from Urban Sources in Dry Weather Conditions (April 1st through October 31st)[50]

5-sample/30-day logarithmic mean less than 180 organisms/100mL and not more than 10% of the samples exceed 360 organisms/100mL for any 30-day period.

ii. Wasteload Allocation for *E. Coli* from Urban Sources in Dry Weather Conditions (April 1st through October 31st)

5-sample/30-day logarithmic mean less than 113 organisms/100 mL and not more than 10% of the samples exceed 212 organisms/100mL for any 30-day period.

3. Final WQBELs for MSAR Bacterial Indicator TMDL under WET Weather Conditions (effective Jan. 1, 2026)

In the event this Order is still in effect on December 31, 2025, and the Regional Board has not adopted alternative final water quality-based effluent limits for wet weather conditions by that date, then the urban wasteload allocations specified in the MSAR-TMDL for wet weather conditions (November 1st through March 31st) will automatically become the final numeric water quality-based effluent limits for the MSAR Permittees on January 1, 2026.

4. Big Bear Lake Nutrient TMDL for Dry Hydrological Conditions

a. The City of Big Bear Lake, the County of San Bernardino and San Bernardino County Flood Control District (the Big Bear Lake MS4 Permittees) shall implement BMPs designed to assure continued compliance with the following urban wasteload allocation for phosphorus during dry hydrological conditions[51].

Total Phosphorus (lbs/yr)[52] = 475 (Compliance to be achieved by December 31, 2015)

b. The Big Bear Lake MS4 Permittees shall implement BMPs in the watershed so as not to exceed the urban WLA.for phosphorus.

c. The Big Bear Lake MS4 Permittees, individually or collectively, or in collaboration with the Big Bear TMDL Task Force, shall implement the approved (Regional

[50]The fecal coliform WLA becomes ineffective upon the replacement of the REC1 fecal coliform objectives in the Basin Plan by approved REC1 objectives based on *E. Coli.*

[51]The Big Bear Lake MS4 Permittees are already meeting the WLAs. The TMDL for Dry Hydrological Conditions does not specify nutrient reductions from external watershed sources, including urban discharges (WLA), resorts and open space/forested lands (LAs), these external load dischargers are still responsible for reducing their contributions to the internal nutrient loads, which are lake sediment and macrophytes.

[52] Specified as an annual average for dry hydrological conditions.

Board Resolution No. R8-2008-0070) Big Bear Lake In-lake Nutrient Monitoring Plan dated November 30, 2007, or any lawfully approved amendments thereto. Annual Reports shall be submitted by February 15 of each year.

d. The Big Bear Lake MS4 Permittees, individually or collectively, or in collaboration with the Big Bear TMDL Taskforce, shall implement the approved (Regional Board Resolution No. R8-2009-0043) Big Bear Lake Watershed-wide Nutrient Monitoring Plan (May 2009) in accordance with the schedules specified in Resolution No. R8-2009-0043, or any lawfully approved amendments thereto. Annual Reports shall be submitted by February 15 of each year.

e. No later than February 26, 2010, the Big Bear Lake MS4 Permittees, individually or collectively, or in collaboration with the Big Bear TMDL Task Force, shall submit for approval a plan to evaluate the applicability and feasibility of various in-lake treatment technologies to control noxious and nuisance aquatic plants as described in Task 6C of the BBL-TMDL. The plan shall also include a description of the monitoring conducted and proposed to track aquatic plant diversity, coverage, and biomass. The monitoring data should address, at a minimum, progress toward achieving the numeric targets for macrophyte coverage and percentage of nuisance aquatic vascular plant species. The final approved plan shall be implemented in accordance with the approved schedule.

f. No later than March 31 2010, the Big Bear Lake MS4 Permittees, individually or collectively, or in collaboration with the Big Bear TMDL Task Force, shall submit for approval a plan and schedule for updating the existing Big Bear Lake watershed nutrient model and the Big Bear Lake in-lake nutrient model as described in Task 6A of the BBL TMDL. The plan and schedule must take into consideration additional data and information that are or will be generated from the required TMDL monitoring programs as described in c and d above. The final plan shall be implemented in accordance with the approved schedule.

g. No later than April 15, 2010, the Big Bear Lake MS4 Permittees, individually or collectively, or in collaboration with the Big Bear TMDL Task Force shall submit for approval a proposed plan and schedule for in-lake sediment nutrient reduction for Big Bear Lake as described in Task 6B of the BBL TMDL. The proposed plan shall include an evaluation of the applicability and feasibility of various in-lake treatment technologies to support development of a long-term strategy for control of nutrients from the sediment. The submittal shall also contain a proposed sediment nutrient monitoring program to evaluate the effectiveness of any strategies implemented. The final plan shall be implemented in accordance with the approved schedule.

h. The plans submitted in e, f, and g above comprise Task 6 of the BBL TMDL –the Big Bear Lake – Lake Management Plan. In addition, the plans submitted in e, f, and g above also must also address the following, either individually or holistically:

1. The plan shall be based on identified and acceptable goals for lake capacity, biological resources and recreational opportunities. Acceptable goals shall be identified in coordination with Regional Board staff and other responsible agencies, including the California Department of Fish and Game and the U.S. Fish and Wildlife Service.

2. The plan shall include a proposed plan and schedule for the development of biocriteria for Big Bear Lake. This is intended to complement Regional Board efforts to develop biocriteria.

3. The plan must identify a scientifically defensible methodology for measuring changes in the capacity of the lake.

4. The proposed plan shall identify recommended short and long-term strategies for control and management of sediment and dissolved and particulate nutrient inputs to the lake to the extent that the permittees are responsible for these inputs over and above that which would occur naturally.

5. The plan shall also integrate the beneficial use map developed pursuant to the Regional Board's March 3, 2005, Clean Water Act Section 401 Water Quality Standards Certification for Big Bear Lake Nutrient/Sediment Remediation Project. The purpose of the beneficial use map is to correlate beneficial uses of the lake with lake bottom contours. The map is expected to be used in regulating future lake dredge projects to maximize the restoration and protection of the lake's beneficial uses.

i. The Big Bear Lake – Lake Management Plan shall be implemented upon Regional Board approval. Once approved, the plan shall be reviewed and revised as necessary at least once every three years. The review and revision shall take into account assessments of the efficacy of control/management strategies implemented and relevant requirements of new or revised TMDLs for Big Bear Lake and its watershed. Annual Reports shall be submitted by February 15 of each year.

j. The Big Bear Lake MS4 Permittees, individually or collectively, or in collaboration with the with the Big Bear TMDL Task Force shall submit an annual report by February 15 of each year summarizing all relevant data from both water quality monitoring programs and the Lake Management Plan as described in c, d, e, f, g, and h above and evaluating compliance with the WLA using the modeling tools developed pursuant to paragraph k, below.

k. Continued compliance with the WLA will be determined by watershed modeling. By March 31, 2010, the Big Bear Lake MS4 Permittees shall submit a final watershed modeling plan that is ready to be implemented and that details how the WLA will be determined and evaluated in future years. Upon approval by the

Regional Board, this watershed modeling plan shall be used to determine compliance with the WLA. The Big Bear Lake MS4 Permittees shall select a watershed model that best fits the conditions they are modeling and document the basis for that selection. Data collected under the approved watershed monitoring program shall be evaluated by the Big Bear Lake MS4 Permittees to determine if it falls within the range of dry hydrological conditions as specified in the Nutrient TMDL. The Big Bear Lake MS4 Permittees shall utilize data collected from the monitoring locations specified in the watershed monitoring program approved on May 22, 2009, as well as any other data that are deemed necessary to calibrate and validate the watershed model. The Big Bear Lake MS4 Permittees will document the basis for the selection of the model, the data evaluation and selection process, and the model calibration/validation process. The Big Bear Lake MS4 Permittees or the Big Bear Lake Task Force, shall provide the results of the first model update by February 15, 2011.

l. The Big Bear Lake MS4 Permittees shall revise the Municipal Storm Water Management Plan (MSWMP), Water Quality Management Plan (WQMP) and Local Implementation Plans (LIP) as necessary to implement the plans submitted pursuant to paragraphs c, d, e, f, and g of this section no later than 180 days after the Regional Board approves these plans. A summary of any such revisions shall be included in the area-wide annual report due November 15 of each year.

m. If water quality monitoring data and related modeling analyses indicate that the urban wasteload allocation for total phosphorus is being exceeded during dry hydrological conditions despite implementation of the lake management plan and the MSWMP and other requirements of this Order, the Big Bear Lake MS4 Permittees shall comply with the following procedure:

1. Each Big Bear Lake MS4 Permittee upstream of the monitoring locations where exceedances appear to be occurring shall evaluate and characterize discharges from its significant outfall locations.

2. The Big Bear Lake MS4 Permittees shall submit a report with proposed actions to the Executive Officer that describes the BMPs that are currently being implemented and any additional BMPs that will be implemented to reduce the controllable sources of phosphorus causing the exceedances of the urban wasteload allocation for total phosphorus. The report must be submitted as part of the annual report due in November 15 of each year.

n. **Storm Water Program Modification**: The Big Bear Lake MS4 Permittees shall revise their LIPs, as needed, to incorporate the requirements from TMDL implementation activities. These revisions shall include: (1) the results of the nutrient monitoring programs; (2) an evaluation of the effectiveness of the control measures in meeting the phosphorus WLAs; (3) any additional control measures

proposed to be implemented if the WLA or numeric targets are exceeded, including control measures for controlling nutrient inputs from new developments and/or new sources; and (4) a progress report evaluating progress towards meeting the WLAs (pre-compliance evaluation monitoring[53]).

5. Knickerbocker Creek Sole Source Pathogen Investigation and Control

a. The City of Big Bear Lake shall continue to participate in and implement the January 2008 Phase 2 Monitoring and Reporting Program in accordance with the agreed sampling locations, parameters, schedule, and protocol.

b. The City of Big Bear Lake shall annually review and revise, if necessary, the control measures implemented and undertake an iterative approach until water quality objectives within Knickerbocker Creek are attained, unless it can be demonstrated that the pathogen sources are from uncontrollable sources.

c. The City of Big Bear Lake shall continue to work with Regional Board staff and the Storm Water Quality Standards Task Force to review and update designated uses and related water quality objectives for Knickerbocker Creek. This may result in different water quality objectives for bacteria.

6. Big Bear Lake Mercury TMDL

Pending adoption of the Mercury TMDL, the City of Big Bear Lake shall participate in the development and implementation of monitoring programs and control measures, including any BMPs that the City is currently implementing or proposing to implement.

7. Compliance with WLAs

The determination of compliance with the WLAs shall be based on implementation of BMPs as specified in the implementation plans for the approved TMDLs or based on plans developed as per the approved TMDLs. The Permittees obligation to meet the WLAs is met if the water quality standards in the impaired receiving waters are met through implementation of control measures approved by the Regional Board.

VI. RECEIVING WATER LIMITATIONS

A. Discharges from the MS4s shall not cause or contribute to exceedances of receiving water quality standards (designated beneficial uses and water quality objectives) contained in Chapter 4 of the Basin Plan, and amendments thereto, for surface or groundwater.

B. The MSWMP and its components, including LIPs shall be designed to achieve compliance with receiving water limitations consistent with the MEP standard. It is

[53]Pre-compliance evaluation monitoring is monitoring conducted prior to the compliance date to evaluate effectiveness of pollution reduction efforts.

expected that compliance with receiving water limitations will be achieved through an iterative process and the application of increasingly more effective BMPs.

C. The Permittees shall comply with Section VI.A of this Order through timely implementation of control measures and other actions to reduce pollutants in urban and storm water runoff in accordance with the MSWMP and its components and other requirements of this Order, including any modifications thereto

D. Upon a determination by either the Permittees or the Executive Officer that the discharges from the MS4 systems are causing or contributing to an exceedance of an applicable water quality standard, the Permittees shall promptly notify either by phone or by e-mail and, thereafter submit a report within 30 days (or if approved by the Executive Officer, this report may be incorporated into the annual report) to the Executive Officer for review and approval. At a minimum, the report shall:

   a. Describe BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce those pollutants that are causing or contributing to the exceedance of water quality standards.

   b. Address the cause of the impairment or exceedance, and the technical and economic feasibility of control actions available to the Permittees to reduce or eliminate the impairment or exceedance consistent with the MEP standard.

   c. Include an implementation schedule.

   d. Contain a comparative analysis of monitoring data to the USEPA Multi-Sector Permit Parameter Benchmark Values and applicable water quality objectives for inland surface streams as specified in Chapter 4 of the Basin Plan.

   e. A status report on the effectiveness of the pollution source investigation and control plan implementation to address exceedance of water quality objectives or elevated pollutant levels above benchmark values may be incorporated in the annual report unless the Executive Officer directs a different submittal date. The transmittal letter shall indicate that the annual report contains a description of additional BMPs proposed, pollution investigation report, and/or pollution source investigation and control plan.

E. The Executive Officer may require modifications to the plan and/or report. The Permittees shall submit any modifications required by the Executive Officer within 30 calendar days of notification. The plan and/or report shall be deemed acceptable if the Executive Officer does not respond with requested modifications within 30 days of the submittal date.

F. Within 60 calendar days following the Executive Officer's approval of the plan and/or report described above (or within 60 days following the date the plan and/or report were deemed acceptable due to lack of response from the Executive Officer), the Permittees shall revise the storm water management programs (MSWMP and LIP) and monitoring program to incorporate the additional BMPs that will be implemented, the implementation schedule, and any additional monitoring required.

G. Permittees must implement the revised the MSWMP, the LIP and the monitoring and reporting programs in accordance with the schedule approved by the Executive Officer.

H. So long as the Permittees have complied with the procedures set forth above and are implementing the revised LIP, MSWMP, and monitoring program, the Permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless the Executive Officer determines it is necessary to develop additional BMPs.

I. Nothing in Section VI.D must prevent the Regional Board from enforcing any provision of this Order while the Permittee prepares and implements the above programs.

VII. LEGAL AUTHORITY/ENFORCEMENT

A. The Permittees shall maintain adequate legal authority to control the discharge of pollutants to their MS4s through ordinance, statute, permit, contract or similar means and enforce these authorities. This legal authority must, at a minimum, include and authorize the Permittees to:

1. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits. The Permittee must have authority to enter, sample, monitor, inspect, take measurements, photographs, videos, review and copy records, and require reports from industrial, commercial, and construction sites discharging into their MS4s;

2. Recover its cost to correct a discharger's significant non-compliance or to respond to immediate and serious threat to water quality violations through various mechanisms, such as forfeiture of permit deposits, trust funds/bonds or other short-term funding sources to allow Permittees to immediately address and remedy serious water quality violations at construction, industrial, or commercial sites;

3. Require the use of BMPs to prevent or reduce the discharge of pollutants into MS4s;

4. Require documentation on the effectiveness of BMPs implemented to reduce the discharge of pollutants to the MS4s;

5. Prohibit the disposal of wastes onto public or private land that may cause water quality concerns, unless permitted by Waste Discharge Requirements (WDR) or waiver by the Regional Board;

6. The Permittees' storm water ordinances or other local regulatory mechanisms shall include sanctions to ensure compliance. Sanctions shall include but are not limited to: verbal and/or written warnings, notice of violation or non-compliance, monetary penalties, non-monetary penalties, bonding requirements, stop work or cease and desist Orders and/or permit denials/revocations/stays for non-compliance, civil or criminal prosecution. These sanctions shall be issued in a decisive manner within a predetermined timeframe, from the time of the violation's occurrence and/or follow-up inspection.

B. The Permittees shall document progressive and decisive enforcement actions against violators of their storm water codes and ordinances in accordance with the formalized enforcement procedures developed by the Management Committee.

C. The Permittees shall use the most effective tool(s) at their disposal (such as Stop Work Orders and suspended inspections) to achieve immediate compliance. Permittees must have the ability to enforce any violations of the Stop Work Order through either an automatic fine or other effective means.

D. Within three (3) years of adoption of this Order, the Permittees shall implement fully adopted ordinances that would specify control measures for known pathogen or bacterial sources such as animal wastes if those types of sources are present within their jurisdiction.

E. The Permittees shall continue to provide notification to Regional Board staff of storm water related information obtained during site inspections of industrial and construction sites regulated by the Statewide General Storm Water Permits or sites which should be regulated under the State's General Permits. The notification should include any observed violations of the General Permits or local requirements, prior history of violations, any enforcement actions taken and will be taken by the Permittees, and any other relevant information.

F. The Permittees shall annually notify owners of other MS4 systems outside the Permittees' jurisdiction, regarding the regulatory requirements for control of pollutants in MS4 discharges (including relevant requirements from the MSWMP and WQMP), where feasible, and consistent with the MEP standard. The Permittees will also send these notifications to the Regional Board. The Permittees shall specify, in the LIP, the mechanisms or procedures to control the contribution of pollutants into their MS4s prior to accepting connections from owners of other MS4 systems outside the Permittees' jurisdiction. At a minimum, the Permittees shall notify these owners of other MS4 systems outside their jurisdiction of the requirement to comply with the post-construction standard in the State's General Construction Permit (Order No. 2009-0009-DWQ). A copy of the notification shall be provided to the Regional Board.

G. The Permittees shall annually review their water quality ordinances and evaluate their effectiveness in prohibiting the following types of discharges to the MS4s (the Permittees may propose appropriate control measures in lieu of prohibiting these discharges, where the Permittees are responsible for ensuring that dischargers adequately maintain those control measures):

1. Sewage (also prohibited under the Statewide SSO Order[54]);
2. Wash water resulting from the hosing or cleaning of gas stations, auto repair garages, and other types of automobile service stations;
3. Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility, including motor vehicles, concrete mixing equipment, portable toilet servicing, etc.;
4. Wash water from mobile auto detailing and washing, steam and pressure cleaning, carpet/upholstery cleaning, pool cleaning and other such mobile commercial and industrial activities;

[54]State Board WQO No. 2006-0003.

5. Water from cleaning of municipal, industrial, and commercial sites, including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
6. Runoff from material storage areas or uncovered receptacles that contain chemicals, fuels, grease, oil, or other hazardous materials[55];
7. Discharges of runoff from the washing of toxic materials[56] from paved or unpaved areas;
8. Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; pool filter backwash containing debris and chlorine;
9. Pet waste, yard waste, litter, debris, sediment, etc.; and,
10. Restaurant or food processing facility wastes such as grease, floor mat and trash bin wash water, food waste, etc.

H. Each Permittee shall include in its LIP the legal authorities and mechanisms used to implement the various program elements required by this Order to properly manage, reduce and mitigate potential pollutant sources within its jurisdiction. The LIP shall include citations of appropriate local ordinances, identification of departmental jurisdictions and key personnel in the implementation and enforcement of these ordinances. The LIP shall include procedures, tools and timeframes for progressive enforcement actions and procedures for tracking compliance.

I. The Permittees shall enforce their ordinances and permits at all construction sites, industrial facilities and commercial facilities as necessary to maintain compliance with this Order. Sanctions for non-compliance shall include: monetary penalties, bonding requirements and/or permit denial or revocation.

J. Within 12 months of adoption of this Order, each Permittee shall submit a certification statement, signed by legal counsel, that the Permittee has obtained all necessary legal authority in accordance with 40 CFR 122.26(d)(2)(i)(A-F) and to comply with this Order through adoption of ordinances and/or municipal code modifications. A copy of the certification shall also be placed in the LIP. Those Permittees who have already complied with this requirement during the third-term permit need not submit additional certification statements.

K. Annually thereafter, Permittees shall review adequacy of their ordinances, implementation and enforcement response procedures with respect to the above items. The findings of the reviews, along with supporting details and recommended corrective actions and schedules shall be submitted as part of the annual report for the corresponding reporting period. The Permittees' LIPs shall be updated accordingly.

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[55]Hazardous material is defined as any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by EPA to be reported if a designed quantity of the material is spilled into the waters of the United States or emitted into the environment.

[56]Toxic material is a chemical or a mixture that may present an unreasonable risk of injury to health or the environment.

VIII. ILLICIT DISCHARGES (ID)/ILLEGAL CONNECTIONS (IC); LITTER, DEBRIS AND TRASH CONTROL

A. The Permittees shall continue to prohibit all illegal connections to the MS4s through their ordinances, inspections, monitoring programs, and enforcement actions. The Permittees shall develop a pro-active IC/ID or illicit discharge detection and elimination program (IDDE) using the Guidance Manual for Illicit Discharge, Detection, and Elimination by the Center for Watershed Protection[57] or any other equivalent program. Any illegal connections identified by routine inspections, the IDDE program, or dry weather screening and/or monitoring shall be investigated and eliminated or permitted within 120 days of discovery.

B. The Permittees' IDDE program shall specify a procedure to conduct focused, systematic field investigations, outfall reconnaissance survey, indicator monitoring, and tracking of discharges to their sources[58]. The IDDE program(s) shall be linked to urban watershed protection efforts including: a) the use of GIS maps of the Permittees' conveyance systems to track sources ; b) aerial photography to detect IC/IDs; b) municipal inspection programs of construction, industrial, commercial, storm drain systems, municipal facilities, etc.; c) analysis of watershed monitoring and other indicator data; d) watershed education to educate the public about illegal discharges; e) pollution prevention for generating sites; f) stream restoration efforts/opportunities; and g) rapid assessment of stream corridors to identify dry weather flows and illegal dumping.

C. The LIP shall identify the staff positions responsible for different components of the IDDE program.

D. The Permittees shall maintain a database of permitted and unpermitted connections, routine inspections and dry weather monitoring. This information shall be updated on an ongoing basis and submitted with the annual report.

E. The Permittees shall control, consistent with the MEP standard, the discharge of spills, leaks, or dumping of any materials other than storm water and authorized non-storm water per Section V, above, into the MS4s. All reports of spills, leaks, and/or illegal dumping shall be promptly investigated and reported as specified under Section XVII (Notification Requirements).

F. The Permittees shall continue to characterize trash, determine its main source(s) and develop and implement appropriate BMPs and control measures to reduce and/or to eliminate the discharge of trash and debris to Waters of the U.S. to the MEP. These control measures and their effectiveness in reducing trash shall be reported in the annual report.

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[57] USEPA (Illicit Discharge Detection and Elimination - A Guidance Manual for Program Development and Technical Assessments) by the Center for Watershed Protection and Robert Pitt, University of Alabama, October 2004, updated 2005).

[58] Table 2: Land uses, Generating Sites and Activities that Produce Indirect Discharges from IDDE, A Guidance Manual for Program Development and Technical Assessments, October 2004 CWP.

IX. SEWAGE SPILLS, INFILTRATION INTO MS4 SYSTEMS FROM LEAKING SANITARY SEWER LINES, SEPTIC SYSTEM FAILURES, AND PORTABLE TOILET DISCHARGES

A. The Permittees shall provide local sanitation districts 24-hour access to the MS4s to address sewage spills and shall provide updated contact information to enable such access. The Permittees shall work cooperatively with the local sewering agencies to determine and control the impact of infiltration from leaking sanitary sewer systems on storm water quality. Each Permittee shall implement control measures necessary to minimize infiltration of seepage from sanitary sewers to the storm drain systems through routine preventive maintenance of the storm drain system.

B. Permittees who are regulated under the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ, (SSO Order), shall continue to comply with that Order to control sanitary system overflows.

C. The Principal Permittee shall collaborate with the local sewering agencies to review and revise, as needed, the Sanitary Sewer Overflow Unified Response Plan to ensure its consistency with the SSO Order.

D. The interagency or interdepartmental sewer spill response coordination and responsibility within each Permittee's jurisdiction shall be described in the LIP.

E. The Permittees shall implement management measures and procedures to prevent, respond to, contain and clean up all sewage and other spills that may be discharged into their MS4s. Management and/or preventative measures shall also be implemented for sources including portable toilets and failing septic systems that are causing or contributing to urban and storm water runoff pollution problems in their jurisdictions.

F. Within 2 years of adoption of this Order, Permittees with septic systems in their jurisdiction shall develop an inventory of septic systems within its jurisdiction and establish a program to ensure that failure rates are minimized pending adoption of regulations as per Assembly Bill 885[59] regarding onsite waste water treatment systems.

X. MUNICIPAL INSPECTION PROGRAMS

A. General Requirements

1. The Permittees shall continue to maintain and update the inventory of all construction, industrial and commercial facilities within their jurisdiction that have a reasonable potential to discharge pollutants to the MS4 regardless of whether the sites are subject to the California Statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities or the California Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities or other individual NPDES permit or Waste Discharge Requirements. The Permittees may use the MS4 Solutions or equivalent database for this purpose (see X.A.2., below).

[59] http://www.waterboards.ca.gov/water_issues/programs/septic_tanks/

2. The Permittees shall conduct regular inspections of construction sites, industrial and commercial facilities to evaluate compliance with applicable municipal ordinances, local permits, Storm Water Management Plans, and Water Quality Management Plans (see Sections B, C, and D, below for frequency of inspections). Inspections shall review pollution control practices, implementation and maintenance of pollution control measures, material handling and waste disposal practices, spill prevention and response programs and owner/operator knowledge of environmental laws and regulations, including local ordinances. The Permittees shall enforce their ordinances and permits at all construction, industrial, and commercial facilities in a fair, firm and consistent manner.

3. The municipal inspection program activities shall be documented in an electronic database. The database system must include relevant information on ownership, Standard Industrial Classification (SIC) codes, General Permit Waste Discharge Identification (WDID) number (if any), size, Geographic Information System (GIS) data in NAD83/WGS84[60] compatible formatting with latitude/longitude in decimal degrees, and other pertinent details describing the nature of activities at the site. The information shall be maintained in the MS4 Solution Database or equivalent internet accessible database. In addition to the facility information, the inspection information shall include: date of inspection; inspectors and facility personnel present; site conditions, any observed non-compliance; enforcement actions and/or corrective actions required and schedules for corrective actions; and date of full compliance. The database shall be updated at least once each year and an electronic copy provided to the Regional Board with each annual report.

4. Within 18 months of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees shall develop a risk-based scoring system to prioritize construction, industrial and commercial facilities and to determine the frequency of inspections. The scoring system shall consider factors including, but not limited to: the hazardous nature of materials used on site; potential for erosion and pollutant discharges, particularly such materials as pre-production plastic (nurdles) or pollutants for which the receiving water is impaired; site size and location including proximity to receiving water, history of spills and leaks; use of pollution control and prevention measures; and compliance history. The risk-based scoring system shall include criteria to identify the facilities as high, medium or low risk and shall be submitted to the Executive Officer for approval. The electronic database submitted with the annual report (see X.A.3, above) shall include the risk-based scores for each facility. The facility scores must be reviewed and updated annually, if necessary.

5. Prior to development and implementation of the risk-based scoring system, construction, industrial and commercial sites shall be inspected in accordance with the prioritization scheme set forth in the third term permit.

6. Any site found in significant non-compliance with the Statewide General Permits or the MS4 Permit is deemed a high priority site and must be contacted or inspected at

[60] NAD83/WGS84=North American Datum of 1983 and World Geodetic System of 1984 are systems to define three dimensional coordinates of a single physical point.

least once per month until full compliance is achieved.

7. The Permittees shall verify during inspections and/or prior to local permit issuance whether a site has obtained necessary permit coverage under one or more of the Statewide General Permits, an individual NPDES permit, Waste Discharge Requirements, and/or 401 Certification. Local permits, certificates of occupancy, or other approvals shall not be granted until proof of coverage under the applicable statewide permit is verified.

8. The Permittees shall deem facilities operating without a proper permit to be in significant non-compliance. Appropriate enforcement measures shall be implemented including a time schedule to obtain coverage, or suspension of business license until evidence of permit coverage is provided. Non-filers shall be reported within 14 calendar days to the Regional Board by electronic mail or other written means. The Permittees shall include in their LIP the method for verification of permit coverage and for notification of non-filers to the Regional Board.

9. Permittees shall maintain hard or electronic copies and make available upon request all information related to their inspections, including inspection reports, photographs, videotapes, enforcement actions, notices of correction issued to dischargers and other relevant information. This information shall be linked to the electronic database identified in Section X.A.3 above.

10. The Permittees need not inspect facilities already inspected by Regional Board staff if the inspection was conducted within the specified time period. Regional Board staff inspection information is available at www.ciwqs.ca.gov[61].

11. Each Permittee shall respond to complaints received from third parties in a timely manner to ensure that the construction, industrial and commercial sites are not a source of pollutants in the MS4s and the receiving waters. Each Permittee shall implement a system of prioritizing the complaints based on threat to the environment (water quality/public health) and an appropriate response time based on this prioritization.

12. Each Permittee shall document, evaluate, and annually report the effectiveness of its enforcement procedures in achieving prompt and timely compliance. When timely compliance is not achieved, the Permittee shall take appropriate corrective measures to immediately prevent or abate the discharge of pollutants into its MS4 system.

13. Where storm water related inspections and/or enforcement required by this Order are carried out on behalf of the Permittee by other agencies or departments such as: the County Public Health, county and/or local fire departments, code enforcement, industrial pretreatment, building and safety, etc., the Permittee shall monitor and annually evaluate and report adequacy of such programs in complying with this Order.

[61]To obtain access to the State database, registration at the following link is necessary: http://www.waterboards.ca.gov/water_issues/programs/ciwqs/chc_npdes.shtml. Contact information is available at http://www.waterboards.ca.gov/water_issues/programs/ciwqs/contactus.shtml.

14. All inspectors conducting storm water inspection as required in this Order shall be trained in accordance with the training requirements specified in Section XVI.

B. Construction Sites

1. Each Permittee shall include in the electronic database identified in Section X.A.3 an inventory of all construction sites within its jurisdiction for which building or grading permits are issued and activities at the site include: soil movement; uncovered storage of materials or wastes, such as dirt, sand or fertilizer; or exterior mixing of cementaceous products, such as concrete, mortar or stucco.
2. Prior to approval of the risk-based scoring and prioritization system, the Permittees shall continue to prioritize construction sites within its jurisdiction as a high, medium or low threat to water quality. This prioritization of construction sites shall be based on factors, which shall include but not be limited to: soil erosion potential, project size, proximity and sensitivity of receiving waters and any other relevant factors. At a minimum, high priority construction sites shall include: sites 50 acres and greater; sites over 1 acre that are tributary to Clean Water Act section 303(d) waters listed for sediment or turbidity impairments; site specific characteristics[62], and any other relevant factor. At a minimum, medium priority construction sites shall include: sites between 10 to less than 50 acres of disturbed soil. Upon approval of the risk-based scoring system, the sites shall be categorized as high, medium, or low risk based on the risk-based scores.
3. Each Permittee shall conduct construction site inspections for compliance with its ordinances (grading, Water Quality Management Plans, etc.) and local permits (construction, grading, etc.). The Permittees shall develop a checklist for conducting site inspections. Inspections of construction sites shall include, but not be limited to:
   a. Verification of coverage under the General Construction Permit (Notice of Intent (NOI) or Waste Discharge Identification No.) during the initial inspection. Permit coverage shall also be confirmed in the event of a change in ownership.
   b. A review of the Erosion and Sediment Control Plans (ESCP) to ensure that the BMPs implemented on-site are consistent with the appropriate phase of construction (Preliminary Stage, Mass Grading Stage, Streets and Utilities Stage, Vertical Construction Stage, and Post-Construction Stage).
   c. Visual observations for non-storm water discharges, potential illicit connections, and potential pollutant sources.
   d. Determination of compliance with local ordinances, permits, Water Quality Management Plans and other requirements, including the implementation and maintenance of BMPs required under local requirements.
   e. An assessment of the effectiveness of BMPs implemented at the site and the need for any additional BMPs. In evaluating BMP effectiveness, the Permittees may consider applicable action levels (AL) and/or numeric effluent limits (NEL)

[62] The approved General Construction Permit Order No. 2009-0009-DWQ includes risk-based characterization of construction sites based on site-specific conditions.

promulgated by the State or USEPA.

4. At a minimum, the inspection frequency shall include the following:
   a. During the wet season[63] (i.e., Oct 1 through May 31 of each year), all high priority (or high risk) sites are to be inspected, in their entirety, once a month. All medium priority (or medium risk) sites are to be inspected at least twice during the wet season. All low priority (or low risk) sites are to be inspected at least once during the wet season. When BMPs or BMP maintenance is deemed inadequate or out of compliance, an inspection frequency of once every week shall be maintained until BMPs and BMP maintenance are brought into compliance.
   b. During the dry season (i.e., June 1 through September 30 of each year), all construction sites shall be inspected at a frequency sufficient to ensure that sediment and other pollutants are properly controlled and that unauthorized, non-storm water discharges are prevented.
5. The Permittees' implementation of their construction storm water program shall be consistent with the latest version of the statewide General Construction Permit and all applicable provisions of the federal effluent limitations guidelines.

C. Industrial Facilities

1. Prior to approval of the risk-based scoring and prioritization system, the Permittees shall continue to prioritize industrial facilities within its jurisdiction as high, medium, or low threat to water quality. The prioritization of these facilities should be based on such factors as type of industrial activities (SIC codes)[64], materials or wastes used or stored outside, pollutant discharge potential, compliance history, facility size, proximity and sensitivity of receiving waters, and any other relevant factors. At a minimum, a high priority shall be assigned to: facilities subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA); facilities that handle or generate pollutants for which the receiving water is impaired, facilities that have a demonstrated or significant potential to release pre-production plastic or nurdles into the environment, and facilities with a high potential for or history of unauthorized, non-storm water discharges. Upon approval of the risk-based scoring system, the facilities shall be categorized as high, medium or low risk.
2. Each Permittee shall conduct industrial facility inspections for compliance with its ordinances, permits and this Order. Industrial inspections shall include: a review of the site's material and waste handling and storage practices; a review of written documentation of pollutant control BMP implementation and maintenance procedures; digital photographic documentation of water quality violations, and/or evidence of past or present unauthorized-, non-storm water discharges; and enforcement actions issued at the time of inspection if necessary. A summary of

[63] Wet and dry season for TMDL compliance evaluation will be the months as defined in the TMDL development documents and implementation plans. See Glossary, Attachment 4.

[64] Industrial Facilities, as defined at 40 CFR § 122.26(b)(14), including those subject to the General Industrial Permit or other individual NPDES permit;

inspections shall be included in the annual report and shall document the rational for downgrading or upgrading the priority ranking of industrial facilities.

3. All high priority (or high risk) industrial facilities are to be inspected at least once a year; all medium priority (or medium risk) sites are to be inspected at least once every two years; and all low priority (or low risk) sites are to be inspected at least once per permit cycle. In the event that inappropriate material or waste handling or storage practices are observed, or there is evidence of past or present unauthorized, non-storm water discharges, appropriate enforcement actions shall be taken and a re-inspection frequency adequate to bring the site into full compliance must be maintained.
4. Each Permittee shall require industrial facilities to implement source control and pollution prevention measures consistent with the BMP Fact Sheets developed by the Permittees.

D. Commercial Facilities

1. All of the following types of commercial facilities are deemed to have a reasonable potential to discharge pollutants to the MS4s. These types of facilities shall be included in the database identified in Section X.A.3. Commercial facilities may include, but may not be limited to[65]:

   a. Transport, storage or transfer of pre-production plastic pellets;
   b. Automobile mechanical repair, maintenance, fueling or cleaning;
   c. Automobile and other vehicle body repair or painting;
   d. Automobile impound and storage services;
   e. Airplane repair, maintenance, fueling or cleaning;
   f. Marinas and boat repair, maintenance, fueling or cleaning;
   g. Equipment repair, maintenance, fueling or cleaning;
   h. Pest control service facilities;
   i. Eating or drinking establishments, including food markets and restaurants;
   j. Cement mixing, concrete cutting, masonry facilities;
   k. Building materials retailers and storage facilities;
   l. Portable sanitary service facilities;
   m. Painting and coating;
   n. Animal facilities such as petting zoos and boarding and training facilities;
   o. Nurseries, greenhouses, botanical or zoological gardens;
   p. Landscape and hardscape installation;
   q. Pool, lake and fountain cleaning; and
   r. Golf courses, parks and other recreational areas/facilities;

2. The Permittees shall continue to develop BMPs applicable for each of the commercial operations described above.

[65]Mobile cleaning services are addressed in X.D.6 and 7, below.

3. Prior to approval of the risk-based scoring system, each Permittee shall conduct inspections of commercial facilities within its jurisdiction in accordance with the prioritization scheme set forth in the third-term permit.
4. All high priority (or high risk) facilities shall be inspected at least once per year; all medium priority (or medium risk) facilities shall be inspected at least every two years; and all low priority (or low risk) facilities shall be inspected at least once per permit cycle. At a minimum, each facility shall be required to implement source control and pollution prevention measures consistent with the BMP Fact Sheets developed by the Permittees.
5. In the event that inappropriate material or waste handling or storage practices are observed, or there is evidence of past or present unauthorized, non-storm water discharges, appropriate enforcement action shall be taken and documented to bring the site into compliance.
6. Within 36 months of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees, shall notify all mobile businesses operating within the Permit area regarding the minimum source control and pollution prevention measures that they must develop and implement. For purposes of this Order, mobile businesses include: mobile auto washing/detailing; equipment washing/cleaning; carpet, drape, and furniture cleaning; and mobile high pressure or steam cleaning. The mobile businesses shall be required to implement appropriate control measures within 3 months of being notified of the requirements.
7. Within 36 months of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees, shall develop an enforcement strategy to address mobile businesses. Each Permittee shall also distribute the BMP Fact Sheets to the mobile businesses identified for notification as required in Section X.D.6, above. At a minimum, the mobile business Fact Sheets/training program should include: laws and regulations dealing with urban runoff and discharges to storm drains; appropriate BMPs and proper procedure for disposing of wastes generated from each mobile business.
8. The Principal Permittee, in coordination with the Co-Permittees shall continue to maintain a restaurant inspection program, or coordinate and collaborate with the San Bernardino County Public Health Agency's restaurant inspection program. The restaurant inspection program shall, at a minimum, address:
    a. Oil and grease disposal to verify that these wastes are not poured into a trash bin, storm sewers, parking lot, street or adjacent catch basin;
    b. Trash bin areas to verify that these areas are clean, the bin lids are closed, and the bins are not used for disposing of liquid wastes;
    c. Parking lot, alley, sidewalk and street areas to verify that floor mats, filters and garbage containers are not washed in those areas and that no wash water is disposed of into those areas;
    d. Parking lots to verify that they are cleaned by sweeping, not by hosing down, and that the facility operator uses dry methods for spill cleanup; and,

e. Inspection of existing devices designed to separate grease from wastewater (e.g., grease traps or interceptors) to ensure adequate capacity and proper maintenance is currently performed under the Fats, Oils and Grease (FOG) program (the FOG inspections conducted under the Statewide SSO Order [Water Quality Order No. 2006-0003] could be substituted for this inspection).

9. All violations of the Water Quality Ordinance shall be enforced by the Permittees and all violations of the Health and Safety Code should be enforced by the Public Health Agency.

E. Residential Program

1. Within 36 months of adoption of this Order, each Permittee shall, consistent with the MEP standard, develop and implement a residential program designed to reduce the discharge of pollutants from residential facilities to the MS4s and to prevent discharges from the MS4s from causing or contributing to exceedances of water quality standards in the receiving waters.
2. The Permittees shall identify residential areas and activities that are potential sources of pollutants and develop Fact Sheets/BMPs. At a minimum, this should include: residential auto washing and maintenance activities; use and disposal of pesticides, herbicides, fertilizers and household cleaners; and collection and disposal of pet wastes. The Permittees shall encourage residents to implement pollution prevention measures. The Permittees should work with sub-watershed groups to disseminate the latest research information from organizations such as the Inland Empire Resource Conservation District[66], The Land Trust Alliance, The USDA Natural Resources Conservation Service, USDA's Backyard Conservation Program[67], and others.
3. Each Permittee shall document its residential program in its LIP.
4. The Permittees shall continue to, collectively or individually, facilitate the proper collection and management of used oil, toxic and hazardous materials, and other household wastes. Such facilitation shall include educational activities, public information activities, and establishment of curbside or special collection sites managed by the Permittees or private entities, such as solid waste haulers. Each Permittee shall continue these programs and periodically evaluate their effectiveness in reducing discharges of pollutants into the MS4s.
5. The Permittees shall develop and implement control measures for common interest areas and areas managed by homeowner associations or management companies. This may include development and promotion of public education materials identifying BMPs for these common interest areas or HOA areas. The Permittees

[66]The District provides gardening and horticulture information appropriate for the area including native plant selection, backyard management, alternatives to pesticide, irrigation scheduling and composting.

[67]Backyard Conservation, Bringing Conservation from the Countryside to Your Backyard, USDA Natural Resources Conservation Service, National Association of Conservation Districts, Wildlife Habitat Council and National Audubon Society.

should evaluate the applicability of programs such as the Landscape Performance Certification Program[68] to encourage efficient water use and to minimize runoff[69].

6. The Permittees shall enforce their Water Quality Ordinance for all residential areas and activities. The Permittees should encourage new developments to use weather-based evapotranspiration (ET) irrigation controllers[70].
7. Each Permittee shall include an evaluation of its Residential Program in the annual report starting with the first annual report after adoption of this Order.

XI. NEW DEVELOPMENT (INCLUDING SIGNIFICANT RE-DEVELOPMENT)

A. General Requirements:

1. Each Permittee shall continue to ensure (prior to issuance of any local permits or other approvals) that all non-Permittee construction sites that are one acre or greater, and sites less than one acre if part of a common plan of development have filed with the State Board a Notice of Intent for coverage under the State's General Construction Permit and have been issued a valid Waste Discharge Identification (WDID) number. Each Permittee shall describe its General Permit coverage verification procedures in its LIP.
2. Each Permittee shall ensure that the erosion and sediment control plans it approves include appropriate erosion and sediment control BMPs (e.g., erosion control measures for sloped or hill-side developments, ingress/egress controls, perimeter controls, run-on diversion, etc.) such that an effective combination of BMPs consistent with site risk is implemented through all phases of construction.
3. Each Permittee shall utilize the BMP studies conducted during the previous permit terms to determine the most appropriate erosion and sediment control BMPs. The conditions of approval shall require erosion and sediment control plans, SWPPPs, and WQMPs, as applicable. These documents shall specify the appropriate BMPs.
4. Each Permittee shall ensure, consistent with the maximum extent practicable standard, that runoff from development projects it approves, does not cause nuisance to adjoining or downstream properties and stream channels.
5. Each Permittee shall ensure, to the MEP, that urban runoff conveyance systems created resulting from development projects it approves are appropriately maintained consistent with Section XIII of this Order or are adequately maintained by a legally responsible party.

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[68] For example, see the Metropolitan Water District of Orange County's Evaluation of the Landscape Performance Certification Program, January 2004.

[69] The Residential Runoff Reduction Study, Municipal Water District of Orange County, Irvine Ranch Water District and Metropolitan Water District of Southern California, July 2004.

[70] Westpark Study, Municipal Water District of Orange County, Irvine Ranch Water District and Metropolitan Water District of Southern California, 2001.

6. Prior to accepting connections from owners of other MS4 systems outside the Permittees' jurisdiction, the Permittees shall notify these owners of other MS4 systems outside their jurisdiction of the requirement to comply with the post-construction standard in the State's General Construction Permit and the regulatory requirements for control of pollutants in MS4 discharges (including relevant requirements from the MSWMP and WQMP), where feasible, and consistent with the MEP standard. A copy of the notification shall be provided to the Regional Board.
7. Each Permittee shall ensure that appropriate control measures to reduce erosion and maintain stream geomorphology are included in the design for replacement of existing culverts or construction of new culverts and/or bridge crossings.
8. Each Permittee shall minimize the short and long-term adverse impacts on receiving water quality from public and private new development and significant re-development projects, as required in Section XI.D (Water Quality Management Plan), below, by continuing to review, approve, and verify implementation of project-specific WQMPs, emphasizing implementation of LID principles, where feasible, and addressing hydrologic conditions of concern, and long term operation and maintenance mechanisms prior to project closure or issuance of certificates of occupancy.
9. Each Permittee shall participate in the development of the Watershed Action Plan, described in Section B below, to integrate water quality, stream protection and stormwater management and re-use within the permitted area with land use planning policies, ordinances, and plans, as applicable, and consistent with the MEP standard.

B. **Watershed Action Plan**

1. The Permittees shall develop an integrated watershed management approach to improve integration of planning and approval processes with water quality and quantity control measures. Management of the water quality and hydrologic impacts of urbanization will be more effective whether managed on a per site, sub-regional or regional basis, if coordinated within the Watershed Action Plan. Pending completion of a Watershed Action Plan, management of the impacts of urbanization shall be accomplished using existing programs.
2. Within twelve months of adoption of this Order, each Permittee shall review the watershed protection principles and policies, specifically addressing urban and storm water runoff, in its planning procedures, including CEQA preparation, review and approval processes; General Plan and related documents including, but not limited to its Development Standards, Zoning Codes, Conditions of Approval, Development Project Guidance; and WQMP development and approval processes.
3. The Principal Permittee, in collaboration with the Co-Permittees, shall develop a Watershed Action Plan (WAP) that describes and implements the Permittees' approach to coordinated watershed management. The WAP shall improve coordination of existing programs and identify new and/or enhanced program elements as applicable. The objective of the WAP is to improve integration of water quality, stream protection, storm water management, water conservation and re-use, and flood protection, with land use planning and development processes. The WAP shall be developed in two phases:

a. Phase 1: within 12 months of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees shall:

   i. Identify program-specific objectives for the WAP; the objectives will include consideration of:

      1. The watershed protection principles specified in Section XI.C.3.a – g, below;

      2. The Permittee's planning and procedure review required in XI.B.2, above;

      3. Potential impediments to implementing watershed protection principles during the planning and development processes, including but not limited to LID principles and management of the impacts of hydromodification;

      4. Impaired waters [CWA § 303(d) listed] with and without approved TMDLs, pollutants causing impairment, monitoring programs for these pollutants, control measures, including any BMPs that the Permittees are currently implementing, and any BMPs the Permittees are proposing to implement. In addition, if a TMDL has been developed and an implementation plan is yet to be developed, the WAP shall specify that the responsible Permittees should develop constituent-specific source control measures, conduct additional monitoring and/or cooperate with the development of an implementation plan, where feasible, and consistent with the MEP standard.

   ii. Develop a structure for the WAP that emphasizes coordination of watershed priorities with the Permittees' LIPs via the areawide model LIP;

   iii. Identify linkages between the WAP and the SWQSTF, MSWMP, WQMP, the implementation of LID, and the TMDL Implementation Plans;

   iv. Identify other relevant existing watershed efforts (Chino Basin Master Plan, SAWPA's IRWMP, etc., and their role in the WAP;

   v. Ensure that the HCOC Map/Watershed Geodatabase is available to watershed stakeholders via the World Wide Web, and has incorporated the following information:

      1. Delineation of existing unarmored or soft-armored drainages in the permitted area that are vulnerable to geomorphological changes due to hydromodification and those channels and streams that are engineered, hardened, and maintained.

      2. GIS layers for known sensitive species, protected habitat areas, drainage boundaries, and potential storm water recharge areas and/or reservoirs;

      3. 303(d)-listed waterbodies and associated pollutants;

      4. Available and relevant regulatory and technical documents accessible via hyperlinks;

vi. Develop a schedule and procedure for maintaining the Watershed Geodatabase, and develop a draft schedule for expected enhancements to increase functionality;

vii. Review the Watershed Geodatabase with Regional Board staff from the Storm Water, TMDL, and Watershed Planning/ Program Sections, and other resource agencies, to verify attributes of the Geodatabase, including drainage feature stability/susceptibility/risk assessments, and the intended use of the Geodatabase to support regulatory processes such as WQMP approvals, Clean Water Act Section 401 Water Quality Standards Certifications (401 Certifications), and LID BMP feasibility evaluations;

viii. Identify potential causes of identified stream degradation including a consideration of sediment yield and balance on a watershed or subwatershed basis.

ix. Conduct a system-wide evaluation[71] to identify opportunities to retrofit existing storm water conveyance systems, parks, and other recreational areas with water quality protection measures, and develop recommendations for specific retrofit studies that incorporates opportunities for addressing applicable TMDL implementation plans, hydromodification management, and/or LID implementation within the permitted area.

x. Conduct a system wide evaluation to identify opportunities for joint or coordinated development planning to address stream segments vulnerable to hydromodification and coordinated re-development planning to identify restoration opportunities for hardened and engineered streams and channels. The WAP shall identify contributing jurisdictions and the stream segments that will benefit from this coordination.

xi. Invite participation and comments from resource conservation districts, water and utility agencies, state and federal agencies, non-governmental agencies and other interested parties in the development and use of the Watershed Geodatabase;

xii. Submit the Phase 1 components in a report to the Executive Officer for approval. The Report shall be deemed acceptable to the Regional Board if the Executive Officer submitted raises no written objections within 30 days of submittal. .

b. Phase 2: within 12 months of the approval by the Executive Officer of the Report from Phase 1, above, the Principal Permittee, in coordination with the Co-Permittees, shall:

i. Contingent upon consensus with Regional Board staff and other resource agencies as described in XI.B.3.a.vii, above, specify procedures and a schedule to integrate the use of the Watershed Geodatabase into the implementation of the MSWMP, WQMP, and TMDLs;

[71] For example, see the 2005 RBF Retrofit Study conducted for Orange County MS4 permittees.

ii. Develop and implement a Hydromodification Monitoring Plan (HMP) to evaluate hydromodification impacts for the drainage channels deemed most susceptible to degradation. The HMP will identify sites to be monitored, include an assessment methodology, and required follow-up actions based on monitoring results. Where applicable, monitoring sites may be used to evaluate the effectiveness of BMPs in preventing or reducing impacts from hydromodification.

iii. Develop and implement a Hydromodification Management Plan prioritized based on drainage feature/susceptibility/risk assessments and opportunities for restoration.

iv. Conduct training workshops in the use of the Watershed Geodatabase. Each Permittee must ensure that their planning and engineering staff attend a workshop.

v. Conduct demonstration workshops for the Watershed Geodatabase to be attended by appropriate upper-level managers and directors from each Permittee.

vi. Develop recommendations for streamlining regulatory agency approval of regional treatment control BMPs. The recommendations should include information needed to be submitted to the Regional Board for approval of regional treatment control BMPs. At a minimum, this information should include: BMP location; type and effectiveness in removing pollutants of concern; projects tributary to the regional treatment system; engineering design details; funding sources for construction, operation and maintenance; and parties responsible for monitoring effectiveness, operation and maintenance. The Permittees are encouraged to collaborate and work with other counties to facilitate and coordinate these recommendations.

vii. Implement applicable retrofit or regional treatment recommendations from the evaluation conducted in Section B.3.a.ix, above.

viii. Submit the Phase 2 components in a report to the Executive Officer. The submitted report shall be deemed acceptable to the Regional Board if the Executive Officer raises no written objections within 30 days of submittal.

4. Within three years of adoption of this Order, each Permittee shall review the watershed protection principles and policies in its General Plan or related documents (such as Development Standards, Zoning Codes, Conditions of Approval, Development Project Guidance) to determine consistency with the Watershed Action Plan. Each Permittee shall report the findings in the annual report along with a schedule for any necessary revision.

C. **Consideration of Watershed Protection Principles in California Environmental Quality Act (CEQA) and Planning Processes**:

1. The Permittees shall ensure that the direct, indirect, and cumulative water quality impacts of storm water and non-storm water runoff are properly considered and addressed in their land-use planning processes. The following potential water quality impacts shall be considered during the preparation and circulation of environmental documents prepared pursuant to CEQA:

   a. Potential impact of project construction on storm water runoff.

   b. Potential impact of project's post-construction activity on storm water runoff.

   c. Potential for discharge of storm water pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas.

   d. Potential for discharge of storm water to affect the beneficial uses of the receiving waters.

   e. Potential for significant changes in the flow velocity or volume of storm water runoff to cause environmental harm.

   f. Potential for significant increases in erosion of the project site or surrounding areas.

2. For any project that may require a 401 Certification from the State, the Permittees shall coordinate project review with Regional Board staff pursuant to the requirements of CEQA. Upon request by Regional Board staff, this coordination shall include the timely provision of the discharger's identity and their contact information and the facilitation of early-consultation meetings

3. The Principal Permittee shall collaborate with the Co-Permittees to develop recommendations to resolve any impediments to implementing watershed protection principles during the planning and development processes, including LID principles and management of hydrologic conditions of concern (See Section E below). The Principal Permittee shall collaborate with the Co-Permittees to develop common principles and policies necessary for water quality protection. The watershed protection principles and policies should include the following:

   a. Avoid disturbance of natural water bodies, drainage systems and flood plains; conserve natural areas; protect slopes and channels; minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies;

   b. Minimize changes in hydrology and pollutant loading; require incorporation of controls including structural and non-structural BMPs to mitigate any projected increases in pollutant loads and flows; ensure that post-development runoff rates and velocities from a site do not adversely impact downstream erosion, stream habitat; minimize the quantity of storm water directed to impermeable surfaces and the MS4s; maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground;

c. Preserve wetlands, riparian corridors, and buffer zones; establish reasonable limits on the clearing of vegetation from the project site;

d. Use properly designed and well maintained water quality wetlands, biofiltration swales, watershed-scale retrofits, etc., where such measures are likely to be effective and technically and economically feasible;

e. Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site; and

f. Establish development guidelines for areas particularly susceptible to erosion and sediment loss.

g. Consider pollutants of concern (identified in the risk-based analysis provided in the 2006 ROWD, the annual reports and the list of impaired waterbodies (303(d) list)) and propose appropriate control measures.

4. Within 24 months following the review specified in B.2, above, each Permittee shall incorporate the following information into its LIP and its project approval process:

   a. The Permittees shall identify and map in GIS format the natural channels, wetlands, riparian corridors and buffer zones and identify conservation and maintenance measures for these features. The Watershed Action Plan should include information needed for this effort. This requirement will be most effective if met through development of areawide HCOC maps or other joint efforts.

   b. Each Permittee shall include in the LIP the applicable tools (such as ordinances, design standards, and procedures) used to implement green infrastructure/low impact development principles for public and private development projects.

   c. For hillside development projects, each Permittee shall consider and facilitate application of landform grading techniques[72] and revegetation as an alternative to traditional approaches, particularly in areas susceptible to erosion and sediment loss.

5. Each Permittee shall provide Regional Board staff with the draft amendment or revision when a pertinent General Plan element or the General Plan is noticed for comment in accordance with Govt. Code § 65350 et seq.

D. Water Quality Management Plan (WQMP) Requirements[73]:

1. Each Permittee shall continue to require project-specific Water Quality Management Plans (WQMP) for priority projects listed under Section XI.D.4.a to i.

2. Within 18 months of adoption of this Order, the Principal Permittee shall coordinate the revision of the WQMP Guidance and Template to include new elements required under this Order.

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[72] http://www.epa.gov/region3/mtntop/pdf/Appendixes/Appendix%20D%20Aquatic/Aquatic%2OEcosystem%20Enhanc.%20Symp/Proceedings/Support%20Info/Schor/Landform.pdf

[73] Priority projects are those listed under Section XI.D.4.a to i.

3. Each Permittee shall require submittal of a preliminary project-specific WQMP as early as possible during the environmental review or planning phase (land use entitlement). No building or grading permit shall be issued prior to approval of the final project–specific WQMP that is developed based on the preliminary project-specific WQMP and any recommended revisions, as appropriate.

4. The combination of site design/LID BMPs (where feasible), source control, and/or treatment control BMPs, including regional treatment systems, in project-specific WQMPS shall address all identified pollutants and hydrologic conditions of concern from new development and/or significant re-development projects for the categories of projects (priority projects) listed below:

   a. All significant re-development projects. Significant re-development is defined as the addition or replacement of 5,000 or more square feet of impervious surface on an already developed site subject to discretionary approval of the Permittee. . Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect public health and safety. Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing developed site, and the existing development was not subject to WQMP requirements, the numeric sizing criteria discussed below applies only to the addition or replacement, and not to the entire developed site. Where redevelopment results in an increase of fifty percent or more of the impervious surfaces of a previously existing developed site, the numeric sizing criteria applies to the entire development.

   b. New development projects that create 10,000 square feet or more of impervious surface (collectively over the entire project site) including commercial, industrial, residential housing subdivisions (i.e., detached single family home subdivisions, multi-family attached subdivisions or townhomes, condominiums, apartments, etc.), mixed-use, and public projects. This category includes development projects on public and private land, which fall under the planning and building authority of the Permittees.

   c. Automotive repair shops (with SIC codes 5013, 5014, 5541, 7532-7534, 7536-7539).

   d. Restaurants (with SIC code 5812) where the land area of development is 5,000 square feet or more.

   e. All hillside developments of 5,000 square feet or more which are located on areas with known erosive[74] soil conditions or where the natural slope is twenty-five percent or more.

   f. Developments of 2,500 square feet of impervious surface or more adjacent to (within 200 feet) or discharging directly[75] into environmentally sensitive areas (ESAs) such as areas designated in the Ocean Plan as areas of special biological significance or waterbodies listed on the CWA Section 303(d) list of

[74] See General Construction Permit Order No. 2009-0009-DWQ.

[75] Discharging directly means a drainage or conveyance which carries flows entirely from the subject development and not commingled with any other flows.

impaired waters.

g. Parking lots of 5,000 square feet or more exposed to storm water. Parking lot is defined as land area or facility for the temporary parking or storage of motor vehicles.

h. Retail Gasoline Outlets (RGOs) that are either 5,000 sq feet or more, or have a projected average daily traffic of 100 or more vehicles per day.

i. Emergency public safety projects in any of the above-listed categories shall be excluded if the delay caused due the requirement for a WQMP compromises public safety, public health and/or environmental protection.

5. WQMPs shall include BMPs for source control, pollution prevention, site design, LID implementation, where feasible, (see Section E, below) and structural treatment control BMPs. WQMPs shall include control measures for any listed pollutant[76] to an impaired waterbody on the 303(d) list such that the discharge shall not cause or contribute to an exceedance of receiving water quality objectives. The Permittees shall require the following source control BMPs for each priority development project, unless formally substantiated as unwarranted in a written submittal to the Permittees:

   a. Minimize contaminated runoff, including irrigation runoff, from entering the MS4s;

   b. Provide appropriate secondary containment and/or proper covers or lids for materials storage, trash bins, and outdoor processing and work areas;

   c. Minimize storm water contact with pollutant sources;

   d. Provide community car wash and equipment wash areas that discharge to sanitary sewers;

   e. Minimize trash and debris in storm water runoff through regular street sweeping and through litter control ordinances.

   f. The pollutants in post-development runoff shall be reduced using controls that utilize best management practices, as described in the California Storm Water Quality Handbooks, Caltrans Storm Water Quality Handbook or other reliable sources.

6. Treatment control BMPs shall be in accordance with the approved model WQMP and must be sized to comply with one of the following numeric sizing criteria:

   a. VOLUME

   Volume-based BMP design applies to BMPs where the primary mode of pollutant removal depends upon the volumetric capacity, such as detention, retention, and infiltration basins. These criteria specify the capture and infiltration or treatment of a percentile of the average annual rainfall volume (also referred to as percent capture ratio).

[76]For a waterbody listed under Section 303(d) of the Clean Water Act, the pollutant that is causing the impairment is the "listed pollutant".

Volume–based BMPs shall be designed to infiltrate, harvest and use, filter, or treat either:

i. The volume of runoff produced from a 24-hour, 85th percentile storm event, as determined from the County of San Bernardino's 85th Percentile Precipitation Isopluvial Map; or,

ii. The volume of annual runoff produced by the 85th percentile, 24-hour rainfall event determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87 (1998); or,

iii. The volume of annual runoff based on unit basin storage volume, to achieve 80 (or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/Commercial (1993); or,

iv. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile, 24-hour runoff event;

OR

b. FLOW

Flow-based BMP design applies to BMPs where the primary mode of pollutant removal depends upon the rate of flow thru the BMP, such as swales, sand filters, screening devices, and proprietary devices such as storm drain inserts.

Flow–based BMPs shall be designed to infiltrate, harvest and use, filter, or treat either:

i. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour; or,

ii. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or,

iii. The maximum flow rate of runoff, as determined from the local historical rainfall record that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.

7. The obligation to install structural BMPs at a new development is met if, for a common plan of development, BMPs are constructed with the requisite capacity to serve the entire common project, even if certain phases of the common project may not have BMP capacity located on that phase in accordance with the requirements specified above. All treatment control BMPs should be located as close as possible to the pollutant sources, should not be located within Waters of the U.S., and pollutant removal should be accomplished prior to discharge to Waters of the U.S. Regional treatment control BMPs shall be completed and operational prior to occupation of any of the priority project sites tributary to the regional treatment BMP.

8. **Groundwater Protection:**

Treatment Control BMPs utilizing infiltration [exclusive of incidental infiltration and BMPs not designed to primarily function as infiltration devices (such as grassy swales, detention basins, vegetated buffer strips, constructed wetlands, etc.) must comply with the following minimum requirements to protect groundwater:

a. Use of structural infiltration treatment BMPs shall not cause or contribute to an exceedance of groundwater water quality objectives.

b. Source control and pollution prevention control BMPs shall be implemented to protect groundwater quality. The need for pre-treatment BMPs such as sedimentation or filtration should be evaluated prior to infiltration.

c. Adequate pretreatment of runoff prior to infiltration shall be required in gas stations and large commercial parking lots.

d. Unless adequate pre-treatment of runoff is provided prior to infiltration structural infiltration treatment BMPs must not be used for areas of industrial or light industrial activity[77], areas subject to high vehicular traffic (25,000 or more daily traffic); car washes; fleet storage areas; nurseries; or any other high threat to water quality land uses or activities.

e. Class V injection wells or dry wells must not be placed in areas subject to vehicular[78] repair or maintenance activities[79], such as an auto body repair shop, automotive repair shop, new and used car dealership, specialty repair shop (e.g., transmission and muffler repair shop) or any facility that does any vehicular repair work.

f. Structural infiltration BMP treatment shall not be used at sites that are known to have soil and groundwater contamination.

g. Structural infiltration treatment BMPs shall be located at least 100 feet horizontally from any water supply wells.

h. The vertical distance from the bottom of any infiltration structural treatment BMP to the historic high groundwater mark shall be at least 10 feet. Where the groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained.

i. Structural infiltration treatment BMPs shall not cause a nuisance or pollution as defined in Water Code Section 13050.

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[77] Unless a site assessment pursuant to criteria developed in Section XI.E.3 shows that site operations do not pose a threat to ground water.

[78] Vehicles include automobiles; motor vehicles include trucks, trains, boats, motor cycles, farm machineries, airplanes and recreation vehicles such as snow mobiles, all terrain vehicles, and jet skis.

[79] United States Environmental Protection Agency, Office of Water, EPA 816-R-00-008, September 2000 State Implementation Guidance – (Revisions to the UIC Regulations for the Underground Injection Control Regulations for Class V Injection Wells, 64 FR 68546) indicate that these activities are prohibited from Class V Injection wells.

E. Low Impact Development (LID) and Hydromodification Management to Minimize Impacts from New Development / Significant Redevelopment

The objective of LID is to mimic pre-development site hydrology through technically and economically feasible source control and site design techniques. LID combines hydrologically functional site design with pollution prevention methods to compensate for land development impact on hydrology and water quality.

1. Within 18 months of adoption of this Order, each Permittee shall evaluate any potential barriers to implementing LID principles. This shall be done in conjunction with the requirements specified under Sections XI.B.3.a and XI.C.3. To facilitate implementation of LID BMPs, the Permittees should consider revising their ordinances, codes and building and landscape design standards. The Permittees shall promote green infrastructure/LID BMP implementation and identify the applicable LID principles in the project specific WQMP:

   a. Landscape designs that promote water retention and evapotranspiration such as 1 foot depth of compost/top soil in commercial and residential areas on top of 1 foot of decompacted subsoil, concave landscape grading to allow runoff from impervious surfaces, and water conservation by selecting native plants, weather-based irrigation controllers, etc.

   b. Allow permeable surface designs in low traffic roads and parking lots, where feasible. This may require land use/building code amendment.

   c. Allow natural drainage systems for street construction and catchments (with no drainage pipes), and allow grassy swales and ditches where feasible.

   d. Require parking lots to drain to landscaped areas to provide treatment, retention, or infiltration, where feasible.

   e. Reduce curb requirements, where feasible, where adequate drainage, conveyance, treatment and storage are available.

   f. Amend where feasible and practicable, land use/building codes to allow streets with no curbs and parking lots with no stop blocks to allow storm water to drain into landscaped areas.

   g. Require, where feasible, rainwater harvesting and use.

   h. Consider building narrow streets, alternatives to minimum parking requirements, etc.

   i. Consider vegetated landscape as an integral element of streets, parking lots, playground and buildings as a storm water treatment and retention system.

   j. Consider and facilitate application of landform grading techniques[80] and revegetation as an alternative to traditional approaches, particularly in areas susceptible to erosion and sediment loss such as hillside development projects,

[80] http://www.epa.gov/region3/mtntop/pdf/Appendixes/Appendix%20D%20Aquatic/Aquatic%2OEcosystem%20Enhanc.%20Symp/Proceedings/Support%20Info/Schor/Landform.pdf

k. Consider other site design BMPs identified in the WQMP Guidance and Template and not included above.

2. Consistent with the requirements of AB 1881, each Permittee is mandated to update its landscape ordinance. The bill requires the local agencies to adopt the State Model Water Efficient Landscape Ordinance[81] or prepare one that is "at least as effective" as the State Model by January 2010. The proposed state model ordinance applies to landscape requiring a building or landscape permit, plan check or design review. Each Permittee shall provide the Regional Board a copy of its report to Department of Water Resources (DWR).

3. To reduce pollutants in urban runoff, address hydromodification, and manage storm water as a resource to the maximum extent practicable, WQMPs shall specify preferential use of site design BMPs that incorporate LID techniques in the following manner (from highest to the lowest priority): (1) Preventative measures (these are mostly non-structural measures, e.g., preservation of natural features to a level consistent with the maximum extent practicable standard; minimization of runoff through clustering, reducing impervious areas, etc.) and (2) Mitigative measures (these are structural measures, such as, infiltration, harvesting and use, bio-treatment, etc.). The mitigative or structural site design BMPs shall also be prioritized (from highest to lowest priority): (1) Infiltration BMPs (examples include permeable pavement with infiltration beds, dry wells, infiltration trenches, surface and sub-surface infiltration basins. The Permittees should work with local groundwater management agencies to ensure that infiltration Treatment Control BMPs are designed appropriately; (2) BMPs that harvest and use (e.g., cisterns and rain barrels); and (3) Vegetated BMPs that promote evapotranspiration including bioretention, biofiltration and bio-treatment.

4. The Permittees shall reflect in the Water Quality Management Plan Guidance and Template and require each priority development project to infiltrate, harvest and use, evapotranspire, or bio-treat[82] the 85th percentile storm event ("design capture volume"), as specified in Section XI.D. 6 above. Any portion of the design capture volume that is not infiltrated, harvested, used, evapotranspired or bio-treated[83] onsite by LID BMPs shall be treated and discharged in accordance with the requirements set forth in Section XI.E.10 and/or Section XI.G, below.

5. Within 18 months of adoption of this Order, the Permittees shall review and update the Water Quality Management Plan Guidance and Template to incorporate LID principles (where feasible) and to address the impact of urbanization on downstream hydrology. At a minimum, the following elements shall be included during the update:

   a. Site Design BMPs:

[81] http://www.water.ca.gov/wateruseefficiency/landscapeordinance/

[82] A properly engineered and maintained bio-treatment system may be considered only if infiltration, harvesting and use and evapotranspiration cannot be feasibly implemented at a project site (feasibility criteria will be established in the WQMP [Section XI.E.7]. Specific design, operation and maintenance criteria for bio-treatment systems shall be part of the model WQMP that will be produced by the permittees.

[83] For all references to bio-treat/bio-treatment, see footnote 82.

i. Review and update the menu of site design BMPs to include any LID BMP that is currently not listed.

ii. Include as a reference for design and installation of LID BMPs the *LID Guidance Manual for Southern California* developed by the Southern California Coastal Water Research Project upon its completion.

iii. Techniques or specifications to minimize soil compaction in areas designated for site design BMPs, especially infiltration.

iv. Review and update design, installation and test specifications for retention BMPs to prevent unwanted ponding.

v. Evaluate the use of a credit system[84] for using site design BMPs.

vi. Develop in-lieu programs for projects where implementation may not be feasible.

b. Source Control BMPs:

i. Review and update the menu of source control BMPs.

ii. Include design and installation standards for each structural source control BMP.

c. Treatment Control BMPs:

i. Update the list of treatment control BMPs, including an evaluation of their effectiveness based on national, statewide or regional studies.

ii. Prioritize treatment control BMPs based on their effectiveness in pollutant removal and require project proponents to select the most appropriate BMPs.

iii. Include design and installation standards for each treatment control BMP.

d. Hydrologic Conditions of Concern (HCOC):

i. The Permittees shall continue to ensure, consistent with the MEP standard, through their review and approval of project-specific WQMPs that new development and significant re-development projects:

a) do not cause a hydrologic condition of concern (HCOC), or

b) otherwise, demonstrate that the project does not have the potential to cause significant adverse impacts on downstream natural channels and habitat integrity, alone or in conjunction with the impacts of other projects likely to be implemented in the same drainage area.

ii. A development/redevelopment project does not cause a HCOC if it causes no adverse downstream impacts on the physical structure, aquatic, and riparian habitat and any of the following conditions is met: and any of the following conditions is met:

[84]See sample credit calculation spreadsheet in Appendix 2 of the adopted statewide construction permit,. http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

a) The project disturbs less than one acre and is not part of a common plan of development.

b) The post-development site hydrology (including runoff volume, velocity, duration, time of concentration[85],) is not significantly different from pre-development hydrology for a 2- year return frequency storm. A difference of 5% or less is considered insignificant.

c) All downstream conveyance channels that will receive runoff from the project are engineered, hardened and regularly maintained to ensure design flow capacity, and no sensitive stream habitat areas will be affected. This exemption is only applicable to conveyance channels that have received regulatory approvals prior to June 1, 2004, including CEQA review and approvals by US Army Corps of Engineers, Regional Board, and California Department of Fish and Game.

iii. Where flow reduction strategies are established as part of TMDL compliance plans, decreases in flow loading from pre-development conditions are allowed and encouraged where necessary to protect or restore designated beneficial uses.

iv. If a project causes a HCOC, and a Watershed Action Plan has not been approved, the WQMP shall specify one of the following:

a) Verify the project's potential to cause significant adverse impacts by conducting a further evaluation of the projects impact on stream geomorphology and/or aquatic habitat. This evaluation should include consideration of pre- and post-development hydrograph volumes, time of concentration and peak discharge velocities for a 2 year storm event, consideration of sediment budgets, and a sediment transport analysis. If this evaluation confirms the project's potential to cause significant adverse downstream impacts on downstream natural channels and habitat integrity, alone or in conjunction with impacts of other projects, then the project shall satisfy items b), c), d), e), or f), below. If the evaluation indicates minimal impact on stream channels and habitats, no further action is required.

b) Require additional onsite or offsite mitigation to reduce potential erosion or impacts to aquatic habitats by using LID BMPs, where feasible, or other control measures.

c) Require in-stream controls[86] to mitigate the impacts on downstream natural channels and habitat integrity. The project proponent should first consider site design controls and on-site controls prior to proposing in-stream controls; in-stream controls must not adversely impact beneficial uses or

[85] Time of concentration is defined as the time after the beginning of rainfall when all portions of the drainage basin are contributing simultaneously to flow at the outlet.

[86] In-stream measures involve modifying the receiving stream channel slope and geometry so that the stream can convey the new flow regime without increasing the potential for erosion and aggradation. In-stream measures are intended to improve long-term channel stability and prevent erosion by reducing the erosive forces imposed on the channel boundary.

result in sustained degradation of water quality of the receiving waters and shall require all necessary regulatory approvals[87].

d) Mitigate the HCOC through implementation of the approved Watershed Action Plan.

e) If site conditions do not permit items b), c), or d) above, the alternatives and in-lieu programs discussed in the LIP, may be considered.

6. The WQMP shall specify methods for determining time of concentration.

7. A feasibility analysis that includes technically-based feasibility criteria for project evaluation to determine the feasibility of implementing LID.

   i. The feasibility analysis shall include a groundwater protection assessment to determine if structural infiltration BMPs are appropriate for the site

8. Integrate Watershed Action Plan and TMDL Implementation Plans into project-specific WQMPs in affected watersheds.

9. Within 18 months of adoption of this Oder, a copy of the updated WQMP Guidance and Template shall be submitted for review and approval by the Executive Officer. The Permittees shall implement the updated WQMP Guidance and Template within 90 days of approval. If the Executive Officer has not approved the WQMP Guidance and Template within 18 months of adoption of this Order, either the Permittees shall require implementation of LID BMPs, or determine infeasibility of LID BMPs for each project through a project-specific analysis, each of which shall be submitted to the Executive Officer, at least 30 days prior to Permittee approval. Such feasibility determinations shall be certified by a Professional Civil Engineer registered in the State of California, and will be documented in the project WQMP, which shall be approved by the Permittee prior to submittal to the Executive Officer. Within 30 days of submittal to the Executive Officer, the Permittee will be notified if the Executive Officer intends to take any action. Once the updated WQMP Guidance and Template has been approved by the Executive Officer, the submittal of feasibility determinations to the Executive Officer is no longer required.

10. If site conditions do not permit infiltration, harvesting and use, and/or evapotranspiration, and/or bio-treatment of the design capture volume at the project site as close to the source as possible, the alternatives a), b), and c), below, and the credits and in-lieu programs discussed under Section G, below, may be considered and implemented:

    a. Implement LID principles to the MEP at the project site close to the point of storm water generation and infiltrate and/or harvest and re-use at least the design capture volume through designated infiltration/treatment areas elsewhere within the project site.

[87] In-stream control projects require a Streambed Alteration Agreement from the California Department of Fish & Game, a CWA section 404 permit from the U.S. Army Corps of Engineers, and a section 401 certification from the Water Board. Early discussions with these agencies on the acceptability of an in-stream modification are necessary to avoid project delays or redesign.

b. Implement LID on a sub-regional basis. For example, at a 100 unit high density housing unit with a small strip mall and a school: connect all roof drains to vegetated areas (if there are any vegetated areas, otherwise storm water storage and use may be considered or else divert to the local storm water conveyance system, to be conveyed to the local treatment system), construct a storm water infiltration gallery below the school playground to infiltrate and/or harvest and re-use the design capture volume.

c. Implement LID on a regional basis. For example, several developments could propose a regional system to address storm water runoff from all the participating developments.

d. For alternatives a), b), and c) above, the pervious areas to which the runoff from the impervious areas are connected should have the capacity to infiltrate, harvest and use, evapotranspire and/or bio-treat at least the design capture volume from the entire tributary area.

F. Road Projects

1. Within 24 months of adoption of this Order, the Principal Permittee, in cooperation with the Co-Permittees, shall develop standard design and post-development BMP guidance to be incorporated into projects for public streets, roads, highways, and freeway improvements to reduce the discharge of pollutants from the projects to the MEP. The draft guidance shall be submitted to the Executive Officer for review and approval and shall meet the performance standards for site design/LID BMPs, source control and treatment control BMPs as well as the HCOC criteria. The guidance and BMPs shall address any paved surface used for transportation of automobiles, trucks, motorcycles, and other vehicles, and excludes routine road maintenance activities where the surface footprint is not increased. The guidance shall incorporate principles contained in the USEPA guidance, "Managing Wet Weather with Green Infrastructure: Green Streets" to the maximum extent practicable and at a minimum shall include the following:

   a. Guidance specific to new road projects;
   b. Guidance specific to projects for existing roads;
   c. Size or impervious area criteria that trigger project coverage;
   d. Preference for green infrastructure approaches wherever feasible;
   e. Criteria for design and BMP feasibility analyses on a project –specific basis.

2. Within six months of approval by the Executive Officer, the Permittees shall implement the standard design and post-development plan for all municipal road projects.

3. Pending approval of the standard design and post-development BMP Guidance, Permittees shall require site-specific WQMPs for streets, roads and highway projects consistent with Section XI.D.4 of this Order.

G. Alternatives and In-Lieu Programs

1. If a preferred BMP is not technically feasible, other BMPs should be implemented to mitigate the project impacts, or if the cost of BMP implementation greatly outweighs the pollution control benefits, the Permittees may grant a waiver of the BMPs. All waivers, along with waiver justification documentation, must be submitted to the Executive Officer at least 30 days prior to Permittee approval of the WQMP. Only those projects that have completed a feasibility analysis as specified in the WQMP Guidance and Template (see Section XI.E.7) and approved by the Executive Officer shall be considered for alternatives and in-lieu programs. If a waiver is granted, the Permittees shall ensure that project proponents participate in one of the in-lieu programs discussed in this section.

2. The Permittees may collectively or individually propose to establish an urban runoff fund to be used for urban water quality improvement projects within the same watershed that is funded by contributions from developers granted waivers. The contributions should be at least equivalent to the cost savings for waived projects and and the urban runoff fund shall be expended for projects that provide at least an equivalent amount of water quality improvement (there shall be no net impact on water quality due to a waived project) . If a waiver is granted and an urban runoff fund is established, the annual report for the year should include the following information with respect to the urban runoff fund:

   a. Total amount deposited into the fund and the party responsible for managing the urban runoff fund;

   b. Projects funded or proposed to be funded with monies from the urban runoff fund;

   c. Party or parties responsible for design, construction, operation and maintenance of urban runoff funded projects; and

   d. Current status and a schedule for project completion.

3. The obligation to install structural site design and/or treatment control BMPs at a new development is met if, for a common plan of development, BMPs are constructed with the requisite capacity to serve the entire common project, even if certain phases of the common project may not have BMP capacity located on that phase in accordance with the requirements specified above. The goal of the WQMP is to develop and implement practicable programs and policies to minimize the effects of urbanization on site hydrology, urban runoff flow rates, velocities, duration and time of concentration and pollutant loads. This goal may be achieved through watershed-based structural treatment controls, in combination with site-specific BMPs. All treatment control BMPs should be located as close as possible to the pollutant sources, should not be located within Waters of the U.S., and pollutant removal should be accomplished prior to discharge to waters of the US. Regional treatment control BMPs shall be operational prior to occupation of any of the priority project sites tributary to the regional treatment BMP.

4. The Permittees may establish a water quality credit system for alternatives to LID and hydromodification requirements specified above. The following types of projects may be considered for the credit system:

a. Redevelopment projects that reduce the overall impervious area
b. Brownfield redevelopment
c. High density developments (>7 units per acre)
d. Mixed use and transit-oriented development (within ½ mile of transit)
e. Dedication of undeveloped portions of the project site to parks, preservation areas and other pervious uses
f. Regional treatment systems with a capacity to treat flows from all upstream developments
g. Offsite mitigation within the same watershed (see E.5.d.iv above)
h. City Center area
i. Historic Districts and Historic Preservation areas
j. Live-work developments
k. In-fill projects

5. The water quality credit system should not result in a net impact on water quality.
6. A summary of waivers of LID, Hydromodification and Treatment Control BMPs, along with any water quality credit granted, in-lieu projects or urban runoff fund contribution required by each Permittee shall be included in the annual report.

H. Approval of WQMP

Within 18 months of adoption of this Order, each Permittee shall develop and implement standard procedures and tools, and include in its LIP the following:

1. A WQMP review checklist that incorporates the required elements of the WQMP and a clear process for consultation early in the planning process with the Permittee's appropriate departments and sections. This review process shall involve the Permittee's Planning and Engineering Departments during the preliminary and final WQMP review to adequately incorporate project-specific water quality measures and watershed protection principles in their CEQA analysis.
2. Tools or procedures to incorporate project conditions of approval, including proper funding and maintenance and operation of all structural BMPs. The parties responsible for the long-term maintenance and operation of the BMPs upon project close-out and a funding mechanism for operation and maintenance shall be identified prior to approval of the WQMP.
3. A procedure to ensure that appropriate easements and ownerships are recorded/included in appropriate documents that provides the Permittee the authority for post-construction BMP operation and maintenance (also see J.1, below).
4. A final project close-out procedure and checklist to ensure that post-construction BMPs (site design, structural source control and treatment control BMPs) have been

built as per the approved WQMPs or other conditions of approval and are fully functional prior to issuance of certificates of occupancy (also see I.1 and I.2, below).

5. A procedure to work cooperatively with the local vector control district to address any vector problems associated with the water quality control systems. If not properly designed and maintained, some of the BMPs implemented to treat urban runoff could create a habitat for vectors (e.g., mosquitoes and rodents) and become a nuisance. The WQMP review, approval, and closure processes shall include consultation and collaboration with the local vector control districts on BMP design, installation, and operation and maintenance to prevent or minimize vector issues. If vector or nuisance problems are identified during inspections, the local vector control district should be notified.
6. Staff involved with WQMP review and approval shall be trained in accordance with Section XVI, Training Requirements.

I. Field Verification of BMPs

1. The Permittees' project close-out procedures shall include field verification that site design, source control and treatment control BMPs are designed, constructed and functional in accordance with the approved WQMP. Documentation of the field verification, including the WDID number, if applicable, information on the type, location and maintenance responsibility of the BMPs shall be sent to the Regional Board office by regular mail or electronic mail.
2. In addition, post-construction BMPs shall be inspected, prior to the rainy season, within three years after project completion and every three years thereafter. The Permittees shall verify, through visual observation, that the BMPs are properly maintained, operating, and are functional. Results of the inspections shall be reported in the Annual Report.

J. Change of Ownership and Recordation

1. The Permittees shall establish a mechanism to track changes in ownership and responsibility for the operation and maintenance of post-construction BMPs to ensure that they are properly recorded in public records at the County and/or City and the information is conveyed to all appropriate parties when there is a change in project or site ownership.
2. The Permittees shall maintain a database to track all structural treatment control BMPs, including the location of BMPs, parties responsible for construction, operation and maintenance.

K. Operation and Maintenance of Post-Construction BMPs

1. The Permittees shall ensure, to the MEP, that all post-construction BMPs continue to operate as designed and implemented with control measures necessary to effectively minimize the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, flies, etc. WQMPs shall identify the responsible party for maintenance, including vector minimization and control measures, and funding

source(s) for operation and maintenance of all site design and structural treatment control systems. Permittees shall, through conditions of approval and during inspections, ensure proper maintenance and operation of all permanent structural post-construction BMPs installed in new developments. Design of these structures shall allow adequate access for maintenance.

2. Within twelve months of adoption of this Order, the Permittees shall develop a database to track operation and maintenance of post-construction BMPs. The database should include available BMP information such as the type of BMP design, location of BMPs (latitude and longitude), date of construction, party responsible for maintenance, maintenance frequency, source of funding for operation and maintenance, maintenance verification, and any problems identified during inspection including any vector or nuisance problems. A copy of this database shall be submitted with the annual report.

L. Pre-Approved Projects

1. The above provisions shall be implemented in a manner consistent with the maximum extent practicable standard for all priority projects 90 days from the date of approval of the updated Water Quality Management Plan Guidance and Template as per Section XI.E.5.
2. The above provisions for LID and hydrologic conditions of concern are not applicable to projects that have an approved WQMP prior to the date of adoption of the revised WQMP Guideline and Template (Section XI.D.2). The Regional Board recognizes that full implementation may not be feasible for certain projects which have received tentative tract or parcel map or other approvals prior to the approval of the updated WQMP.

XII. PUBLIC EDUCATION AND OUTREACH

A. The Permittees shall continue to implement the public education efforts already underway as described in the 2006 ROWD/MSWMP and shall implement the most effective elements of the comprehensive public and business education strategy upon completion of the risk-prioritization strategy to this program element. Each year the Permittees shall review their public education and outreach efforts and revise their activities to adapt to the needs identified in the annual reassessment of program priorities with particular emphasis on addressing the most critical behaviors that cause storm water pollution problems. Any changes to the on-going public education program must be described in the annual report.

B. Consistent with the MEP standard, each Permittee shall implement applicable elements of the public education and outreach program measurably increase public knowledge regarding the storm drain system and the impacts of urban runoff on receiving water quality.

C. When feasible and effective, the Permittees shall participate in joint outreach programs with other agencies including, but not limited to the Santa Ana Watershed Project

Authority, Caltrans, and other county and municipal storm water programs to ensure that a consistent message on storm water pollution prevention is disseminated to the public.

D. The Permittees shall facilitate implementation of BMPs listed in the Storm Water Management Plan and/or the Water Quality Management Plan for restaurants, automotive service centers, gasoline stations and other similar facilities by distributing BMP brochures or other fact sheets to these facilities during inspections and/or through other means.

E. Within 12 months from the date of adoption of this Order, the Permittees shall develop and maintain BMP guidance for the control of those potentially polluting activities identified during the previous permit cycle, which are not otherwise regulated by any agency, including guidelines for the household use of fertilizers, pesticides, herbicides and other chemicals, and guidance for mobile vehicle maintenance, carpet cleaners, commercial landscape maintenance, and pavement cutting. These guidance documents shall be distributed to the public, trade associations, etc., through participation in community events, trade association meetings and/or by mail.

F. The Permittees shall ensure that appropriate educational materials, including the BMP brochures, are provided to all new industrial and commercial enterprises in their jurisdiction at the time building and construction permits (or occupancy permits) are issued and/or at the time business licenses are issued.

G. The Permittees shall continue to maintain a hotline telephone number and website to allow the public to report illegal dumping from residential, industrial, construction or commercial sites into public streets, storm drains and other waterbodies. The hotline number and website address for reporting storm water pollution problems shall be promoted in an appropriate outreach effort. The Permittees shall further develop and maintain public education materials to encourage the public to report illegal dumping and unauthorized, non-storm water discharges from residential, industrial, construction and commercial sites into public streets, storm drains and to surface waterbodies and their tributaries; clogged storm drains; faded or missing catch basin stencils and general storm water and BMP information. Hotline and web site information shall be included in the public and business education program and shall be listed in the governmental pages of all regional phone books and on the Permittees' website.

XIII. PERMITTEE FACILITIES AND ACTIVITIES

A. Each Permittee shall inventory its fixed facilities, field operations, and drainage facilities, and shall conduct inspections of these facilities on an annual basis to ensure that these facilities and activities do not contribute pollutants to receiving waters, consistent with the MEP standard. At a minimum, the following municipal facilities, that are owned and/or operated by the Permittees, shall be inspected. Records of these facilities and inspection findings shall be maintained in a database:

1. Public streets, roads (including rural roads) and highways within its jurisdiction;

2. Parking facilities;
3. Fire fighting training facilities;
4. Flood management projects and flood control structures;
5. Areas or facilities and activities discharging directly to environmentally sensitive areas such as 303(d) listed waterbodies or those with a RARE beneficial use designation;
6. Publicly owned treatment works (including water and wastewater treatment plants)
   a. Sanitary sewage collection systems shall be adequately maintained to minimize overflows, leaks, or other failures (also see requirements in Section IX, above), but need not be inspected annually unless deemed to be necessary;
7. Solid waste transfer facilities;
8. Land application[88] sites;
9. Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles; and
10. Household hazardous waste collection facilities.
11. Municipal airfields.
12. Parks and recreation facilities.
13. Special event venues following special events (festivals, sporting events).
14. Power washing.
15. Other municipal areas and activities that the Permittee determines to be a potential source of pollutants.

B. The Permittees may develop a risk-based scoring system to prioritize Permittee facilities and activities to determine the frequency and scope of inspections, as an alternative to XIII.A, above. If proposed, the scoring system shall consider factors including, but not limited to: the hazardous nature of materials used on site; potential for erosion and pollutant discharges, particularly such materials as pre-production plastic (nurdles) or pollutants for which the receiving water is impaired; site size and location including proximity to receiving water, history of spills and leaks; use of pollution control and prevention measures; and compliance history. The risk-based scoring system shall include a criterion to identify the facilities as high, medium or low risk and shall be submitted to the Executive Officer for approval. The electronic database submitted with the annual report (see X.A.2, above) shall include the risk-based scores for each facility. The facility and/or activity scores must be reviewed and updated annually, if necessary.

C. At least 80% of the inlets, open channels, and basins shall be inspected at least once during each reporting year and cleaned, if necessary, with 100% of the facilities inspected in a two-year period, using the BMP fact sheet developed by the Management Committee. This information shall be included in the annual report.

D. Each Permittee shall clean its drainage facilities where the inspection reveals that the sediment/storage volume is 25% full or greater, or where there is evidence of illegal discharge, or if accumulated sediment or debris impairs the hydraulic capacity of the facility.

[88] Examples are compost application, animal/dairy manure application, and biosolids application

E. The Permittees' shall evaluate, annually, the inspection and cleanout frequency of drainage facilities, including catch basins, referred to in Section B and C, above. This evaluation shall consider the data generated by historic and ongoing inspections and cleanout of these facilities, and the IC/ID program (Section VIII). The evaluation shall be based on a prioritized list of drainage facilities considering factors such as: proximity to receiving waters, receiving water beneficial uses and impairments of beneficial uses, historical pollutant types and loads from past inspections/cleanings and the presence of downstream regional facilities that would remove the types of pollutants found in the drainage facility. Using this list, the Permittees shall revise their inspection and clean out schedules and frequency and provide justification for any proposed clean out frequency that is less than once a year. This information shall be included in the annual report.

F. Each Permittee shall implement control measures necessary to minimize infiltration of seepage from sanitary sewers to the storm drain systems through routine preventive maintenance of the storm drain system. The Permittees who are also owners and/or operators of sewage collection systems shall also implement a routine maintenance program for the sewage collection systems in accordance with the SSO Order. Each Permittee shall cooperate and coordinate with the appropriate sewage collection agency to swiftly respond to and contain any sewage spills. This control measure and coordination with the sewering agency shall be documented in the LIP.

G. The Permittees shall continue to train its employees in integrated pest management, and pesticide and fertilizer applications.

H. Successful implementation of the provisions in this Order will require the cooperation of many different departments within each Permittee's jurisdiction (e.g., Fire Department, Department of Environmental Health, Planning Department, Transportation Department, Parks and Recreation, Building and Safety, Code Enforcement, etc.) As such, these Permittee departments, programs, or organizations are expected to actively participate in implementing this Order. Other public agency organizations having programs/activities that have an impact on storm water quality are listed in Attachment 3. The Permittees shall ensure that all necessary Permittee departments within their jurisdiction implement their respective requirements as specified in the LIP.

I. Each Permittee shall annually evaluate the information provided to field staff during their maintenance activities to direct public outreach efforts and determine the need for revision of existing maintenance procedures or schedules. The results of this evaluation shall be provided in the annual report.

J. Each Permittee shall include its procedures, schedules, and tools necessary to implement the requirements of this section in its LIP. The LIP shall state the positions responsible for performing and reporting completion of each task and the training requirements for that position.

XIV. MUNICIPAL CONSTRUCTION PROJECTS

A. This Order authorizes the discharge of storm water runoff from construction projects that may result in land disturbance of one (1) acre or more (or less than one acre, if it is part of a larger common plan of development or sale which is one acre or more) that are

under ownership and/or direct responsibility of any of the Permittees. All Permittee construction activities shall be in accordance with the ROWD and MSWMP.

B. Municipal construction projects shall be in compliance with the latest version of the State's General Permit for Stormwater Discharges Associated with Construction Activities except that an NOI need not be filed with the State Board.

C. Prior to commencement of construction activities, the Permittees shall notify the Executive Officer of the Regional Board of the proposed construction project by submitting a Notice of Intent (NOI), or Permit Registration Documents (PRDs) (web-based) as provided in Attachment 7, and a location map depicting the project location. The filing and annual fees for these NOIs/PRDs are waived for the Permittees.

D. Upon completion of the construction project, the Permittee shall notify the Executive Officer or its designee by submitting: (1) a Notice of Termination (NOT), provided in Attachment 8; (2) photographs of the completed project; (3) a site map depicting the project location and the locations of structural post-construction BMPs, including the latitude and longitude, if appropriate; and (4) copies of the final field verification report. A database of post-construction BMPs for which the Permittees are responsible for shall be developed and referenced in the LIP.

E. The Permittees shall develop and implement a WQMP, if applicable, a storm water pollution prevention plan (SWPPP), a monitoring program that is specific for the construction project prior to the commencement of any of the construction activities, and any other reports or plans required under the General Construction Activity Storm Water Permit. The SWPPP and the WQMP shall be kept at the construction site and released to the public and/or Regional Board staff upon request.

F. The Permittees shall give advance notice to the Executive Officer of the Regional Board of any planned changes in the construction activity, which may result in non-compliance with the latest version of the State's General Construction Activity Storm Water Permit.

G. Emergency Permittee public works projects required to protect public health and safety are exempted from compliance with the requirements of this subsection until the emergency ends, at which time they need to comply with the requirements of this section.

H. All other terms and conditions of the latest version of the State's General Construction Activity Storm Water Permit shall be applicable.

XV. PERMITTEES DE-MINIMUS DISCHARGES

A. The Permittees are authorized to discharge de-minimus types of discharges listed under the latest adopted version of the Regional Board's General De Minimus Discharge Permit, currently Order No. R8-2009-0003. The de-minimus discharges from Permittee owned and/or operated facilities and/or activities shall be in compliance with Order No. R8-2009-0003 except that the Permittees need not pay the filing fee.

B. The Permittees shall notify the Executive Officer of the proposed de-minimus types of discharges at least 15 days prior to start of the discharge, by submitting a NOI and supporting documents, as provided in Attachment 9.

C. For existing de-minimus dischargers (authorized to discharge under Order No. R8-2009-003 prior to the adoption date of this Order), discharges will continue to be regulated under the terms and conditions of Order No. R8-2003-003 until a new discharge authorization is issued, provided that the discharger submits, no later than June 10, 2010, an updated NOI, a copy of the current Monitoring & Reporting Program previously issued to the discharger, and proposed treatment modifications (if any). If no application for continued discharges are submitted by that date, the discharger shall do one of the following:

   i. Cease discharge and submit a letter informing the Regional Board that coverage under Order R8-2009-0003 is no longer needed; or

   ii. Apply for new discharge authorization as a new de-minimus discharger, under this Order.

XVI. TRAINING PROGRAM FOR STORM WATER MANAGERS, PLANNERS, INSPECTORS AND MUNICIPAL CONTRACTORS

A. Within 24 months from the date of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees, will update their existing training program to incorporate new or revised program elements related to the development of the LID program, revised WQMP, and establishment of LIPs for each Permittee. The updated training program includes a training schedule, curriculum content, and defined expertise and competencies for storm water managers, inspectors, maintenance staff, those involved in the review and approval of WQMPs, public works employees, community planners and for those preparing and/or reviewing CEQA documentation and for municipal contractors working on Permittee projects.

   1. Within 36 months, the Permittees will update training program elements to incorporate new or enhanced stormwater program elements due for completion within 36 months of permit adoption.

   2. By 48 months, the Permittees will have a completely revised training program that includes any enhanced or new program elements not previously addressed, including the WAP.

B. The curriculum content should include: federal, state and local water quality laws and regulations as they apply to construction and grading activities, industrial and commercial activities; the potential effects of construction, industrial and commercial activities and urbanization on water quality; implementation and maintenance of erosion and sediment control BMPs and pollution prevention measures; the proper use and maintenance of erosion and sediment controls; the enforcement protocols and methods established in the MSWMP, LIP, WQMP, including LID Principles and Hydrologic Conditions of Concern, the CASQA Construction Stormwater Guidance Manual, Enforcement Response Guide and Illicit Discharge/Illegal Connection Training Program. The training program should address vector control issues related to storm water pollution control BMPs

C. The training modules for each category of trainees (managers, inspectors, planners, engineers, contractors, public works crew, etc.) should define the required competencies,

outline the curriculum, and include a testing procedure at the end of the training program and proof of completion of training (Certificate of Completion).

D. At least on an annual basis, the Principal Permittee shall provide and document training to applicable public agency staff on the updated Municipal Activities and Pollution Prevention Strategy (MAPPS), and any other applicable guidance and procedures developed by the Permittees to address Permittee activities in fixed facilities as well as field operations, including conveyance system maintenance. Each Permittee shall document training for its staff related to jurisdiction-specific responsibility, procedures and implementation protocols established in its LIP. The field program training should include Model Integrated Pest Management, pesticide and fertilizer guidelines. Appropriate staff from each municipality shall attend at least three of these training sessions during the term of this Order. The training sessions may be conducted in classrooms or using videos, DVDs, or other multimedia with appropriate documentation and a final test to verify that the material has been properly reviewed and understood. In instances where applicable municipal operations are performed by contract staff, each Permittee shall require evidence that contract staff have received a level of training equivalent to that listed above.

E. The Principal Permittee shall provide and document training for public employees and interested consultants that incorporates at a minimum, the requirements in this Order related to new development and significant re-development and 401 certifications, and model environmental review (CEQA review) for preparation of environmental documents.

F. The Principal Permittee shall provide training information to municipal contractors to assist the contractors in training their staff. In instances where applicable municipal operations are performed by contract staff, the Permittees shall require evidence that contract staff have received a level of training equivalent to that listed above.

G. The Principal Permittee shall either notify designated Regional Board staff regarding training events via e-mail or submit course content in advance of training sessions.

H. Each Permittee shall adequately train any of its staff involved with storm water related projects and the implementation of this Order within six months from being assigned these duties and on an annual basis thereafter, prior to the rainy season.

I. The LIP shall specify the training requirements for Permittee staff and contractor involved in implementing the requirements of this Order. Each Permittee shall maintain a written record of all training provided to its storm water and related program staff.

XVII. NOTIFICATION REQUIREMENTS

A. Within 24 hours of discovery, the Permittees shall provide oral or email notification to the Executive Officer of noncompliant sites within its jurisdiction that are determined to pose a threat to human health or the environment (e.g., an oil spill that could impact wild life, a hazardous substance spill where residents are evacuated, reportable quantities of hazardous substance spills defined in 40 CFR 117 & 302, etc.). Following oral notification, a written report must be submitted to the Executive Officer within 10 days, detailing the nature of the non-compliance, any corrective action taken by the site/facility owner, other relevant information (e.g., past history of non-compliance, environmental damage resulting from the non-compliance, site/facility owner responsiveness) and the

type of enforcement action that will be carried out by the Permittee. Further, incidences of noncompliance shall be recorded along with the information noted in the written report and the final outcome/enforcement for the incident in the appropriate database.

B. Sewage spill notification shall be consistent with the timelines specified in the SSO Order.

C. All reports submitted by the Permittees as per the requirements in this Order for the approval of the Executive Officer shall be publicly noticed and made available on the Regional Board's website, or through other means, for public review and comments. The Executive Officer shall consider all comments received prior to approval of the reports. Any unresolved issues shall be scheduled for a public hearing at a Regional Board meeting after proper public notice.

D. As specified in Section X.A.7, the Permittees shall deem facilities operating without a proper permit to be in significant non-compliance. These facilities shall be reported within 14 calendar days to the Regional Board by electronic mail or other written means. Permittees' notifications of facilities' failure to obtain required permits under the Construction Activities Storm Water General Permit (Construction Permit), Industrial Activities Storm Water General Permit (Industrial Permit), including Requirements to file a Notice of Intent or No Exposure Certification, Notice of Non-applicability, and/or 401 Certification must include, at a minimum, the following documentation:

1. Name of the facility;
2. Operator of the facility;
3. Owner of the facility;
4. Construction/Commercial/industrial activity being conducted at the facility that is subject to the Construction//Industrial General Permit, or 401 Certification; and
5. Records of communication with the facility operator regarding the violation, including an inspection report.

XVIII. PROGRAM MANAGEMENT ASSESSMENT / MSWMP REVIEW

A. Upon the effective date of this Order, the Permittees shall start implementing the 2007 MSWMP and modify it to be consistent with the requirements of this Order and the schedules contained herein. If major modifications to the 2007 MSWMP not addressed in this Order are determined to be necessary, the Permittees shall prepare and submit MSWMP modifications to the Executive Officer for review and approval. Such modifications may include regional and watershed-specific requirements and/or waste load allocations developed and approved pursuant to the TMDL process.

B. By October 1 of each year, the Permittees shall evaluate the MSWMP to determine the need for any revisions in order to reduce pollutants in MS4 discharges to the maximum extent practicable. In addition, the first annual review after adoption of this Order shall include the following:

1. Review of the formal training needs of municipal employees;
2. Review of coordination meeting/training for the designated NPDES inspectors.; and

3. Propose any changes to assess program effectiveness on an area-wide and jurisdictional basis. Permittees may utilize the CASQA Guidance[89] for developing these assessment measures at the six outcome levels. The assessment measures must target both water quality outcomes and the results of municipal enforcement activities.

C. The annual report shall include the findings of this review and a schedule to address necessary revisions, or a copy of the amended MSWMP with the proposed changes. Replacement pages are acceptable if modifications are not extensive. Annual reports shall also be submitted in electronic format.

D. The Management Committee will continue to meet at least 8 times a year to discuss issues related to permit implementation and regional and statewide issues. Each Permittee's designated representative or a designated alternate should attend not less than 7 of 8 scheduled meetings.

XIX. FISCAL RESOURCES

A. Each Permittee shall exercise its full authority to secure the resources necessary to meet the requirements of this Order. This Order may be revised to adjust time schedules to accommodate prioritization of available resources.

B. The Permittees shall prepare and submit a financial summary to the Executive Officer. The financial summary shall be submitted with the annual report each year and shall, at a minimum, include the following:

1. Each Permittee's expenditures for the previous fiscal year,
2. Each Permittee's budget for the current fiscal year,
3. A description of the source of funds, and
4. Each Permittee's estimated budget for the next fiscal year.

XX. PROVISIONS

A. All reports submitted by the Permittees as per the requirements in this Order for the approval of the Executive Officer shall be publicly noticed and made available on the Regional Board's website, or through other means, for public review and comments. The Executive Officer shall consider all comments received prior to approval of the reports. Any unresolved significant issues shall be scheduled for a public hearing at a Regional Board meeting prior to approval by the Executive Officer.

B. Permittees shall demonstrate compliance with all the requirements in this Order and specifically with Section III. Discharge Limitations, and Section IV. Receiving Water Limitations, through timely implementation of their MSWMP and any modifications, revisions, or amendments developed pursuant to this Order approved by the Executive Officer or determined by the Permittees to be necessary to meet the requirements of this Order. The MSWMP, including any approved amendments thereto is hereby made an enforceable component of this Order.

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[89] CASQA, May 2007. Municipal Stormwater Program Effectiveness Assessment Guidance.

C. The Permittees shall, at a minimum, implement all elements of the MSWMP and its components. Where the dates are different from the corresponding dates in this Order, the dates in this Order shall prevail. Any proposed revisions to the MSWMP shall be submitted with the Annual Report to the Executive Officer of the Regional Board for review and approval. All approved revisions to the MSWMP shall be implemented as per the time schedules approved by the Executive Officer. In addition to those specific controls and actions required by: (1) the terms of this Order and (2) the MSWMP and its components, each Permittee shall implement additional controls, if any are necessary, to reduce the discharge of pollutants in storm water to the maximum extent practicable as required by this Order.

D. Certain BMPs implemented or required by the Permittees for urban runoff management may create habitat for vectors (e.g., mosquitoes and rodents) if not properly designed and maintained. Close collaboration and cooperative effort between the Permittees and local vector control districts and the State Department of Health Services during the development and implementation of urban runoff management programs are necessary to minimize potential vector habitat and public health impacts resulting from vector breeding. Nothing in this permit is intended to prohibit inspection or abatement of vectors by the State or local vector control agencies in accordance with the respective Health and Safety Code.

E. The Permittees shall comply with Monitoring and Reporting Program No. R8-2010-0036 and any revisions thereto, which are hereby made a part of this Order. The Executive Officer is authorized to revise the Monitoring and Reporting Program to allow the Permittees to participate in regional, statewide, national or other monitoring programs in lieu of or in addition to Monitoring and Reporting Program No. R8-2010-0036.

F. Upon approval by the Executive Officer or the Regional Board, all plans, reports and subsequent amendments required by this Order shall be implemented and shall become an enforceable part of this Order. Prior to approval by the Executive Officer, these plans, reports and amendments shall not be considered as an enforceable part of this Order.

G. The Permittees shall report to the Executive Officer of the Regional Board:

1. Any enforcement actions and discharges of storm or non-storm water, known to the Permittees, which may have an impact on human health or the environment, and

2. Any suspected or reported activities on federal, state, or other entity's land or facilities, where the Permittees do not have any jurisdiction, and where the suspected or reported activities may be contributing pollutants to Waters of the U.S.

H. The permit application and special NPDES program requirements are contained in 40 CFR 122.21 (a), (b), (d)(2), (f), (p); 122.41 (a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l); and 122.42 (c), and are incorporated into this Order by reference.

XXI. PERMIT MODIFICATION

A. Following appropriate public notice, and in accordance with 40 CFR 122.41(f), this Order may be modified, revoked or reissued prior to its expiration date for the following reasons:

1. To address significant changes in conditions identified in the technical reports required by the Regional Board which were unknown at the time of the issuance of this Order;
2. To incorporate applicable requirements of statewide water quality control plans adopted by the State Water Resources Control Board or any amendments to the Basin Plan approved by the Regional Board, the State Board and, if necessary, by the Office of Administrative Law and the USEPA;
3. To comply with any applicable requirements, guidelines, or regulations issued or approved under the Clean Water Act, if the requirements, guidelines, or regulations contain different conditions or additional requirements than those included in this Order; or,
4. To incorporate any requirements imposed upon the Permittees through the TMDL process.

B. The filing of a request by the Permittees for modification, revocation and re-issuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any conditions of this Order.

XXII. PERMIT EXPIRATION AND RENEWAL

A. This Order expires on January 29, 2015 and the Permittees must file a Report of Waste Discharge (permit renewal application) no later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements. The Report of Waste Discharge shall, at a minimum, include the following:

1. A program effectiveness analysis, including the effectiveness of the overall urban and storm water runoff management program in achieving water quality standards in receiving waters.
2. Any proposed revisions to the urban and storm water runoff management program based on the findings of the program effectiveness analysis (this could be included in a revised MSWMP). Revisions to the program elements should be consistent with the risk-based approach proposed in the 2006 Report of Waste Discharge.
3. Changes in land use and/or population including map updates.
4. Any significant changes to the storm drain systems, outfalls, detention or retention basins or dams, and other controls including map updates of the storm drain systems.
5. Any new or revised program elements and compliance schedule(s) necessary to comply with Section VI of this Order.

B. All permit applications (Report of Waste Discharge), annual reports and other information submitted under this Order shall be signed by either a principal executive officer or a ranking elected official (40 CFR 122.22(a)(3)) or a duly authorized representative as per 40 CFR 122.22(b).

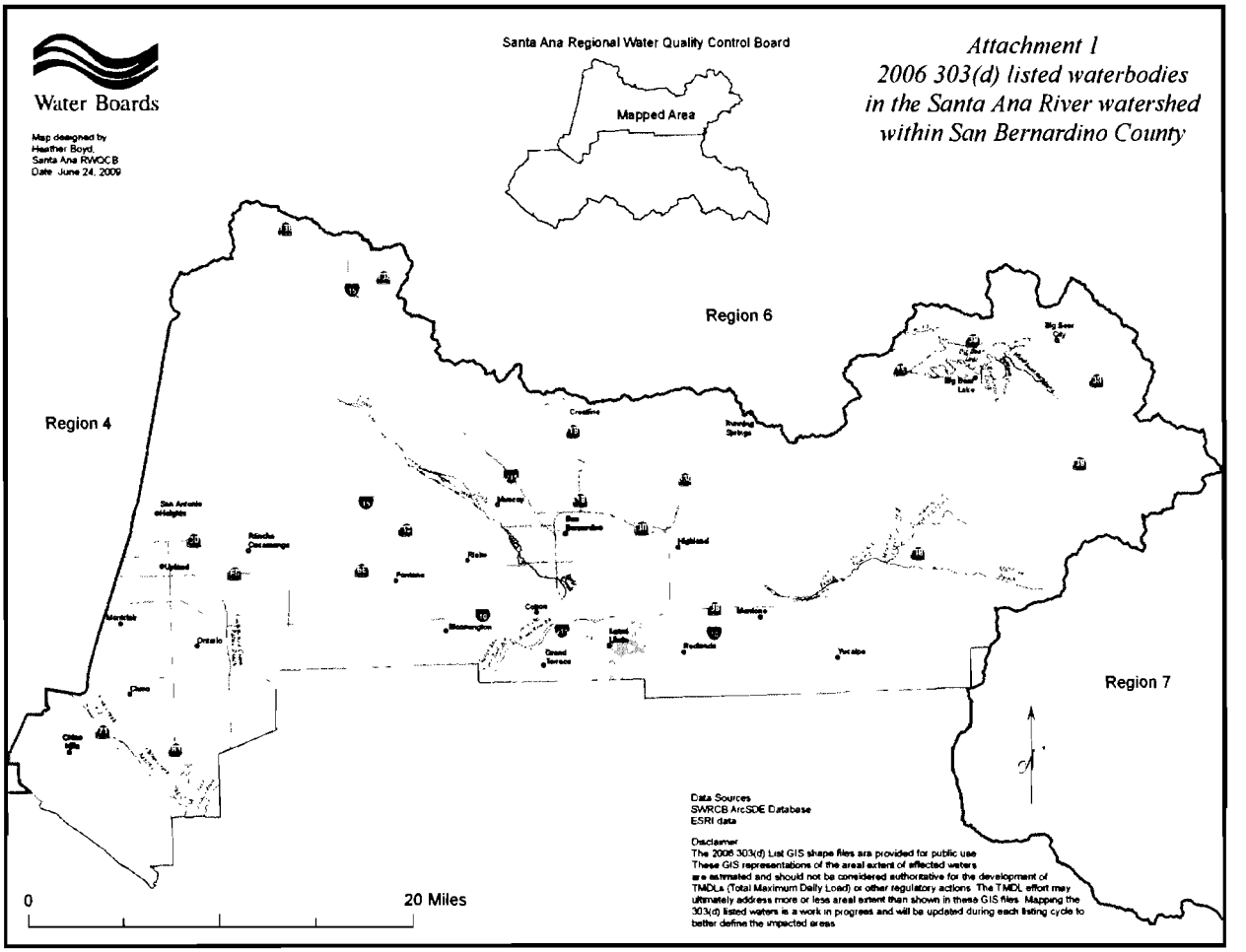
C. This Order shall serve as an NPDES Permit pursuant to Section 402 (p) of the Clean Water Act, or amendments thereto, and shall become effective ten days after the date of its adoption provided the Regional Administrator of the USEPA has no objections. If the

Regional Administrator objects to its issuance, the Permit shall not become effective until such objection is withdrawn.

I, Gerard Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on January 29, 2010.

Gerard J. Thibeault
Executive Officer

Attachment 1: San Bernardino County Project Area



Attachment 2: Inland Surface Streams

A. Santa Ana River

Santa Ana River, Reaches 4, 5, and 6

B. San Bernardino Mountain Streams

Mill Creek Drainage

- Mill Creek, Reaches 1 and 2
- Mountain Home Creek
- Mountain Home Creek, East Fork
- Monkey Face Creek
- Alger Creek
- Falls Creek
- Vivian Creek
- High Creek
- Other Tributaries: Lost, Oak Cove, Green, Skinner, Momyer and Glen Martin Creeks, and other Tributaries to these Creeks

Bear Creek Drainage

- Bear Creek
- Siberia Creek
- Slide Creek
- All Other Tributaries to these Creeks

Big Bear Lake Tributaries

- North Creek
- Metcalf Creek
- Grout Creek
- Rathbone (Rathbun) Creek
- Summit Creek
- Other Tributaries to Big Bear Lake: Johnson, Minnelusa, Polique, and Red Ant Creeks, and other Tributaries to these Creeks

Baldwin Lake Drainage

- Shay Creek
- Other Tributaries to Baldwin Lake: Sawmill, Green, and Caribou Canyons and other Tributaries to these Creeks.

C. Other Streams Draining to Santa Ana River (Mountain Reaches)

- Cajon Creek
- City Creek
- Devil Canyon Creek
- East Twin and Strawberry Creeks
- Waterman Canyon Creek
- Fish Creek
- Forsee Creek
- Plunge Creek
- Barton Creek

Bailey Canyon Creek
Kimbark Canyon, East Fork Kimbark Canyon, Ames Canyon and West Fork Cable Canyon Creeks
Valley Reaches of Above Streams
Other Tributaries (Mountain Reach): Alder, Badger Canyon, Bledsoe Gulch, Borea Canyon, Breakneck, Cable Canyon, Cienega Seca, Cold, Converse, Coon, Crystal, Deer, Elder, Fredalba, Frog, Government, Hamilton, Heart Bar, Hemlock, Keller, Kilpecker, Little Mill, Little Sand Canyon, Lost, Meyer Canyon, Mile, Monroe Canyon, Oak, Rattlesnake, Round Cienega, Sand, Schneider, Staircase, Warm Springs Canyon and Wild Horse Creeks, and other tributary to these Creeks

D. San Gabriel Mountain Streams (Mountain Reaches)

San Antonio Creek
Lytle Creek (South, Middle, and North Forks) and Coldwater Canyon Creek
Day and East Etiwanda Creeks
Valley Reaches of Above Streams
Cucamonga Creek (Mountain Reach)
Cucamonga Creek (Valley Reach)
Other Tributaries (Mountain Reaches): San Sevaine, Deer, Duncan Canyon, Henderson Canyon, Stoddard Canyon, Icehouse Canyon, Cascade Canyon, Cedar, Falling Rock, Kerkhoff and Cherry Creeks, and other tributaries to these Creeks.

E. San Timoteo Area Streams

San Timoteo Creek, Reaches 1 and 2
Oak Glen, Potato Canyon and Birch Creeks
Yucaipa Creek

F. Prado Area Streams

Chino Creek

G. Lakes and Reservoirs

Baldwin Lake
Big Bear Lake
Jenks Lake
Prado Park Lakes

Attachment 3: List of Other Entities with the Potential to Discharge Pollutants to the San Bernardino County Storm Water Conveyance System

A. Government Agencies

U.S. Army Corps of Engineers
U.S. Department of Agriculture - Forest Services, San Bernardino County National Forest
California Department of Transportation (Cal Trans)
California Department of Parks and Recreation - Chino Hills State Park
Inland Valley Development Agency, San Bernardino International Trade Center and Airport

B. Hospitals

Bear Valley Community Hospital
Chino Community Hospital
Doctors Hospital
Kaiser Foundation Hospital
Loma Linda Community Hospital
Loma Linda University Medical Center
Mountains Community Hospital
Ontario Community Hospital
Patton State Hospital
U.S. Department of Veterans Affair - Jerry L. Pettis Memorial Veterans Medical Center
Redlands Community Hospital
St. Bernardino Medical Center
San Antonio Community Hospital
San Bernardino Community Hospital
San Bernardino County Hospital

C. Railroads

AT&SF Railway Company
Union Pacific Railroad Company
BNSF Railway Company

D. School Districts

Alta Loma Elementary School District
Bear Valley Unified School District
Central Elementary School District
Chaffey Joint Union High School District
Chino Valley Unified School District
Colton Joint Unified School District
Cucamonga Elementary School District
Etiwanda Elementary School District
Fontana Unified School District
Mountain View Elementary School District

Mt. Baldy joint Elementary School District
Ontario-Montclair Elementary School District
Rialto Unified School District
Rim of the World Unified School District
Redlands Unified School District
San Bernardino City Unified School District
Upland Unified School District
Yucaipa Joint Unified School District

E. Universities and Colleges

California State University - California State University San Bernardino
San Bernardino Community College District - Chaffey College Campus
San Bernardino Community College District - Crafton Hills College Campus
San Bernardino Community College District - San Bernardino Valley College Campus
University of Redlands
Loma Linda University

F. Water Districts

Big Bear Municipal Water District
Bear Valley Water District
Inland Empire Utilities Agency
Cucamonga Valley Water District
East Valley Water District
Monte Vista Water District
San Bernardino Valley Municipal Water District
San Bernardino Valley Water Conservation District
West San Bernardino County Water District
Yucaipa Valley Water District

G. Transportation

Omnitrans
Metrolink (Fontana, Montclair, Ontario, Rancho Cucamonga, Rialto, San Bernardino)
Ontario International Airport (LA/ONT)
Redlands Municipal Airport
Rialto Municipal Airport
Chino Airport
Cable Airport

H. Other Potential Dischargers

United States Postal Service
California National Guard
Southern California Edison

Attachment 4: Glossary

Basin Plan – Water Quality Control Plan developed by the Regional Board for the Santa Ana River Watershed.

Beneficial Uses – The uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals. "Beneficial Uses" that may be protected against include, but are not limited to: domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [California Water Code Section 13050(f)]. Beneficial Uses for the Receiving Waters are identified in the Basin Plan.

Best Available Technology (BAT) – BAT is the acronym for best available technology economically achievable. BAT is the technology-based standard established by congress in CWA section 402(p)(3)(A) for industrial dischargers of storm water. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of treatment and best management practices, or BMPs. For example, secondary treatment (or the removal of 85% suspended solids and BOD) is the BAT for suspended solid and BOD removal from a sewage treatment plant. BAT generally emphasizes treatment methods first and pollution prevention and source control BMPs secondarily.

The best economically achievable technology that will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants is determined in accordance with regulations issued by the Environmental Protection Agency Administrator. Factors relating to the assessment of best available technology shall take into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, the cost of achieving such effluent reduction, non-water quality environmental impact (including energy requirements), and such other factors as the permitting authority deems appropriate.

Best Conventional Technology (BCT) – BCT is an acronym for Best Conventional Technology. BCT is the treatment techniques, processes and procedure innovations, and operating methods that eliminate or reduce chemical, physical, and biological pollutant constituents.

Best Management Practices – Best Management Practices (BMPs) are defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of municipal storm water permits, BMPs are typically used in place of numeric effluent limits.

Bioaccumulate – The progressive accumulation of contaminants in the tissues of organisms through any route including respiration, ingestion, or direct contact with contaminated water, sediment, pore water, or dredged material to a higher concentration than in the surrounding environment. Bioaccumulation occurs with exposure and is independent of the tropic level.

Bioassessment - The use of biological community information to evaluate the biological integrity of a water body and its watershed. With respect to aquatic ecosystems, bioassessment is the collection and analysis of samples of the benthic macroinvertebrate community together with physical/habitat quality measurements associated with the sampling site and the watershed to evaluate the biological condition (i.e. biological integrity) of a water body.

Biological Integrity – Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. Environmental Management 5:55-68 as: "A balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region." Also referred to as ecosystem health.

CalTrans - California Department of Transportation

CEQA – California Environmental Quality Act (Section 21000 et seq. of the California Public Resources Code).

Clean Water Act Section 402(p) – [33 USC 1342(p)] is the federal statute requiring municipal and industrial dischargers to obtain NPDES permits for their discharges of storm water.

Clean Water Act Section 303(d) Listed Water Body – is an impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology-based pollution controls required by the CWA. The discharge of urban runoff to these water bodies by the Co-permittees is significant because these discharges can cause or contribute to violations of applicable water quality standards.

Construction Site – Any project, including projects requiring coverage under the General Construction Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, disturbances to ground such as stockpiling, and excavation

Contamination – As defined in the Porter-Cologne Water Quality Control Act, contamination is "an impairment of the quality of waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease." 'Contamination' includes any equivalent effect resulting from the disposal of waste whether or not Waters of the U.S. are affected.

Criteria - The numeric values and the narrative standards that represent contaminant concentrations that are not to be exceeded in the receiving environmental media (surface water, ground water, sediment) to protect beneficial uses.

CWA – Federal Clean Water Act

CWC – California Water Code

Debris – Debris is defined as the remains of anything destroyed or broken, or accumulated loose fragments of rock.

Development Projects - New development or redevelopment with land disturbing activities; structural development, including construction or installation of a building or structure, the creation of impervious surfaces, public agency projects, and land subdivision.

Dry Season – June 1 through September 30 of each year, unless specified otherwise in an approved TMDL Implementation Plan.

Effluent Limitations – Means any restriction on quantities, discharge rates, and concentrations of pollutants which are discharged from point sources into Waters of the United States, waters of the "contiguous zone," or the ocean. (40 CFR §122.2)

Environmentally Sensitive Areas (ESAs) - Areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the Santa Ana River Basin (1994) and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the Santa Ana River Basin (1994) and amendments); areas designated as preserves or their equivalent under the Natural Communities Conservation Program (Multiple Species Habitat Conservation Plan, MSHCP) within the Cities and County of San Bernardino; and any other equivalent environmentally sensitive areas which have been identified by the Co-Permittees.

Erosion – The process whereby material (such as sediment) is detached and entrained in water or air and can be transported to a different location. Chemical erosion involves materials that are dissolved and removed and transported.

GIS - Geographical Information Systems

Grading – The cutting and/or filling of the land surface to a desired slope or elevation.

Green Infrastructure - Generally refers to technologically feasible and cost-effective systems and practices that use or mimic natural processes to infiltrate, evapotranspirate, or use stormwater or runoff on the site where it is generated. Green infrastructure is used interchangeably with low impact development (LID). See LID.

Hazardous Material – Any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by the U.S. EPA to be reported if a designated quantity of the material is spilled into the waters of the United States or emitted into the environment.

HCOC – Hydrologic Condition of Concern – Condition when a proposed hydrologic change is deemed to have the potential to cause significant impacts on downstream channels and aquatic habitats, alone or in conjunction with impacts of other projects.

Hydromodification – the "alteration of the hydrologic characteristics of coastal and non-coastal waters, which in turn could cause degradation of water resources"[90](USEPA, 2007).

[90] United States Environmental Protection Agency. 2007. National Management Measures to Control Nonpoint Source Pollution from Hydromodification. EPA-841-B-07-002.

The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that may result in increased stream flows and sediment transport.

IC/ID – Illicit Connection/Illegal Discharge

Illicit Connection – Illicit Connection means any connection to the MS4 that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations.

Illicit Discharge – Any discharge to a municipal separate storm sewer that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non-storm water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Section V, Effluent Limitations and Discharge Specifications, of this Order, and discharges authorized by the Regional Board.

Impaired Waterbody – Section 303(b) of the CWA requires each of California's Regional Water Quality Control Boards to routinely monitor and assess the quality of waters of their respective regions. If this assessment indicates that Beneficial Uses are not met, then that waterbody must be listed under Section 303(d) of the CWA as an Impaired Waterbody.

Isopluvial - A line on a map drawn through geographical points having the same pluvial (rain, precipitation) index.

Land Disturbance – The clearing, grading, excavation, stockpiling, or other construction activity that results in the possible mobilization of soils or other Pollutants into the MS4. This specifically does not include routine maintenance activity to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. This also does not include emergency construction activities required to protect public health and safety. The Permittees should first confirm with Regional Board staff if they believe that a particular routine maintenance activity is exempt under this definition from the General Construction Activity Storm Water Permit or other Orders issued by the Regional Board.

Load Allocations (LA) – Distribution or assignment of TMDL Pollutant loads to entities or sources for existing and future nonpoint sources, including background loads.

Local Implementation Plan - Document describing an individual Permittee's implementation procedures for compliance with the MS4 Permit, including ordinances, databases, plans, and reporting materials.

Low Impact Development (LID) – A storm water management and land development strategy that combines a hydrologically functional site design with pollution prevention measures to compensate for land development impacts on hydrology and water quality. LID techniques mimic the site predevelopment site hydrology by using site design techniques that store, infiltrate, evapotranspire, bio-filter or detain runoff close to its source

MEP (Maximum Extent Practicable) - Is not defined in the CWA; it refers to management practices, control techniques, and system design and engineering methods for the control of pollutants taking into account considerations of synergistic, additive, and competing factors, including, but not limited to pollutant removal effectiveness, regulatory compliance, gravity of the problem, public acceptance, social benefits, cost and technological feasibility.

MEP is the technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead, the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their urban runoff management programs. Their total collective and individual activities conducted pursuant to the urban runoff management programs becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the Regional Board, the Regional Board defines MEP.

Municipal Storm Water Conveyance System – (See Municipal Separate Storm Sewer System or MS4).

Municipal Separate Storm Sewer System (MS4) – MS4 is an acronym for Municipal Separate Storm Sewer System. A Municipal Separate Storm Sewer System is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, natural drainage features or channels, modified natural channels, man-made channels, or storm drains): (i) Owned or operated by a State, city town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes; (ii) Designated or used for collecting of conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollution Discharge Elimination System (NPDES) – A national program under Section 402 of the Clean Water Act for regulation of discharges of pollutants from point sources to waters of the United States. Discharges are illegal unless authorized by an NPDES permit.

NOI [Notice of Intent] – A NOI is an application for coverage under the General Stormwater Permits.

Non-Point Source Pollution (NPS) – Non point source refers to diffuse, widespread sources of pollution. These sources may be large or small, but are generally numerous throughout a watershed. Non Point Sources include but are not limited to urban, agricultural, or industrial areas, roads, highways, construction sites, communities served by septic systems, recreational boating activities, timber harvesting, mining, livestock grazing, as well as physical changes to stream channels, and habitat degradation. NPS pollution can occur year round any time rainfall, snowmelt, irrigation, or any other source of water runs over land or through the ground, picks up pollutants from these numerous, diffuse sources and deposits them into rivers, lakes, and coastal waters or introduces them into ground water.

Non-Storm Water – Non-storm water consists of all discharges to and from a storm water conveyance system that do not originate from precipitation events (i.e., all discharges from a

conveyance system other than storm water). Non-storm water includes illicit discharges, non-prohibited discharges, and NPDES permitted discharges.

NOT - Notice of Termination – Formal notice to the Regional Board of intent to terminate water discharge for projects covered under a General Stormwater Permit.

Nuisance – As defined in the Porter-Cologne Water Quality Control Act a nuisance is "anything which meets all of the following requirements: 1) Is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. 2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. 3) Occurs during, or as a result of, the treatment or disposal of wastes."

Numeric Effluent Limitations – A quantitative limitation on pollutant concentrations or levels to protect beneficial uses and water quality objectives of a water body.

Nurdles – A plastic pellet (typically less than 5 mm diameter) also known as pre-production plastic pellet or plastic resin pellet.

Open Space - Any parcel or area of land or water that is essentially unimproved or devoted to an open-space use for the purposes of (1) the preservation of natural resources, (2) the managed production of resources, (3) outdoor recreation, or (4) public health and safety. [Riverside County General Plan, adopted October 7, 2003. Technical Appendix A , Glossary]

Order – Order No. R8-2010-0036 (NPDES No. CAS618036)

Outfall - Means a Point Source as defined by 40 CFR 122.2 a, the point where a municipal separate storm sewer discharges to Waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels, or other conveyances which connect segments of the same stream or other Waters of the United States and are used to convey Waters of the United States. [40 CFR 122.26 (b)(9)]

PAH (Polycyclic aromatic hydrocarbon) – are hydrocarbons that consist of fused aromatic rings. PAHs occur in oil, coal, and tar deposits, and are produced as byproducts of fuel burning (whether fossil fuel or biomass). PAHs are persistent, bioaccumulative, and toxic (PBT) pollutants. Though exposure usually occurs by breathing contaminated air, other sources include industrial processes, transportation, energy production and use, and disposal activities.

PCBs - Polychlorinated biphenyls. Due to PCB's toxicity and classification as persistent organic pollutants, PCB production was banned by the United States Congress in 1976 and by the Stockholm Convention on Persistent Organic Pollutants in 2001.

Party – Defined as an individual, association, partnership, corporation, municipality, state or federal agency, or an agent or employee thereof. [40 CFR 122.2]

Permittees – Co-permittees and the Principal Permittee

Person – A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. [40 CFR122.2].

Point Source – Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other

floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant – Any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated. It includes any type of industrial, municipal, and agricultural waste discharged into water. The term "pollutant" is defined in section 502(6) of the Clean Water Act as follows: "The term 'pollutant' means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water." It has also been interpreted to include water characteristics such as toxicity or acidity.

Pollutants of Concern – A list of potential pollutants to be analyzed for in the Monitoring and Reporting Program. This list shall include: TSS, total inorganic nitrogen, total phosphorus, soluble reactive phosphorus, acute toxicity, fecal coliform, total coliform, pH, and chemicals/potential Pollutants expected to be present on the project site. In developing this list, consideration should be given to the chemicals and potential Pollutants available for storm water to pick-up or transport to Receiving Waters, all Pollutants for which a waterbody within the Permit Area that has been listed as impaired under CWA Section 303(d)), the category of development and the type of Pollutants associated with that development category. It also refers to pollutants for which water bodies are listed as impaired under CWA section 303(d), pollutants associated with the land use type of a development, and/or pollutants commonly associated with urban runoff. Pollutants commonly associated with urban runoff include total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (decaying vegetation, animal waste, and anthropogenic litter).

Pollution – As defined in the Porter-Cologne Water Quality Control Act, pollution is "the alteration of the quality of the Waters of the U.S. by waste, to a degree that unreasonably affects either of the following: 1) The waters for beneficial uses; or 2) Facilities that serve these beneficial uses." Pollution may include contamination.

Pollution Prevention – Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control, treatment, or disposal.

Post-Construction BMPs – A subset of BMPs including structural and non-structural controls which detain, retain, filter, or educate to prevent the release of pollutants to surface waters during the final functional life of development.

POTW [Publicly Owned Treatment Works] – Wastewater treatment facilities owned by a public agency.

Principal Permittee – San Bernardino County Flood Control District

Priority Development Projects - New development and redevelopment project categories listed in Section XI.D.4 of Order No. R8-2010-0036.

Rainy Season – October 1 through May 31st of each year.

Receiving Waters – Waters of the United States within the Permit area.

Receiving Water Limitations – Waste discharge requirements issued by the SARWQCB typically include both: (1) "Effluent Limitations" (or "Discharge Limitations") that specify the technology-based or water-quality-based effluent limitations; and (2) "Receiving Water Limitations" that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the "Receiving Water Limitations" provision is the provision used to implement the requirement of CWA section 301(b)(1)(C) that NPDES permits must include any more stringent limitations necessary to meet water quality standards.

Redevelopment - The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing and reconfiguring surface parking lots and existing roadways; new sidewalk construction, pedestrian ramps, or bike lane on existing roads; and routine replacement of damaged pavement, such as pothole repair.

Sediment – Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

SIC [Standard Industrial Classification] – Four digit industry code, as defined by the US Department of Labor, Occupational Safety and Health Administration. The SIC Code is used to identify if a facility requires coverage under the General Industrial Activities Storm Water Permit.

Significant Redevelopment –The addition or creation of 5,000, or more, square feet of impervious surface on an existing developed site. This includes, but is not limited to, construction of additional buildings and/or structures, extension of the existing footprint of a building, construction of impervious or compacted soil parking lots. Significant Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, the original purpose of the constructed facility or emergency actions required to protect public health and safety.

Site Design BMPs – Any project design feature that reduces the creation or severity of potential pollutant sources or reduces the alteration of the project site's hydrology. Redevelopment projects that are undertaken to remove pollutant sources (such as existing surface parking lots and other impervious surfaces) or to reduce the need for new roads and other impervious surfaces (as compared to conventional or low-density new development) by incorporating higher densities and/or mixed land uses into the project design, are also considered site design BMPs.

Small Municipal Separate Storm Sewer System (Small MS4)[91] – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that are:

(i) Owned or operated by the United States, a State, city, town, boroughs, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.

(ii) Not defined as "large" or "medium" municipal separate storm sewer systems

(iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings. (40 CFR §122.26(b)(16))

Source Control BMPs – In general, activities or programs to educate the public or provide low cost non-physical solutions, as well as facility design or practices aimed to limit the contact between Pollutant sources and storm water or authorized Non-Storm Water. Examples include: activity schedules, prohibitions of practices, street sweeping, facility maintenance, detection and elimination of IC/IDs, and other non-structural measures. Facility design (structural) exarnples include providing attached lids to trash containers, canopies for fueling islands, secondary containment, or roof or awning over material and trash storage areas to prevent direct contact between water and Pollutants.

Southern California Stormwater Monitoring Coalition (SMC)

State Board – California State Water Resources Control Board

Storm Water – Per 40 CFR 122.26(b)(13), means storm water runoff, snowmelt runoff and surface runoff and drainage.

Storm Water General Permits – General Permit-Industrial (State Board Order No. 97-03 DWQ, NPDES No. CAS000001), General Permit-Construction (State Board Order No. 99-08 DWQ, NPDES No. CAS000002), and General Permit-Small Linear Underground Projects (State Board Order No. 2003-0007-DWQ, NPDES No. CAS000005).

Structural BMPs – Physical facilities or controls that may include secondary containment, treatment measures, (e.g. first flush diversion, detention/retention basins, and oil/grease separators), run-off controls (e.g., grass swales, infiltration trenches/basins, etc.), and engineering and design modification of existing structures.

SWAMP (Surface Water Ambient Monitoring Program)

SWPPP [Storm Water Pollution Prevention Plan] – Plan to minimize and manage Pollutants to minimize Pollution from entering the MS4, identifying all potential sources of Pollution and describing planned practices to reduce Pollutants from discharging off the site.

[91] State Water Resources Control Board (SWRCB) Water Quality Order No. 2003-005-DWQ, Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (General Permit)

TDS – Total dissolved solids.

Time of concentration - the time that it takes for storm runoff to travel from the most hydraulically remote point of the watershed to the outlet.

Total Maximum Daily Load (TMDL) – The TMDL is the maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under Clean Water Act Section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

TMDL Implementation Plan -- Component of a TMDL that describes actions, including monitoring, needed to reduce Pollutant loadings and a timeline for implementation. TMDL Implementation Plans can include a monitoring or modeling plan and milestones for measuring progress, plans for revising the TMDL if progress toward cleaning up the waters is not made, and the date by which Water Quality Standards will be met (USEPA Final TMDL Rule: Fulfilling the Goals of the CWA, EPA 841-F-00-008, July 2000).

Toxicity – Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Treatment Control BMPs – Any engineered system designed and constructed to remove pollutants from urban runoff. Pollutant removal is achieved by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

TSS – Total suspended solids.

Urban Runoff – Urban runoff is defined as all flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) authorized non-storm water discharges (See Section V of the Order) (dry weather flows).

USEPA – United States Environmental Protection Agency

Waste – As defined in California Water Code Section 13050(d), "waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal."

Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system which applies to solid and semi-solid waste which cannot be discharged directly or indirectly to water of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, nonhazardous solid waste, and inert waste.

Waste Discharge Requirements – As defined in Section 13374 of the California Water Code, the term "Waste Discharge Requirements" is the equivalent of the term "permits" as used in the Federal Water Pollution Control Act, as amended. The Regional Board usually reserves reference to the term "permit" to Waste Discharge Requirements for discharges to surface Waters of the U.S.

Waste Load Allocations (WLA) – Maximum quantity pollutants a discharger of waste is allowed to release into a particular waterway, as set by a regulatory authority. Discharge limits usually are required for each specific water quality criterion being, or expected to be, violated. Distribution or assignment of TMDL Pollutant loads to entities or sources for existing and future point sources.

Water Quality Assessment – Assessment conducted to evaluate the condition of non-storm water and storm water discharges, and the water bodies which receive these discharges.

Water Quality-Based Effluent Limits (WQBEL) - A value determined by selecting the most stringent of the effluent limits calculated using all applicable water quality criteria (e.g., aquatic life, human health, and wildlife) for a specific point source to a specific receiving water for a given pollutant.

Water Quality Criteria - comprised of numeric and narrative criteria. Numeric criteria are scientifically derived ambient concentrations developed by EPA or states for various pollutants of concern to protect human health and aquatic life. Narrative criteria are statements that describe the desired water quality goal.

Water Quality Objective – The limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area. [California Water Code Section 13050(h)]

Water Quality Standards – are defined as the beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.,) of water and the water quality objectives necessary to protect those uses.

Waters of the United States – Waters of the United States can be broadly defined as navigable surface waters and all tributary surface waters to navigable surface waters. Groundwater is not considered to be a Waters of the United States.

As defined in 40 CFR 122.2, the Waters of the U.S. are defined as: (a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate "wetlands;" (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition: (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

Watershed – That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

WDID [Waste Discharge Identification] – Identification number provided by the State when a Notice of Intent is filed.

WQMP – Water Quality Management Plan. A plan developed to mitigate the impacts of urban runoff from Priority Development Projects.

Wet Season – October 1 through May 31st of each year, except where specifically defined otherwise in an approved TMDL Implementation Plan.

Attachment 5: MONITORING AND REPORTING PROGRAM NO. R8-2010-0036 NPDES NO. CAS618036 FOR THE SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT, THE COUNTY OF SAN BERNARDINO, AND THE INCORPORATED CITIES OF SAN BERNARDINO COUNTY WITHIN THE SANTA ANA REGION

AREA-WIDE URBAN AND STORM WATER RUNOFF

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

RECEIVING WATERS AND URBAN RUNOFF MONITORING AND REPORTING PROGRAM NO. R8-2010-0036
NPDES NO. CAS618036
FOR
THE SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT, THE COUNTY OF SAN BERNARDINO, AND THE INCORPORATED CITIES OF SAN BERNARDINO COUNTY WITHIN THE SANTA ANA REGION
AREA-WIDE URBAN STORM WATER RUNOFF MANAGEMENT PROGRAM

I. GENERAL

A. Revisions of the monitoring and reporting program are appropriate to ensure that the Permittees are in compliance with requirements and provisions contained in this Order. Revisions may be made under the direction of the Executive Officer at any time during the term of this Order, and may include redistribution of monitoring resources to address TMDL needs, a reduction or increase in the number of parameters to be monitored, the frequency of monitoring, or the number and size of samples collected.

B. The Permittees identified a priority list of pollutants of concern in the watershed based on the findings of water quality monitoring efforts conducted during previous permit terms. These pollutants and their order of priority from high to low were: (1) high priority – bacteria; (2) medium priority - metals (zinc, copper, lead); and (3) low priority - nutrients, TSS and COD. This priority ranking provides the basis for a risk-based approach to stormwater management to direct resources to the most important water quality monitoring activities.

C. All sample collection, handling, storage, and analysis shall be in accordance with 40 CFR Part 136 (latest edition) "*Guidelines Establishing Test Procedures for the Analysis of Pollutants*," promulgated by the USEPA, the guidance being developed by the State Board pursuant to Water Code Section 133383.5, or other methods which are more sensitive than those specified in 40 CFR 136 and approved by the Executive Officer, or methods documented in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP).

D. The Executive Officer is authorized to allow the Permittees to participate in statewide, national, or other monitoring programs in lieu of or in addition to this monitoring program. In addition, the Permittees are authorized to complement their urban runoff monitoring data with data from other monitoring sources, provided the monitoring conditions and sources are similar to those in the permitted area.

E. There are two types of monitoring programs that will be referenced and described in this Monitoring and Reporting Program (MRP):

1. An Integrated Watershed Monitoring Program (IWMP) that is to be developed under this MRP. The existing core storm water monitoring program (Core Monitoring) is an integral part of the IWMP. The Core Monitoring program shall be implemented until the new IWMP developed under this order is approved by the Executive Officer; and
2. Regional monitoring efforts where the Permittees participate or make monetary contributions, including TMDL-related monitoring.

F. The Permittees must coordinate monitoring efforts with other entities discharging into the Middle Santa Ana River Watershed and the Big Bear Lake Watershed. Ideally, all monitoring efforts should conform to the same quality assurance, data management, validation, and verification standards, therefore a single coordinated watershed Quality Assurance Program Plan (QAPP) should be used for all monitoring efforts. A previously developed QAPP may be used if an appropriate document exists, such as the Middle Santa Ana River Pathogen TMDL – BMP Implementation QAPP, otherwise a QAPP must be developed for this purpose. The Permittees should cooperate, as appropriate, with other MS4 Permittees (including those in Orange County and Riverside County) in the development of the QAPP, regional monitoring efforts, creation and maintenance of databases, and special studies.

G. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both [40 CFR 122.41(j)(5)]

H. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.

I. For priority toxic pollutants that are identified in the California Toxics Rule (CTR) (65 Fed. Reg. 31682), the Minimum Levels (MLs) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) shall be used for all analyses, unless otherwise specified.

J. The selected water quality monitoring parameters should have a direct relationship to the designated beneficial uses in the receiving waters being monitored.

K. Metals analyses shall be performed on filtered samples in order to obtain concentration of the metals in the dissolved fraction. The detection limits for the metals analyses shall be low enough to allow for a direct comparison to the metal's criteria in the California Toxics Rule.

L. To the extent practicable, all monitoring data and monitoring locations should be integrated into the San Bernardino County GIS database system.

II. OBJECTIVES

A. Objectives: The overall goal of these monitoring programs is to provide data to support the development of an effective watershed and key environmental resources management program that focuses resources on the priority list of pollutants of concern, as defined by the risk-based analysis described in Section I, above, and Finding II.E.22 of Order No. R8-2010-0036. The following are the major objectives:

1. To provide data to support the development of an effective municipal urban runoff pollutant source control program.
2. To determine water quality status, trends, and pollutants of concern associated with urban runoff and their impact on the beneficial uses of the receiving waters. This includes determining current conditions in the receiving waters including the extent and magnitude of any impairments, and relative urban runoff contribution to the impairment.
3. To assist in identifying the sources of the priority list of pollutants of concern in urban runoff to the maximum extent practicable (e.g., including, but not limited to atmospheric deposition, contaminated sediments, other non-point sources, etc.)
4. To characterize pollutants associated with urban runoff and to assess the influence of urban land uses on receiving water quality
5. To evaluate the effectiveness of existing urban runoff water quality management programs, including an estimate of pollutant reductions achieved by the treatment and source control BMPs implemented by the Permittees.
6. To detect illegal discharges and illicit connections to the MS4s so they can be responded to or eliminated.
7. To identify those waters, which without additional action to control pollution from urban storm water discharges, cannot reasonably be expected to attain or maintain applicable water quality objectives in the Basin Plan.
8. To identify and prioritize the most significant water quality problems resulting from urban runoff. Order No. R8-2010-0036 establishes new program monitoring priorities through the development and implementation of a risk-based, outcome-oriented, compliance-focused program. Monitoring and sampling data shall be used to identify and prioritize the most significant water quality problems in receiving waters.
9. To evaluate costs and benefits of proposed municipal storm water quality control programs to the stakeholders, including the public.

B. The Regional Board recognizes that program modifications may be necessary to attain these objectives. The Executive Officer is hereby authorized to evaluate and to determine adequate progress toward meeting each objective and to make any modifications to the monitoring and reporting program.

III. QUALITY ASSURANCE PROGRAM PLAN (QAPP)

A. Except for TMDL monitoring where TMDL specific quality assurance plans[1,2] have been developed or will be developed, the Permittees shall submit to the Executive Officer of the Regional Board for review and approval a quality assurance/quality control plan that has been developed by qualified professionals with experience in US EPA's and California's SWAMP QAPP guidelines.

B. The QAPP shall and address all elements for the SWAMP QAPP guidelines. Data collection, field and laboratory protocol, measurements, and analysis shall be compatible with SWAMP Quality Assurance Management Plan (QAMP[3]) and with Procedures for Conducting Routine Field Measurement.

C. Where procedures are not otherwise specified in this MRP, sampling, analysis and quality assurance/quality control must be conducted in accordance with the QAMP for SWAMP.

D. For priority toxic pollutants, if the Permittees can demonstrate that a particular ML (Minimum Level) is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Principal Permittee must submit documentation from the laboratory to the Regional Water Board Executive Officer for approval prior to utilizing a ML that is not consistent with the MLs in the SIP.

E. The indicators of water quality selected for monitoring shall be representative of the beneficial uses in the receiving water bodies in the permittees jurisdiction.

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[1] SAWPA, Quality Assurance Project Plan for the Middle Santa Ana River Pathogen TMDL-BMP Implementation Project, April 3, 2008

[2] Big Bear Municipal Water District, Integrated Total Maximum Daily Load Implementation Program for Big Bear Lake, Quality Assurance Project Plan, April 24, 2006

[3] See State Board's SWAMP at http://www.swrcb.ca.gov/water_issues/programs/swamp/qamp.shtml

IV. INTEGRATED WATERSHED MONITORING PROGRAM (IWMP)

A. GENERAL

1. Within 12 months of adoption of this Order, the Principal Permittee, in coordination with the Co-Permittees shall review, revise as needed, and submit an Integrated Watershed Monitoring Plan (IWMP) for review and approval by the Executive Officer. At a minimum, the IWMP shall include the essential elements specified below. The IWMP shall identify all the monitoring programs, along with implementation and reporting schedules that are conducted or participated in to fulfill the monitoring objectives of this Order. The approved IWMP shall be implemented within six months of approval by the Executive Officer. In the interim, the Permittees shall continue to implement the Core Monitoring program approved under the third-term permit and any additional monitoring required under this Order.

B. COMPONENTS OF AN INTEGRATED WATERSHED MONITORING PROGRAM:

The IWMP shall, at a minimum, include the following components:

1. **EXISTING CORE MONITORING** - The current municipal stormwater monitoring for San Bernardino County until it is modified by the IWMP. This consists of receiving water monitoring and monitoring within the MS4s (See Figure 1).

   a. Receiving Water Monitoring:

      Permittees shall select a number of representative receiving water locations within their jurisdiction. These locations should be close to MS4 discharge points and should include locations where chronic and/or persistent water quality problems have been identified. The objective of receiving water monitoring is to determine if urban runoff is causing or contributing to violations of water quality standards in the receiving waters.

   b. Monitoring within MS4s:

      Permittees shall select a number of representative locations (representative of flow, duration, pollutant loads, etc.) within storm water conveyance systems within their jurisdiction. The objective of this monitoring element is to determine the pollutant loads from the MS4s and to determine their trend. This monitoring requirement maybe combined with the mass emissions monitoring described in 2, below.

2. **URBAN DISCHARGE MASS EMISSIONS MONITORING:**

   a. Representative outfall locations shall be identified and monitored to achieve the following objectives:

i. To estimate the total mass emissions of pollutants of concern from the MS4 to receiving waters.

ii. To assess trends in mass emissions associated with urban storm water runoff from the MS4s over time and evaluate potential correlations between any trends in mass emission and land use and population changes.

iii. To determine if the MS4 is contributing to exceedances of water quality standards, by comparing outfall and receiving water results to: (1) Basin Plan Water quality Objectives (WQOs); (2) EPA storm water benchmarks contained in the EPA Multi-Sector Industrial Storm Water Permit; (3) California Toxic Rule (CTR); and (4) other MS4 discharge monitoring data.

b. At least two samples shall be collected from the monitoring locations identified in a, above, during dry weather conditions and one sample from the first storm event of the rainy season (October 1 to May 31) and two more samples during subsequent storm events. The mass emissions monitoring locations shall be monitored for:

i. The flow in cubic feet per second (cfs) (the flow may be estimated);

ii. The samples from the first storm event and one of the dry weather samples shall be analyzed for the entire suite of priority pollutants. All samples must be analyzed for E. coli, nutrients (nitrates and nitrites, potassium, and phosphorous), metals, pH, TSS, TOC, organophosphorus pesticides/herbicides, and any other constituents that are known to have contributed to impairment of local receiving waters by inclusion on the 303(d) list. Dry weather samples shall be also analyzed for total petroleum hydrocarbons (EPA Method 8015M - direct injection) and oil and grease.

iii. A mass loading model shall be used to calculate the mass loadings and to the extent practicable the data shall be integrated into the San Bernardino County GIS database system.

3. ILLEGAL DISCHARGE/ILLICIT CONNECTION MONITORING

a. The Permittees shall review and update their dry and wet weather reconnaissance strategies to identify and eliminate illegal discharges and illicit connections using the Guidance Manual for Illicit Discharge, Detection, and Elimination developed by the Center for Watershed Protection[4] or any other equivalent program. The Permittees should identify appropriate monitoring locations, such as geographic areas with a high density of industries associated with gross pollution (e.g. electroplating industries, auto dismantlers) and/or locations subject to maximum sediment loss (e.g. hillside new developments).

[4] USEPA (Illicit Discharge Detection and Elimination - A Guidance Manual for Program Development and Technical Assessments) by the Center for Watershed Protection and Robert Pitt, University of Alabama, October 2004, updated 2005).

b. The dry weather monitoring for nitrogen and total dissolved solids shall be included as part of the illegal discharge/illicit connection monitoring program. In light of the recently adopted Nitrogen-TDS objectives for certain management zones, the Permittees shall, within 18 months of Permit adoption, submit a plan to determine baseline concentration of these constituents in dry weather runoff, if any, from significant outfall locations (36 inches or larger in diameter).

4. HYDROMODIFICATION MONITORING PLAN (HMP)

This Order requires development and implementation of a Hydromodification Monitoring Plan as part of the Watershed Action Plan (WAP) to evaluate hydromodification impacts for the drainage channels deemed most susceptible to degradation, and, where applicable the effectiveness of BMPs in preventing or reducing impacts from hydromodification within the permitted area. (Some or all of the following requirements may be satisfied by the Permittees participation in the "Development of Tools for Hydromodification Assessment and Management' Project" undertaken by the SMC and coordinated by SCCWRP).

a. The Order requires the Permittees to develop a WAP within 12 months of Permit adoption (phase 1) and 12 months following approval of phase 1 (phase 2). The WAP should identify vulnerable streams and possible control measures to minimize hydrologic changes and tools to measure any impacts on geomorphology and aquatic resources.

b. The HMP shall include:

   i. Protocols for ongoing monitoring to assess drainage channels deemed most susceptible to degradation, and to assess the effectiveness in preventing or reducing impacts from hydromodification within the permitted area.

   ii. Models to predict the effects of urbanization on stream stability within the permitted area.

5. SOURCE IDENTIFICATION AND SPECIAL STUDIES

a. The ROWD identified a priority list of pollutants of concern in the watershed based on the findings of water quality monitoring efforts. These pollutants and their order of priority from high to low were: (1) high - bacteria, (2) medium - metals (zinc, copper, lead), (3) low - nutrients (nitrate as nitrogen, total phosphorus), TSS and COD. During the Permit term, the Permittees shall assess each of the pollutants considered a concern (except bacteria, which is already being addressed by a TMDL) and prepare a strategic plan for addressing each pollutant. For some pollutants such as the metals, special studies for the development of site-specific objectives or total recoverable/ dissolved translators may be necessary.

b. During the third-term permit, a Pollutant Source Investigation and Control Plan[5] was developed and implemented to investigate elevated pollutant concentrations of coliform bacteria, zinc, copper and lead at Site 5. This Order requires continued implementation of the plan, including annual reporting and BMP effectiveness evaluation for the Site 5 drainage area.

V. REGIONAL WATERSHED MONITORING

A. Regional watershed monitoring refers to the collaboration among many agencies in and around southern California in addition to municipal stormwater agencies that are interested in watershed to regional scale monitoring. Regional monitoring can be used to assess the cumulative results of anthropogenic and natural effects on the environment and provides opportunities for comparison of the different stormwater agencies' monitoring to determine the breadth and depth of human impacts and natural variability found throughout southern California's watersheds. See Section V.B.3 below for Regional Bioassessment monitoring,

1. Some of these regional monitoring programs include the Statewide Ambient Monitoring Program (SWAMP), State Wetland's Recovery Project, USEPA Environmental Monitoring and Assessment Program (EMAP), and US Geological Survey's National Water Quality Assessment Program (NAWQA).
2. A number of regional organizations continue work in the Santa Ana River Watershed area, including the SWQSTF, SMC, SCCWRP, and universities. Participation in water-related studies or planning efforts, which may include monitoring, provides valuable information for the area-wide monitoring program. The Permittees shall participate in these regional efforts including the following:
   a. TMDL Monitoring
   b. Low Impact Development BMP Monitoring
   c. Regional Bioassessment Monitoring (SCCWRP Technical Report 539)

B. Regional Monitoring Plans

1. TMDL/WLA MONITORING

The Permittees shall continue to participate in TMDL monitoring programs to determine compliance with the waste load allocations (WLAs). The compliance schedules for the approved TMDLs within the permitted area are beyond the five-year permit term. This Order requires Permittees to conduct monitoring to determine the effectiveness of the BMPs implemented in reducing pollutant loads and eventually to attain WLAs by the deadlines specified in the TMDL implementation plans.

[5] 2005-2006, 2006-2007, 2007-2008 Annual Reports

Since the compliance dates for the TMDLs in this Order are outside the five-year term of this Order, the Permittees are required to monitor and report effectiveness of the BMPs specified in the TMDL Implementation Plans and this Order with respect to pollutant reduction goal(s) as one measure of progress towards attainment of WLAs in accordance with the compliance schedules specified in the TMDL Implementation Plans. If water quality standards in the impaired receiving waters are met through implementation of appropriate control measures, this would constitute compliance with the WLAs.

a. MSAR Bacteria TMDL/WLA Monitoring Plan (Figures 2 & 3)

i. On June 14, 2007, the TMDL task force members submitted a source evaluation plan and a monitoring plan. The Regional Board approved these plans on June 29, 2007, Resolution No. R8-2007-0046. A revised monitoring plan and an urban bacterial indicator source evaluation plan were approved by the Regional Board on April 18, 2008, Resolution No. R8-2008-0044 (See Figures 2 and 3). The MSAR Permittees within the MSAR watershed shall continue to conduct monitoring and source evaluations in accordance with the approved plans and report the findings in accordance with the schedules specified in the approved plans or as updated by subsequent Regional Board approved revisions.

ii. In conformance with Task 3 of the TMDL Implementation Plan contained in Resolution R8-2005-0001, the Permittees shall individually, or in conjunction with the MSAR TMDL Task Force, prepare a triennial report summarizing the data collected for the preceding 3 year period and evaluating compliance with the WLAs. The first report shall be due February 15, 2010.

iii. The Pemittees shall conduct monitoring and reporting consistent with Section V.D. of this Order to evaluate the effectiveness of the BMPs implemented in the watershed and determine their progress towards attaining compliance with the interim WQBELs, and final BMP-based WQBELS, if approved, or the final numeric WQBELS/WLAs.

b. Big Bear Lake Watershed Wide Nutrient Monitoring Plan (Figure 4)

i. For each year of in-lake nutrient and water quality monitoring under the approved plans[6], the results shall be summarized in an annual report and submitted to the Executive Officer. The Big Bear Lake Nutrient TMDL annual report is due to the Executive Officer by February 15th of each year.

ii. Currently, the Big Bear Lake MS4 Permittees are meeting the WLAs. In the future, continued compliance with the phosphorus WLA will be determined by watershed modeling. By March 31, 2010, the Big Bear Lake MS4 Permittees shall submit a final watershed modeling plan that is ready to be

[6] The 2006 Integrated TMDL Implementation Program for Big Bear Lake QAPP applies to the existing monitoring plans: Big Bear Lake Monitoring Plan, Tributary Monitoring Plan, East End Nutrient/Sediment Removal Monitoring Plan, and Bacteria Monitoring Plan

implemented and that details how the WLA will be determined and evaluated in future years. Upon approval by the Executive Officer, this watershed modeling plan shall be used to determine compliance with the WLA. The Big Bear Lake MS4 Permittees shall select a watershed model that best fits the conditions they are modeling and document the basis for that selection. Data collected under the approved watershed monitoring program shall be evaluated by the Big Bear Lake MS4 Permittees to determine if it falls within the range of dry hydrological conditions as specified in the Nutrient TMDL. The Big Bear Lake MS4 Permittees shall utilize data collected from the monitoring locations specified in the watershed monitoring program approved on May 22, 2009, as well as any other data that are deemed necessary to calibrate and validate the watershed model. The Big Bear Lake MS4 Permittees will document the basis for the selection of the model, the data evaluation and selection process, and the model calibration/validation process. The Big Bear Lake MS4 Permittees or the Big Bear TMDL Task Force, shall provide the results of the first model update by February 15, 2011, and every three years thereafter.

iii. An iterative approach is appropriate to demonstrate compliance with the phosphorus WLA in drainage areas tributary to Big Bear Lake.

iv. If watershed modeling determines exceedances of the phosphorus WLA, despite implementation of the lake management plan and the MSWMP and other requirements of this Order, the Big Bear Lake MS4 Permittees shall comply with the following procedure:

1. Each Big Bear Lake MS4 Permittee[7] upstream of the monitoring locations shall evaluate and characterize discharges from its significant outfall locations.
2. The Big Bear Lake MS4 Permittees[8] shall submit a report with proposed actions to the Executive Officer that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce pollutants that are causing or contributing to the exceedances of the WLA.
3. The report may be incorporated into the storm water annual report.

2. LOW IMPACT DEVELOPMENT (LID) BMP MONITORING

The Principal Permittee shall continue to participate in data collection and monitoring to assess the effectiveness of LID techniques in semi-arid climate as part of the SMC project titled, "Quantifying the Effectiveness of Site Design/ Low Impact Development Best Management Practices in Southern California".

[7] This task may be completed by the Big Bear TMDL Task Force.
[8] This task may be completed by the Big Bear TMDL Task Force.

3. REGIONAL BIOASSESSMENT MONITORING (SCCWRP TECHNICAL REPORT 539[9])

The Principal Permittee, on behalf of the co-Permittees, participates (through a memorandum of understanding and cooperative agreements) with the 16 member agencies of the Storm Water Monitoring Coalition (SMC) Bioassessment Working Group to conduct bioassessments on a regional basis. The Principal Permittee in coordination with SCCWRP shall ensure that a sufficient number of monitoring stations are selected for this program from locations within the permitted area.

a. The objectives of the Regional Watershed Monitoring Program overseen by the State Board's Storm Water Ambient Monitoring Program (SWAMP) and the Storm Water Monitoring Coalition (SMC) and coordinated by the Southern California Coastal Water Research Project (SCCWRP) are:
   i. To assess the current status of streams in Southern California.
   ii. To identify major stressors to aquatic life.
   iii. To monitor the trend in water quality in Southern California streams.

b. The Principal Permittee, in collaboration with the SMC, shall conduct sampling, analysis, and reporting of specified instream biological and habitat data within the 5-year permit cycle according to the protocols specified in the SCCWRP Tech Report No. 539.

c. The bioassessment shall provide information about the biological integrity of receiving waters. Baseline and trend monitoring information on the biotic and geomorphological condition of the receiving waters shall be used to evaluate the effectiveness of the storm water pollution control measures.

d. The sampling sites in each watershed unit were determined according to distribution or abundance of the three land uses: urban, agriculture, or open. Within the San Bernardino County permitted area (considered as 1.5 watershed unit), the Principal Permittee, shall ensure the collection of at least 9 samples/year.

e. Sampling events shall be conducted between 4 to 12 weeks following the last significant rainfall. No sampling shall occur within 72 hours of any measurable rainfall. The default index period will be from May 15 to July 15.

f. For long-term trend monitoring, the Principal Permittee shall ensure the collection of a minimum of one sample per year during the dry weather index period from Station ID WW-S1, Santa Ana River Reach 3 at the MWD crossing. Additional samples may be collected to improve data quality for trend analysis.

[9] "The Regional Monitoring of Southern California's Watershed SMC Bioassessment Working Group", SCCWRP, Technical Report No. 539, December 2007

At a minimum, water chemistry and aquatic toxicity should be used as indicators for trend analysis.

g. The SCCWRP Technical Report No. 539 specifies six indicators as assessment tools, including aquatic toxicity using *Ceriodaphnia dubia*, water flea. The aquatic toxicity studies shall be conducted using USEPA approved methods. If conductivity is too high for survival of control organisms, then *Hyalella spp*, freshwater amphipod, may be used as a test species.

VI. RECORD KEEPING REQUIREMENTS

A. All monitoring activities shall meet the following requirements :

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR 122.41(j)(1)]. Samples and measurements taken to meet the requirements of this permit shall be representative of the volume and nature of the monitored discharge, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality in the case of storm channels and flow quality in the case of streams and lakes. Representative sampling also includes development of a testable hypothesis, appropriate site selection, applicable and accepted sampling methodologies, laboratory methods, and frequency of sampling.

2. The Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports prepared as per this MRP and records of all data used to complete the Report of Waste Discharge and annual reports for a period of at least five years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or USEPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge [40 CFR 122.41(j)(2), CWC section 13383(a)].

3. Records of monitoring information shall include [40 CFR 122.41(j)(3)]:
   a. The date, exact place, and time of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

4. Calculations for all effluent limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this MRP [40 CFR 122.41(l)(4)(iii)].

5. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both [40 CFR 122.41(k)(2)].

VII. PROGRAM EFFECTIVENESS ASSESSMENT AND REPORTING

A. All progress reports and proposed strategies and plans required by this order shall be signed by the Principal Permittee, and copies shall be submitted to the Executive Officer under penalty of perjury.

B. The Principal Permittee has been monitoring urban runoff and receiving waters since the first MS4 permit term. It is recognized that some of the objectives noted in Section II may not have been fully attained during the previous MS4 permit terms. With the first annual report due after adoption of this Order, the Principal Permittee must submit an evaluation of the progress achieved to date and propose modifications to the monitoring program to achieve full compliance with the objectives of this monitoring program, discussed in Section II.

C. The Permittees shall be responsible for the timely submittal to the Principal Permittee of all required information/materials needed to comply with this Order. All such submittals shall be signed by a duly authorized representative of the Permittee under penalty of perjury.

D. The data transmittals to the Regional Board shall be in the form developed by the Storm Water Monitoring Coalition (SMC) and approved by the State Water Resources Control Board in the document entitled "Standardized Data Exchange Formats". This document was developed in order to provide a standard format for all data transfer so that data can be universally shared and evaluated from various programs.

E. The Permittees shall submit an annual progress report to the Executive Officer and to the Regional Administrator of the USEPA, Region 9, no later than November 15th, of each year. This progress report may be submitted in a mutually agreeable electronic format. At a minimum, annual progress report shall include the following:

1. A review of the status of program implementation and compliance (or non-compliance) with the schedules contained in this Order;

2. An assessment of the effectiveness of control measures established under the illicit discharge elimination program and the Municipal Storm Water Management Plan (MSWMP). The effectiveness may be measured in terms of how successful the program has been in eliminating illicit/illegal discharges and reducing pollutant loads in storm water discharges;

3. As assessment of control measures and their effectiveness in addressing pollutants causing or contributing to an exceedance of water quality objectives in receiving waters that are on the 303(d) list of impaired waters. The effectiveness evaluation shall consider changes in land use and population on the quality of receiving waters and the impact of development on sediment loading within receiving waters and recommend necessary changes to program implementation and monitoring needs.

4. The annual report shall include an overall program assessment. The Permittees are encouraged to use the program assessment methodology described in the 2006 ROWD. The Permittees should determine, to the extent practicable, water quality improvements and pollutant load reductions resulting from implementation of various program elements. The Permittees may also use the "Municipal Storm Water Program Effectiveness Assessment Guidance" developed by the California Storm Water Quality Association in May 2007 as guidance for assessing program effectiveness at various outcome levels. The assessment should include each program element required under this Order, the expected outcome, and the measures used to assess the outcome. The Permittees may propose any other methodology for program assessment using measurable targeted outcomes.

5. The annual report shall include a status report on the development and implementation of the Hydromodification Monitoring Program developed as part of the WAP.

6. Each Permittee shall develop, update, implement, and review its local implementation plan (LIP) to address program modifications and improvements identified during the program assessment.

7. A summary and analysis of monitoring results from the previous year and any changes to the monitoring program for the following year;

8. A financial summary report as described in Section XIX.B of this order; including:
   a. Each Permittee's expenditures for the previous fiscal year;
   b. Each Permittee's budget for the current fiscal year;
   c. A description of the source of funds.

9. A draft workplan which describes the proposed implementation of the LIPs, and MSWMPs for next fiscal year. The workplan shall include clearly defined tasks, responsibilities, and schedules for implementation of the storm water program and each Permittee's action plans for the next fiscal year;

10. Major changes to any of the previously submitted plans/policies; and

11. An assessment of the Permittees compliance status with the Receiving Water Limitations, Section VI of the Order, including any proposed modifications to the MSWMP and WQMP if the Receiving Water Limitations are not fully achieved.

VIII. REPORTING SCHEDULE

All reports required by this Order shall be submitted to the Executive Officer in accordance with the following schedule:

Reporting Schedule (Order R8-2010-0036)			
Permit No.	**ITEM**	**COMPLETION TIME AFTER PERMIT ADOPTION OR FREQ.**	**REPORT DUE DATE**
III.A.1.n	Principal Permittee shall coordinate a review of areawide documents to determine the need for update or revisions	within 18 months of adoption of this Order	
III.A.1.0	Principal Permittee shall develop and implement a model Local Implementation Plan (LIP) each program element as described per the MSWMP	within 6 months of adoption of this Order	
III.A.2.a	Principal Permittee shall develop and implement a Principal Permittee-specific LIP, based on the areawide model LIP	within 18 months of adoption of this Order	
III.B.1	Permittees to develop and implement a Permittee-specific LIP for its jurisdiction. The LIP shall describe the Permittee's legal authority, its ordinances, policies and standard operating procedures; identify departments and personnel for each task and needed tools and resources.	within 18 months of adoption of this Order	
III.B.2.e	Each Permittee shall review and revise its MS4 facility maps	As needed	Annually
III.C	Permittees shall evaluate the storm water management structure and the Implementation Agreement and determine the need for any revision	As needed	Annually
V.D.1.a.ii	MSAR Permittees shall submit MSAR reports of watershed-wide monitoring program for wet and dry season respectively	May 31 and Dec 31	Starting in 2010, annually thereafter
V.D.1.a.iii	MSAR Permittees shall submit MSAR comprehensive reports	Feb 15	Starting in 2010 and every three years thereafter
V.D.1.a.iv	MSAR Permittees shall submit MSAR semi-annual reports	January 31 & July 31	Annually
V.D.1.a.v	MSAR Permittees shall revise MSWMP in accordance with MSAR-TMDL Implementation program	Nov 15, 2010	Annual report

Reporting Schedule (Order R8-2010-0036) Continued			
Permit No.	**ITEM**	**COMPLETION TIME AFTER PERMIT ADOPTION OR FREQ.**	**REPORT DUE DATE**
V.D.1.a.vi	MSAR Permittees shall revise the WQMP in accordance with MSAR-TMDL implementation program	Nov 15 of every year	Annual report
V.D.1.a.vii	MSAR Permittees shall amend the LID in accordance with the revised MSWMP/WQMP	Within 90 days after RB approves revisions	Nov 15 of each year
V.D.2.b.ii	MSAR Permittees shall prepare for approval the draft CBRP to achieve compliance for Dry Weather Conditions	December 31, 2010	
V.D.2.b.ii	MSAR Permittees shall submit Final version of CBRP	90 days after receiving comments from the Regional Board	
V.D.4.e	Big Bear Lake MS4 Permittees shall submit a plan of various in-lake treatment technologies	No later than February 26, 2010	
V.D.4.f	Big Bear Lake MS4 Permittees shall submit for approval a plan and schedule for updating the existing Big Bear Lake watershed nutrient model and the Big Bear Lake in-lake nutrient model	No later than March 31, 2010	
V.D.4.g	Big Bear Lake MS4 Permittees shall submit for approval a proposed plan and schedule for in-lake sediment nutrient reduction for Big Bear Lake	No later than April 15, 2010	
V.D.4.i	The Big Bear Lake-Lake Management Plan shall be reviewed and revised as necessary at least once every three years	As necessary, at least once every 3 years	
V.D.4.j	Big Bear Lake MS4 Permittees shall submit annual report summarizing data from water quality monitoring programs and evaluating compliance (Big Bear Lake TMDL)	February 15, 2010	Annually
V.D.2.b.ii	MSAR Permittees shall prepare for approval the draft CBRP to achieve compliance for Dry Weather Conditions	December 31, 2010	
V.D.4.k	Big Bear Lake MS4 Permittees shall submit final watershed modeling plan to be implemented (Big Bear Lake TMDL)	March 31, 2010	
V.D.4.k	Big Bear Lake MS4 Permittees shall provide results of the first model update	February 15, 2011	
V.D.4.l	Big Bear Lake MS4 Permittees shall revise MSWMP, WQMP, LIP as necessary	November 15	Annual report
V.D.4.m.2	Big Bear Lake MS4 Permittees shall submit report to EO describing BMPs to reduce sources of phosphorous	November 15	Annual report

Reporting Schedule (Order R8-2010-0036) Continued			
Permit No.	**ITEM**	**COMPLETION TIME AFTER PERMIT ADOPTION OR FREQ.**	**REPORT DUE DATE**
V.D.4.n	Revise LIP to incorporate requirements from TMDL implementation	As needed	As necessary
V.D.5.a	City of Big Bear Lake shall continues to implement Phase 2 monitoring program	on-going	on-going
VI.D	If there is discharge causing or contributing to exceedance, Permittees shall notify either by phone or by e-mail and, thereafter submit a report satisfying D.a to D.e	Within 30 calendar days	
VI.E	Permittees shall submit any modifications, if required by the Executive Officer	Within 30 calendar days of notification	
VI.F	Permittees shall revise the storm water management programs (MSWMP and LIP) and monitoring program to incorporate the additional BMPs that will be implemented	Within 60 calendar days following EO approval	
VII.D	Permittees shall promulgate ordinances that would specify control measures for known pathogen or bacterial sources such as animal wastes if those types of sources are present within their jurisdiction.	Within 3 years of Order adoption	
VII.F	The Permittees shall notify owners of other MS4 systems outside the Permittees' jurisdiction, regarding the regulatory requirements for control of pollutants in MS4 discharges and provide copy to the Regional Board.	Annually	
VII.G	The Permittees shall review water quality ordinances and evaluate effectiveness	Annually	Annual Report
VII.J	The Permittees shall submit a certification statement signed by legal counsel, that the Permittee has obtained all necessary legal authority	Within one (1) year of Order adoption	
VII.K	The Permittees shall review adequacy of ordinances, implementation and enforcement response procedures with respect to the above items.	Annually	Annual Report
VIII.A	The Permittees shall develop pro-active IC/ID Program		Annual Report
IX.F	Permittees with septic systems in their jurisdiction shall develop an inventory of septic systems within its jurisdiction and establish a program to ensure that failure rates are minimized	Within two years of Order adoption	
X.A.3	The Permittees shall update database and inventory system containing inspections, facilities	at least once/year	Annually

Reporting Schedule (Order R8-2010-0036) Continued			
Permit No.	**ITEM**	**COMPLETION TIME AFTER PERMIT ADOPTION OR FREQ.**	**REPORT DUE DATE**
X.A.4	The Permittees shall Develop risk-based, compliance focused strategy for inspection of construction, industrial, and municipal facilities	within 18 months of Order adoption	
X.A.12	The Permittees shall Document, evaluate and report the effectiveness of enforcement procedures in achieving prompt and timely compliance.	annually	Annual Report
X.D.6	The Permittees shall Principal Permittee shall notify all mobile businesses operating within the County concerning the minimum source control and pollution prevention measures	Within 36 months of adoption of this Order	
X.D.7	The Principal Permittee, in coordination with the Permittees shall develop an enforcement strategy to address mobile businesses	Within 36 months of adoption of this Order	
X.E.1	Each Permittee shall develop and implement a residential program to reduce the discharge of pollutants from residential facilities to the MS4s to the maximum extent practicable	Within 36 months of adoption of this Order	
X.E.7	The Permittees shall evaluate residential program effectiveness	First annual report after adoption of Order	Annual report
XI.B.3.a	The Principal Permittee shall develop a Watershed Action Plan, Phase 1	Within 12 months of adoption of this Order	
XI.B.3.b	The Principal Permittee shall develop a Watershed Action Plan, Phase 2	Within 12 months of approval of Exec, Officer of Phase 1 report.	

Reporting Schedule (Order R8-2010-0036) Continued			
Permit No.	**ITEM**	**COMPLETION TIME AFTER PERMIT ADOPTION OR FREQ.**	**REPORT DUE DATE**
XI.B.4	The Permittees shall review the watershed protection principles and policies in the General Plan or related documents (such as Development Standards & Project Guidance, Zoning Codes, Conditions of Approval,) to determine consistency with the Watershed Action Plan.	Within three years of Order adoption	Annual Report
XI.B.4	The Permittees shall report the above findings and schedule of revisions	Annually	Annual Report
XI.C.4	Each Permittee shall incorporate the results of the above information into its LIP and its project approval process.	Within 24 months of adoption of this Order	
XI.D.2	The Principal Permittee shall coordinate the revision of the WQMP Guidance and Template to include new elements required under this Order.	Within 18 months of adoption of this Order	
XI.E.1	Each Permittee shall identify barriers to implementing LID	Within 18 months of adoption of this Order	
XI.E.2	Each Permittee shall provide Regional Board a copy of its report to DWR on its updated landscaped ordinance.	Simultaneous with notification to DWR	
XI.E.5	The Permittees shall review and update the Water Quality Management Plan Guidance and Template to incorporate LID principles	Within 18 months of adoption of this Order	
XI.E.9	The Permittees shall submit a copy of the updated Water Quality Management Plan Guidance and Template for review and approval by the Executive Officer.	Within 18 months of adoption of this Order	
XI.F.1	The Permittees shall develop standard design and PCBMP guidance for municipal road projects	Within 24 months of adoption of this Order	
XI.G.1	Permittees may grant waiver of BMPs with justification documents to the EO	Within 30 days prior to Permittee approval	

Reporting Schedule (Order R8-2010-0036) Continued			
Permit No.	**ITEM**	**COMPLETION TIME AFTER PERMIT ADOPTION OR FREQ.**	**REPORT DUE DATE**
XI.H.1 & H.4	The Permittees shall develop and implement standard procedures and tools, such as WQMP checklist, project close-put procedures, and include in the LIP.	Within 18 months of adoption of this Order	
XI.I.2	The Permittees shall conduct follow-up inspection of the post-construction BMPs	Prior to the rainy season within 3 years	Every 3 years thereafter.
XI.J	The Permittees shall establish mechanism to track project ownership		Annual Report
XI.K.2	The Permittees shall develop a database to track operation and maintenance of post-construction BMPs.	Within 12 months of adoption of this Order	
XII.E	The Permittees shall develop and maintain BMP guidance for the control of those potentially polluting activities including guidelines for the household use of fertilizers, pesticides, herbicides and other chemicals, and guidance for mobile vehicle maintenance, carpet cleaners, commercial landscape maintenance, and pavement cutting.	Within 12 months of adoption of this Order	
XIII.E	The Permittees shall evaluate,the inspection and cleanout frequency of drainage facilities,	Annually	Annual report
XV.B	The Permittees shall notify the EO of proposed de-minimus type of discharges by submitting a NOI	At least 15 days before de-minimus discharge	
XVI.A.1 & A,2	The Principal Permittee shall update, revise and develop a training program including a training schedule, curriculum content, and defined expertise and competencies for storm water managers, inspectors, maintenance crew, municipal contractors, those involved in the review and approval of WQMPs, and those preparing and/or reviewing CEQA documentation	Within 24-48 months of adoption of this Order	

Reporting Schedule (Order R8-2010-0036) Continued			
Permit No.	**ITEM**	**COMPLETION TIME AFTER PERMIT ADOPTION OR FREQ.**	**REPORT DUE DATE**
XVI.D	The Principal Permittee shall provide and document training to applicable public agency staff on the updated Municipal Activities and Pollution Prevention Strategy (MAPPPS). and any other applicable guidance and procedures	Annually	Annual Report
XVI.H	Each Permittee shall adequately train any of its staff involved with storm water related projects and the implementation of this Order	Within 6 months after assignment then annually prior to rainy season	Annual report
XVIII.B	Permittees shall evaluate the MSWMP to determine the need for any revisions in Order to reduce pollutants in MS4 discharges to the maximum extent practicable.	Annual Report	October 1
XIX.B	Permittees shall prepare and submit a financial summary to the Executive Officer of the Regional Board	Annually	
XXII.A	Permittees shall prepare and submit ROWD permit renewal application		No later than 180 days of Permit expiration
MRP IV. A	Permittees shall review, revise as needed, and submit the Integrated Watershed Monitoring Plan (IWMP) for review and approval by the Executive Officer.	Within 12 months of adoption of this Order	
MRP IV.B.3.b	Permittees shall submit a plan to determine baseline concentrations of N/TDS	Within 18 months of Order adoption	
MRP V. B.1.a.ii	Permittees shall revise the MSWMP to incorporate a plan and a schedule to achieve necessary triennial bacterial source reduction for meeting the phosphorus indicator WLAs	February 15, 2010	Annual Report

Date: 1-29-10

Ordered by G J Thibeault
Gerard J. Thibeault
Executive Officer

Figure 1: Current Stormwater Core Monitoring Stations (Sites 2, 3, 5, 8, and 10)

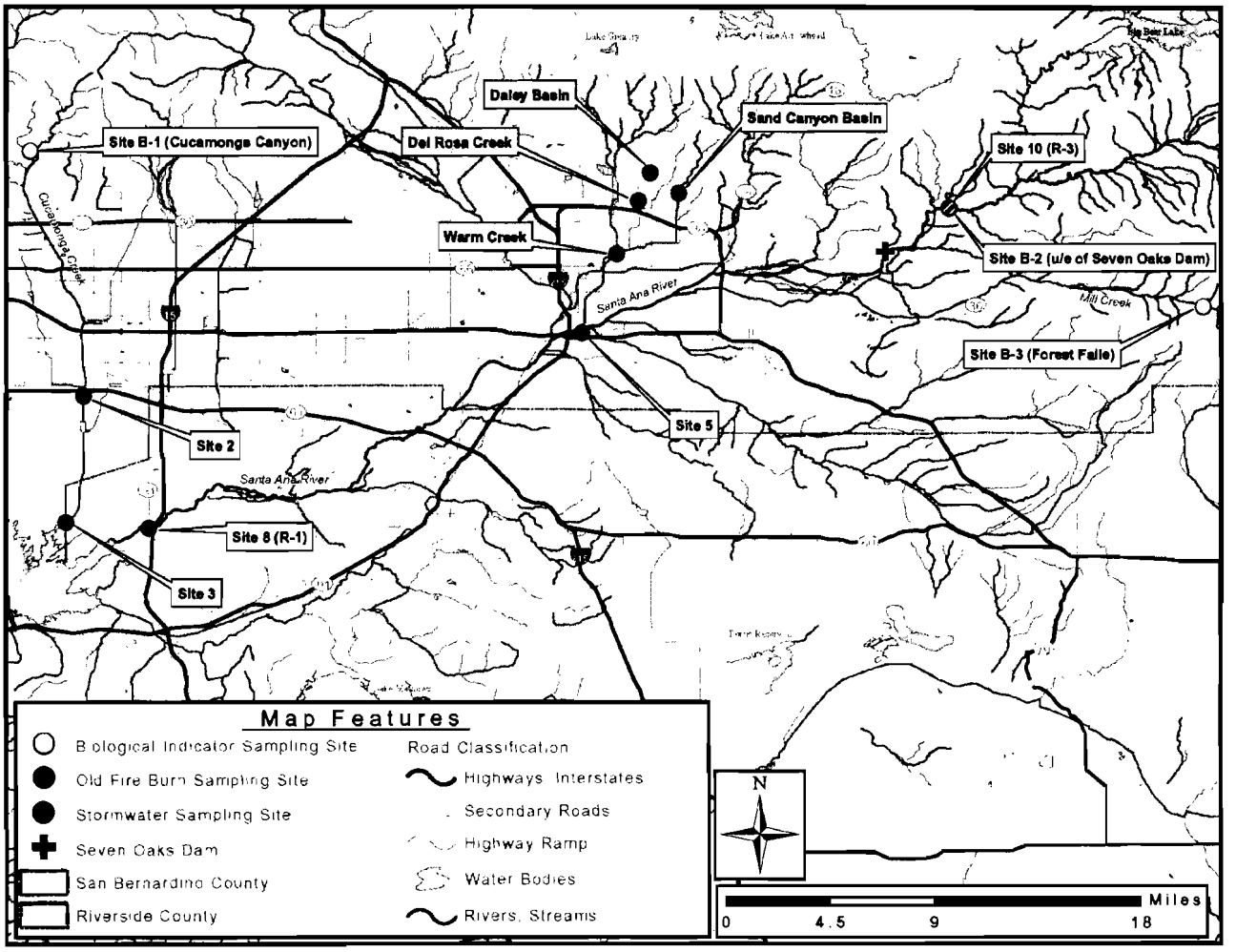


Figure 2: MSAR TMDL Watershed-wide Monitoring Locations

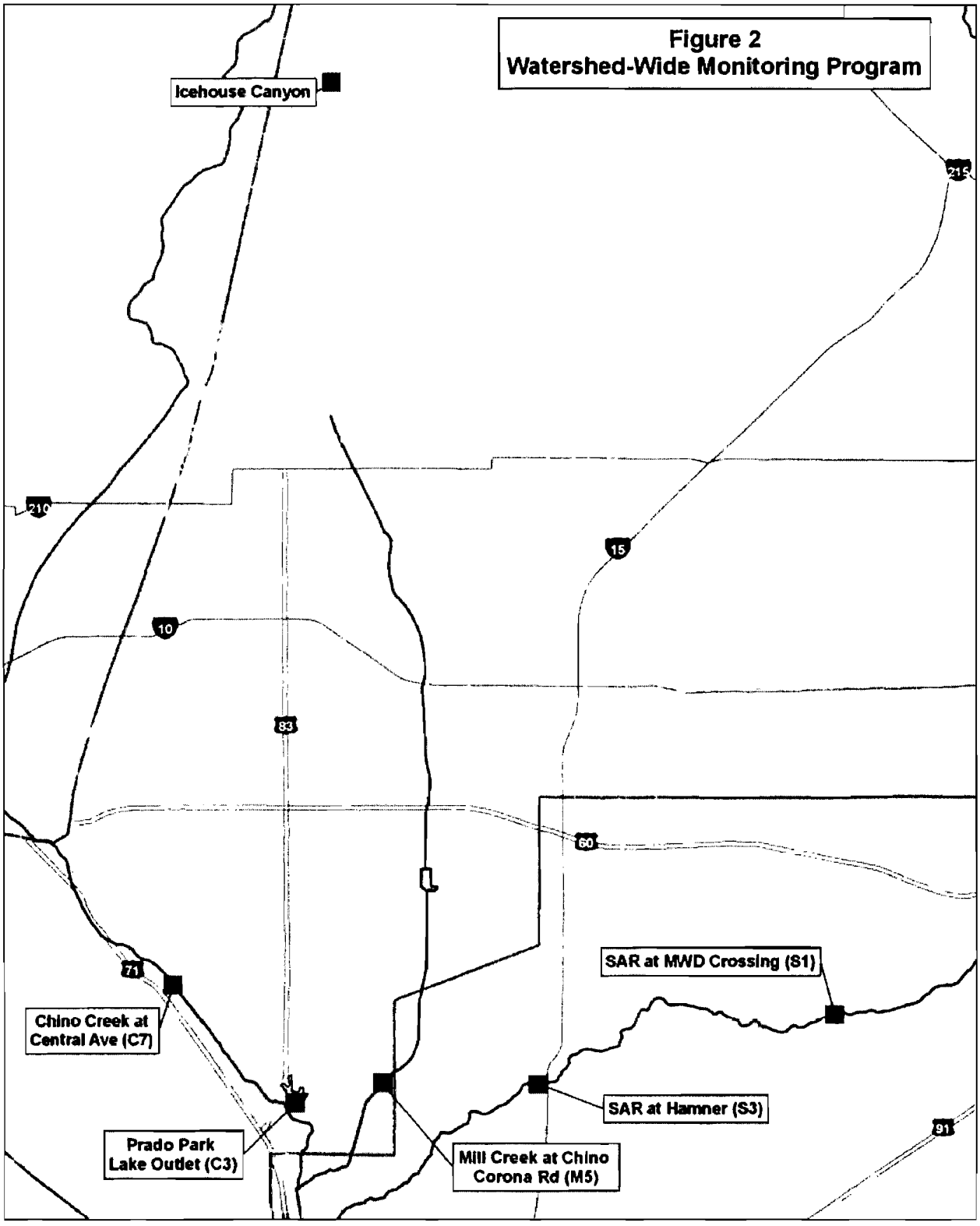


Figure 3: MSAR TMDL USEP Monitoring Locations

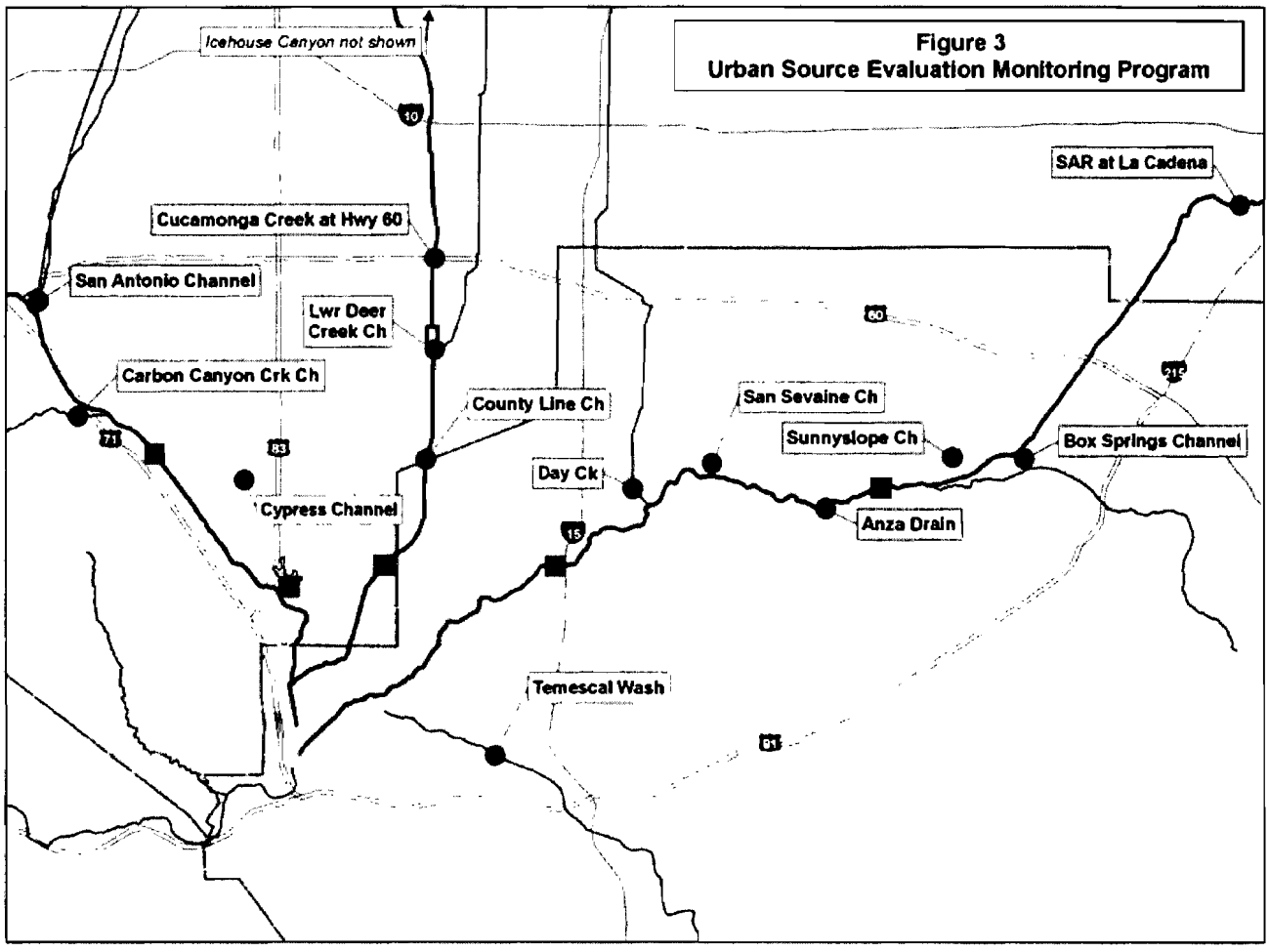
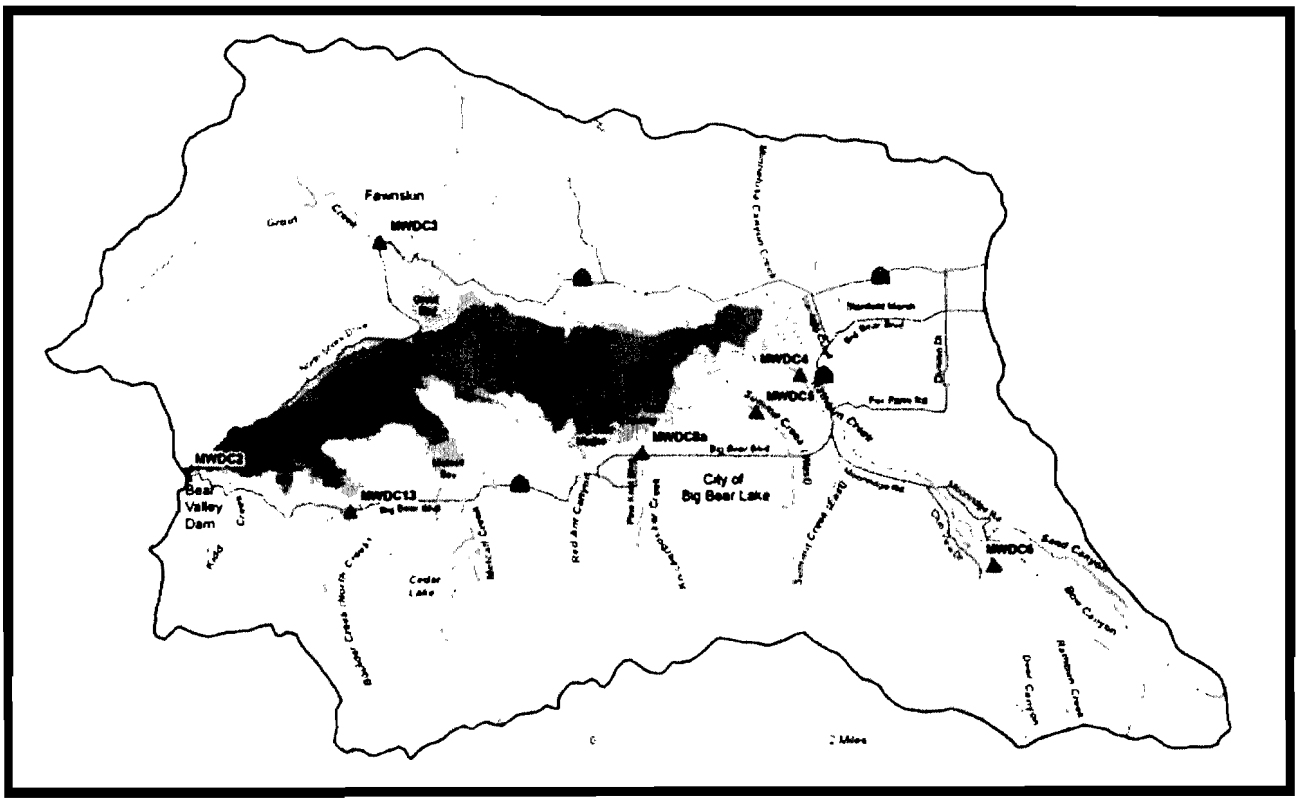


Figure 4: Big Bear Lake Nutrient TMDL Watershed-Wide Monitoring Locations



Attachment 6: Fact Sheet

State of California

California Regional Water Quality Control Board

Santa Ana Region

3737 Main Street, Suite 500

Riverside, CA 92501- 3348

FACT SHEET

January 29, 2010

ITEM: **10**

SUBJECT: **Waste Discharge Requirements for the San Bernardino County Flood Control District (SBCFCD), the County of San Bernardino, and the Incorporated Cities of San Bernardino County within the Santa Ana Region, Area-wide Urban Storm Water Runoff Management Program, San Bernardino County, Order No. R8-2010-0036 (NPDES No. CAS618036)**

I. INTRODUCTION

The 1972 Clean Water Act (CWA) established the National Pollutant Discharge Elimination System (NPDES) permit program to regulate the discharge of pollutants from point sources to waters of the United States (U.S.). Since then, considerable strides have been made in reducing conventional forms of pollution, such as from sewage treatment plants and industrial facilities, through the implementation of the NPDES program and other federal, state and local programs. The adverse effects from some of the persistent toxic pollutants (DDT[1], PCB[2], TBT[3]) were addressed through manufacturing and use restrictions and through cleanup of contaminated sites. On the other hand, pollution from land runoff (including pollutants from atmospheric deposition, urban, suburban and agricultural sources) was largely unregulated until the 1987 CWA amendments. As a result, diffuse sources, including urban storm water runoff, now contribute a larger portion of many kinds of pollutants than the more thoroughly regulated sewage treatment plants and industrial facilities. The 1987 CWA amendments established a framework for regulating urban storm water runoff. Pursuant to these amendments, the Santa Ana Regional Water Quality Control Board (Regional Board) started regulating municipal storm water runoff in 1990.

It is also critical to manage non-point sources, such as runoff from agricultural sources, in order to effectively prevent or remedy water quality impairment. In 2000, the State Water Resources Control Board and the California Coastal Commission developed a

[1] DDT: Dichlorodiphenyltrichloroethane
[2] PCB: Polychlorinated biphenyl
[3] TBT: Tributyltin

Non-Point Source Pollution Control Program. This program was approved by the USEPA and NOAA[4] and is being implemented by a number of agencies.

The attached pages contain information concerning an application for renewal of waste discharge requirements and an NPDES permit. Order No. R8-2010-0036, NPDES No. CAS618036, prescribes waste discharge requirements for urban storm water runoff[5] from the cities and the unincorporated areas in San Bernardino County within the jurisdiction of the Regional Board. As defined by 40 CFR 122.26(b)(13), storm water includes storm water runoff, snowmelt runoff, surface runoff and drainage. "Storm water" is defined as urban runoff and snowmelt runoff consisting only of those discharges which originate from precipitation events. Storm water is that portion of precipitation that flows across a surface to the storm drain system or receiving waters.

Urban runoff is defined as all flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water (authorized under Section V of the Order, dry weather flows).

On October 26, 2006, the San Bernardino County Flood Control District (SBCFCD, the Principal Permittee) and the County of San Bernardino, in cooperation with the cities of Big Bear Lake, Chino, Chino Hills, Colton, Fontana, Grand Terrace, Highland, Loma Linda, Montclair, Ontario, Rancho Cucamonga, Redlands, Rialto, San Bernardino, Upland, and Yucaipa (Co-Permittees, hereinafter collectively referred to as Permittees or Dischargers), submitted a Report of Waste Discharge (ROWD)) for renewal of their area-wide NPDES storm water permit. The permit renewal application was submitted in accordance with the requirements specified in the previous NPDES storm water permit (Order No. R8-2002-0012). The permit application also follows guidance provided by Regional Board and State Water Resources Control Board (State Board) staff, and the United States Environmental Protection Agency (USEPA). Order No. R8-2002-0012 expired on April 27, 2007 and was administratively extended in accordance with 40 CFR Part 122.6 and Title 23, Division 3, Chapter 9, §2235.4 of the California Code of Regulations.

Order No. R8-2010-0036 regulates discharges of stormwater and urban runoff[6] from the upper Santa Ana watershed to waters of the U.S.

II. REGULATORY BACKGROUND/CLEAN WATER ACT REQUIREMENTS

As storm water flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas, it can mobilize pollutants from these areas and transport them to waters of the U.S. If appropriate pollution control measures are not implemented, urban runoff may contain elevated levels of pathogens (bacteria, viruses, protozoa), sediment, trash, fertilizers (nutrients, mostly nitrogen and phosphorus compounds), oxygen-demanding substances (decaying and/or decomposable matter), pesticides (e.g., DDT, chlordane, diazinon, chlorpyrifos, etc.)

[4] NOAA:National Oceanic and Atmospheric Administration

[5] Urban Storm Water Runoff includes authorized non-storm water as per Section V of the Order and storm water runoff, collectively referred to as urban runoff (also see glossary).

[6] For purposes of this Order, urban runoff includes storm water and authorized non-storm water discharges as per Section V of the Order.

heavy metals (cadmium, copper, chromium, lead, zinc, etc.), and petroleum products (oil & grease, PAHs[7], petroleum hydrocarbons, etc.). If not properly managed and controlled, urbanization can change the stream hydrology and increase pollutant loading to receiving waters. In general, as a watershed undergoes urbanization, pervious surface area decreases, runoff volume and velocities increase, riparian habitats and wetland habitats decrease, the frequency and severity of flooding may increase, and pollutant loading increases. Most of these impacts are due to human activities that occur during and/or after urbanization. The pollutants and hydrologic changes can cause declines in aquatic resources, cause toxicity to marine organisms, and impact human health and the environment.

If not properly controlled, urban runoff could be a significant source of pollutants in waters of the U.S. Table 1 includes a list of pollutants and their sources, and some of the adverse environmental consequences resulting from urbanization.

The Permittees in San Bernardino County conducted urban runoff monitoring and determined that for a number of constituents (e.g., bacteria, copper, lead, nutrients), urban runoff quality exceeded the Basin Plan objectives, CTR criteria, and/or USEPA's storm water benchmarks. The permit renewal application submitted by the Permittees (2006 ROWD) ranked bacterial contamination as the highest priority urban runoff problem[8] within the permitted area.

(Left intentionally blank)

[7] PAHs (Polycyclic aromatic hydrocarbons) – a hydrocarbon containing two or more aromatic rings. PAHs are persistent, bioaccumulative, and toxic pollutant. PAHs occur in oil, coal, and tar deposits, and are produced as byproducts of fuel burning. Sources include industrial processes, transportation, energy production and disposal activities.

[8] 2006 Report of Waste Discharge (ROWD)

Table 1[9]. Pollutants/Impacts of Urbanization on Waters of the U.S.

Pollutants	Sources	Effects and Trends
Toxins (e.g., biocides, PCBs, trace metals, heavy metals)	Industrial and municipal wastewaters; runoff from farms, forests, urban areas, and landfills; erosion of contaminated soils and sediments; vessels; atmospheric deposition	Poison and cause disease and reproductive failure; fat-soluble toxins may bioconcentrate, particularly in birds and mammals, and pose human health risks. Inputs into U.S. waters have declined, but remaining inputs and contaminated sediments in urban and industrial areas pose threats to living resources.
Pesticides (DDT, diazinon, chlorpyrifos)	Urban runoff; residential, commercial, industrial, and farm use; agricultural runoff	Legacy pesticides (DDT, chlordane, dieldrin) have been banned; still persists in the environment; some of the other pesticide uses have been curtailed or restricted.
Biostimulants (organic wastes, plant nutrients)	Sewage and industrial wastes; runoff from farms and urban areas; nitrogen from combustion of fossil fuels	Organic wastes overload bottom habitats and deplete oxygen; nutrient inputs stimulate algal blooms (some harmful), which reduce water clarity, cause loss of seagrass and coral reef, and alter food chains supporting fisheries. While organic waste loadings have decreased, nutrient loadings have increased (NRC, 1993a, 2000a).
Petroleum products (oil, grease, petroleum hydrocarbons, PAHs)	Runoff and atmospheric deposition from land activities; shipping and tanker operations; accidental spills; oil gas production activities; natural seepage; PAHs from internal combustion engines	Petroleum hydrocarbons can affect bottom organisms and larvae; spills affect birds, mammals and aquatic life.
Radioactive isotopes	Atmospheric fallout, industrial and military activities	Bioaccumulation may pose human health risks where contamination is heavy.
Sediments	Erosion from farming, construction activities, forestry, mining, development; river diversions; dredging and mining	Reduce water clarity and change bottom habitats; carry toxins and nutrients; clog fish gills and interfere with respiration in aquatic fauna. Sediment delivery by many rivers has decreased, but sedimentation poses problems in some areas.

[9] Adapted from Boesch, D.F., R.H. Burroughs, J.E. Baker, R.P. Mason, C.L. Rowe, and R.L. Siefert. 2001. Marine Pollution in the United States: Significant Accomplishments, Future Challenges. Pew Oceans Commission, Arlington, Virginia.

Pollutants	Sources	Effects and Trends
Plastics and other debris	Boats, ships, fishing nets, containers, trash, urban runoff	Entangles aquatic life or is ingested; degrades beaches, wetlands and nearshore habitats. Floatables (from trash) are an aesthetic nuisance and can be a substrate for algae and insect vectors.
Pathogens (bacteria, protozoa, viruses)	Sewage, urban runoff, livestock, wildlife, and discharges from boats and cruise ships.	Pose health risks to swimmers and consumers of seafood.
Alien species	Ships and ballast water, fishery stocking, aquarists	Displace native species, introduce new diseases; growing worldwide problem (NRC 1996).

The (CWA) prohibits the discharge of any pollutant to navigable waters from a point source unless an NPDES permit authorizes the discharge. The 1987 amendments to the CWA required municipal separate storm sewer systems (MS4s) and industrial facilities, including construction sites, to obtain NPDES permits for storm water runoff from their facilities. On November 16, 1990, the USEPA promulgated the final Phase I storm water regulations. The storm water regulations are contained in 40 CFR Parts 122, 123 and 124.

This Order does not constitute an unfunded local government mandate subject to subvention under Article XIIIB, Section (6) of the California Constitution for several reasons, including, but not limited to, the following. First, this Order implements federally mandated requirements under federal Clean Water Act section 402, subdivision (p)(3)(B). (33 U.S.C. § 1342(p)(3)(B).) This includes federal requirements to effectively prohibit non-storm water discharges, to reduce the discharge of pollutants to the maximum extent practicable, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. Federal cases have held these provisions require the development of permits and permit provisions on a case-by-case basis to satisfy federal requirements. (*Natural Resources Defense Council, Inc. v. U.S. E.P.A.* (9th Cir. 1992) 966 F.2d 1292, 1308, fn. 17.) The authority exercised under this Order is not reserved state authority under the Clean Water Act's savings clause (*cf. Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627-628 [relying on 33 U.S.C. § 1370, which allows a state to develop requirements which are not "less stringent" than federal requirements]), but instead, is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, *City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389; *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-883.)

Likewise, the provisions of this Order to implement total maximum daily loads (TMDLs) are federal mandates. The federal Clean Water Act requires TMDLs to be developed for water bodies that do not meet federal water quality standards. (33 U.S.C. § 1313(d).) Once the U.S. Environmental Protection Agency or a state develops a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions of any applicable wasteload allocation. (40 C.F.R. § 122.44(d)(1)(vii)(B).)Second, the local agency permittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental dischargers who are issued NPDES permits for storm water discharges. With a few inapplicable exceptions, the Clean Water Act regulates the discharge of pollutants from point sources (33 U.S.C. § 1342) and the Porter-Cologne regulates the discharge of waste (Wat. Code, § 13263), both without regard to the source of the pollutant or waste. As a result, the "costs incurred by local agencies" to protect water quality reflect an overarching regulatory scheme that places similar requirements on governmental and nongovernmental dischargers. (See *County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 57-58 [finding comprehensive workers compensation scheme did not create a cost for local agencies that was subject to state subvention].)

The Clean Water Act and the Porter-Cologne Water Quality Control Act largely regulate storm water with an even hand, but to the extent there is any relaxation of this even-handed regulation, it is in favor of the local agencies. Except for municipal separate storm sewer systems, the Clean Water Act requires point source dischargers, including discharges of storm water associated with industrial or construction activity, to comply strictly with water quality standards. (33 U.S.C. § 1311(b)(1)(C), *Defenders of Wildlife v. Browner* (1999) 191 F.3d 1159, 1164-1165 [noting that industrial storm water discharges must strictly comply with water quality standards].) As discussed in prior State Water Resources Control Board decisions, this Order does not require strict compliance with water quality standards. (SWRCB Order No. WQ 2001-15, p. 7.) The Order, therefore, regulates the discharge of waste in municipal storm water more leniently than the discharge of waste from non-governmental sources.
Third, the local agency permittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. The fact sheet demonstrates that numerous activities contribute to the pollutant loading in the municipal separate storm sewer system. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., *Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842 [upholding inspection fees associated with renting property].) The ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. (*County of Fresno v. State of California* (1991) 53 Cal.3d 482, 487-488.)

Fourth, the Permittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in federal Clean Water Act section 301, subdivision (a) (33 U.S.C. § 1311(a)) and in lieu of numeric restrictions on their discharges. To the extent, the local agencies have voluntarily availed themselves of the permit, the program is not a state mandate. (Accord *County*

of San Diego v. State of California (1997) 15 Cal.4th 68, 107-108.) Likewise, the Permittees have voluntarily sought a program-based municipal storm water permit in lieu of a numeric limits approach. (See *City of Abilene v. U.S. E.P.A.* (5th Cir. 2003) 325 F.3d 657, 662-663 [noting that municipalities can choose between a management permit or a permit with numeric limits].) The local agencies' voluntary decision to file a report of waste discharge proposing a program-based permit is a voluntary decision not subject to subvention. (See *Environmental Defense Center v. USEPA* (9th Cir. 2003) 344 F.3d 832, 845-848.)

Fifth, the local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under state law predates the enactment of Article XIIIB, Section (6) of the California Constitution.

The areawide NPDES permit for San Bernardino County areas within the Santa Ana Regional Board's jurisdiction is being considered for renewal in accordance with Section 402(p) of the CWA and all requirements applicable to an NPDES permit issued under the issuing authority's discretionary authority. The requirements included in this Order are consistent with the CWA, the federal regulations governing urban storm water discharges, the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan), the CWC, and the State Board's Plans and Policies.

The Basin Plan is the basis for the Regional Board's regulatory programs. The Basin Plan incorporates plans and policies adopted by the State Board by reference. The Basin Plan was developed and is periodically reviewed and updated in accordance with relevant federal and state laws and regulations, including the CWA and the CWC. As required, the Basin Plan designates the beneficial uses of the waters of the Region and specifies water quality objectives intended to protect those uses. (Beneficial uses and water quality objectives, together with an antidegradation policy, comprise federal "water quality standards"). The Basin Plan also specifies an implementation plan, which includes certain discharge prohibitions. In general, the Basin Plan makes no distinctions between wet and dry weather conditions in designating beneficial uses and setting water quality objectives, i.e., the beneficial uses, and correspondingly, the water quality objectives are assumed to apply year-round. (Note: In some cases, beneficial uses for certain surface waters are designated as "I", or intermittent, in recognition of the fact that surface flows (and beneficial uses) may be present only during wet weather.) Most beneficial uses and water quality objectives were established in the 1971, 1975, 1983, and 1995 Basin Plans. The 1995 Basin Plan was updated in February 2008[10]. Amendments to the Basin Plan included new nitrate-nitrogen and total dissolved solids (TDS) objectives for specified management zones and new nitrogen and TDS management strategies applicable to both surface and ground waters and various Total Maximum Daily Loads (TMDLs) and Implementation Plans that had been adopted for several impaired water bodies within the region.

Water Code Section 13241 requires that certain factors must be considered when water quality objectives are established. These factors include economics and the

[10] http://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/index.shtml

need for developing housing in the Region. (The latter factor was added to the CWC in 1987).

During the third-term permit (R8-2002-0012) development process, the Permittees raised an issue regarding compliance with Section 13241 of the California Water Code with respect to water quality objectives for wet weather conditions, specifically the cost of achieving compliance during wet weather conditions and the need for developing housing within the Region and its impact on urban storm water runoff. In response to this request, Regional Board staff in collaboration with the permittees in the region has organized a Storm Water Quality Standards Task Force (SWQSTF). The SWQSTF is closely monitoring actual and potential beneficial uses of surface waters within the region. Based on the findings, it is likely that the SWQSTF will recommend changes to the current beneficial use designations and water quality objectives specified in the Basin Plan. This Order may be reopened to incorporate any changes to the water quality standards. In the meantime, the provisions of this Order will result in reasonable further progress towards the attainment of the existing water quality objectives, in accordance with the discretion in the permitting authority recognized by the United States Court of Appeals for the Ninth Circuit in Defenders of Wildlife v Browner, 191 F.3d 1159, 1164 (9th Cir. 1999).

III. BENEFICIAL USES

Storm water flows that are discharged to MS4s within the Santa Ana River Watershed in San Bernardino County are tributary to various water bodies (inland surface streams, lakes and reservoirs) of the state (see Attachment 2 for a list of surface waterbodies within the Permitted area). The beneficial uses of these water bodies include municipal and domestic supply, agricultural supply, industrial service and process supply, groundwater recharge, hydropower generation, water contact recreation, non-contact water recreation, commercial and sportfishing, warm freshwater habitat, cold freshwater habitat, preservation of biological habitats of special significance, wildlife habitat and preservation of rare, threatened or endangered species, spawning, reproduction and development of aquatic habitats and estuarine habitat. The ultimate goal of this Permit and the related urban storm water management program is to protect the beneficial uses of the receiving waters.

IV. PERMITTED AREA

The permitted area is delineated by the Santa Ana-Lahontan Regional Board boundary line on the north and northeast, the Santa Ana-Colorado River Basin Regional Board boundary on the east, the San Bernardino-Riverside County boundary on the south and southeast, the San Bernardino-Orange County boundary on the southwest, and the San Bernardino-Los Angeles County boundary on the west (see Attachment 1). The permittees serve a population of approximately 1.5 million, occupying an area of approximately 620 square miles[11]. For the entire county, the population estimated as of July 1, 2008 is 2.06 million[12]. The latest figures from the San Bernardino County Storm

[11] 2006 Report of waste Discharge.

[12] State of California, Department of Finance, Population Estimates and Components of Change by County, July 1, 2000-2008. Sacramento, California, December 2008

Water Program 2007-2008 Annual Report estimated 378 miles of aboveground channels and 485 miles of underground storm drain channels, for a total of 863 miles in the project area. Approximately seven percent (7%) of the San Bernardino County surface area drains into water bodies within this Regional Board's jurisdiction. Storm water discharges from urbanized areas consist mainly of surface runoff from residential, commercial and industrial developments. In addition, there are storm water discharges from agricultural land uses, including farming and animal feeding operations. However, the CWA specifically excludes discharges composed entirely of return flows from irrigated agriculture and nonpoint source agricultural activities. The concentrated animal feeding operations within the Region are regulated under the Regional Board's General Permit for Dairies, Order No. R8-2007-0001, NPDES No. CAG018001. Areas of the County not addressed or which are excluded under the storm water regulations and areas not under the jurisdiction of the Permittees are excluded from coverage under this permit. These excluded areas and activities include the following:

- Federal lands and state properties, including, but not limited to, military bases, national forests, hospitals, schools, colleges and universities, and highways;
- Native American tribal lands;
- Agricultural lands; and
- Utilities and special districts.

The Regional Board will coordinate with these entities to implement programs that are consistent with the requirements of this Order. The Regional Board, pursuant to 40 CFR 122.26(a), has the discretion and authority to require non-cooperating entities to participate in this Order. The Regional Board may also consider such facilities for coverage under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.

To the extent that the Permittees authorize the connection of these discharges into their MS4s, this Order requires the Permittees to provide written notification of WQMP requirements for post-construction BMPs and/or other applicable requirements of this Order. A WQMP approved by the Permittee who owns the MS4 may constitute compliance with the General Construction Permit post-construction requirements[13] for the Permit Area.

V. WATERSHED MANAGEMENT/UPPER SANTA ANA RIVER BASIN

To regulate and control storm water discharges from the San Bernardino County area to the San Bernardino County MS4s, an area-wide approach is expected to be the most effective. The entire storm drain system in San Bernardino County is not controlled by a single entity; San Bernardino County, the SBCFCD, several cities, State Department of Transportation (Caltrans), US Army Corps of Engineers and a number of other entities own, operate, and/or manage the storm drain systems. In addition to the Cities, the

[13]The State General Construction Permit Order No. 2009-009-DWQ Section XIII.

County and the SBCFCD, there are a number of significant contributors of urban storm water runoff to these storm drain systems. These include: large institutions, such as State University facilities, schools, hospitals, etc.; federal facilities, such as Department of Defense facilities; State agencies, such as Caltrans; water and wastewater management agencies, such as San Bernardino Valley Municipal Water District and Inland Empire Utilities Agency; the National Forest Service; state parks, and entertainment centers such as Pharaoh's Lost Kingdom Park in Redlands, Fiesta Village Family Fun Park in Colton, and other motorsports facilities scattered throughout the County. The management and control of the entire flood control system cannot be effectively carried out without the cooperation and efforts of all these entities. Also, it would not be effective to issue a separate storm water permit to each of the entities within the permitted area whose land/facilities drain into the county storm drain systems and ultimately to waters of the U. S. The Regional Board has concluded that the best management option for the San Bernardino County area is to issue an area-wide storm water permit. Some of the MS4s in the project area discharge into MS4s controlled by other entities, such as the County of Riverside, the County of Orange, and the County of Los Angeles.

Cooperation and coordination among all the stakeholders are essential for efficient and economical management of the watershed. Regional Board staff will facilitate coordination of monitoring and management programs among the various stakeholders, where necessary.

An integrated watershed management approach for urban runoff is consistent with the Strategic Plan (2008-2012[14]) for the State and Regional Boards and the draft California Water Plan Update[15]. A watershed wide approach is also necessary for implementation of the load and waste load allocations to be developed under the TMDL process. The MS4 permittees and all the affected entities are required to participate in regional or watershed solutions, where appropriate, instead of project-specific and fragmented solutions.

The pollutants in urban runoff originate from multiple sources, and effective control of these pollutants requires a cooperative effort of all the stakeholders and many regulatory agencies. Every stage of urbanization should be considered in developing appropriate urban runoff pollution control methodologies. The program's success depends upon consideration of pollution control techniques during planning, construction and post-construction operations. At each stage, appropriate pollution prevention measures, proper site design considerations, source control measures, and, if necessary, treatment techniques should be considered. In the 2006 ROWD, the Permittees proposed a watershed approach based on a prioritized risk to beneficial uses.

1. SUB-WATERSHEDS AND MAJOR CHALLENGES

The Santa Ana River Watershed in San Bernardino County can be subdivided into the following sub-watersheds:

[14] State Water Resources Control Board, Strategic Plan Update, 2008-2012, September 2, 2008
[15] http://www.waterplan.water.ca.gov/docs/cwpu2009/1208prd/vol2/UrbanRunoff_PRD_09.pdf

A. *UPPER SANTA ANA RIVER WATERSHED*

The Upper Santa Ana River Watershed includes the upper reaches of the Santa Ana River (Reaches 4, 5 and 6) and its tributaries.

1. Reach 4 of the Santa Ana River: Reach 4 of the Santa Ana River is the portion of the River from Mission Boulevard bridge in Riverside to the San Jacinto fault (Bunker Hill Dike) in San Bernardino. There is perennial flow in this reach of the River, mostly from the upstream discharges of treated municipal wastewater. Much of this reach is also maintained as a flood control facility. This reach of the River is posted to warn against water contact recreation, due to microbial problems. The wastewater discharges from the sewage treatment plants to this reach of the River are tertiary treated and are not expected to be sources of microbial contamination. This reach is identified as an impaired waterbody for pathogens in the 303(d) list, scheduled for TMDL completion in 2019. Lytle Creek and Cajon Creek are tributaries to this reach of the River.

   Other water quality problems along this reach of the River include the buildup of total dissolved solids (TDS, dissolved salts or minerals) and nitrogen, largely in nitrate form. The buildup of TDS and nitrates can impact downstream beneficial uses, including groundwater recharge. The buildup of TDS and nitrate is mostly due to agricultural uses, including dairies and the application of fertilizers, municipal and industrial wastewater discharges, and reuse and recycling operations. A complex set of programs and policies are included in the Basin Plan to address this problem, including a water supply plan, a wastewater management plan, and a groundwater management plan. Other elements of the Basin Plan include the non-point source program and the storm water program. The Basin Plan identifies the Statewide General Permits and the MS4 permits as the regulatory tools for storm water management in the Basin. In light of the recently adopted Nitrogen-TDS objectives for certain management zones, this Order requires the Permittees to determine baseline concentration of these constituents in dry weather runoff, if any, from significant outfall locations. The Order also includes effluent limitations for TDS and nitrates under dry weather conditions.

2. Reach 5 of the Santa Ana River: This reach of the River extends from the San Jacinto Fault in San Bernardino to the Seven Oaks Dam. Most of this reach of the River is maintained as a flood control facility and is dry, except during storm flows and operational releases from the dam. Major tributaries to this reach include San Timoteo Creek, City Creek, Plunge Creek, and Warm Creek. These tributaries are also usually dry, except for the discharge of treated wastewater from Yucaipa Valley Water District to San Timoteo Creek and from the City of Beaumont to Coopers Creek (a tributary to San Timoteo Creek). These wastewater discharges flow for a short distance and percolate into the ground. No major water quality problems have been identified in this stretch of the River or its tributaries.

3. Reach 6 of the Santa Ana River: This reach includes the River upstream of Seven Oaks Dam. Major tributaries include Bear Creek, Forsee Creek, and Rattlesnake Creek. Flows consist mostly of snowmelt and storm water runoff. There are no documented water quality problems in this reach of the river and no listed impairments.

B. *CHINO BASIN WATERSHED*

The Chino Basin Watershed covers about 405 square miles and lies largely in the southwestern corner of San Bernardino County, and part of western Riverside County. This permit only covers those portions of the watershed that are within San Bernardino County and under the jurisdiction of this Board. Surface drainage is generally southward, from the San Gabriel Mountains toward the Santa Ana River and Prado Flood Control Basin. Major surface waterbodies in the Chino Basin Watershed include:

- San Antonio Creek
- Chino Creek
- Cucamonga Creek
- Day Creek, and
- Deer Creek

Although it was originally developed as an irrigated agricultural area, and then as dairies, the watershed is more recently being steadily urbanized. The municipalities under this permit in the Chino Basin Watershed include Chino, Chino Hills, Fontana, Montclair, Ontario, Rancho Cucamonga, Rialto, and Upland. The Chino-Corona Agricultural Preserve had the highest concentration of dairy animals in the nation until very recently manure and wastewater from dairy operations contain elevated levels of nutrients, salts, and bacteria. The ground and surface water quality in the area have been adversely impacted by bacteria (surface water), nutrients and salts.

The dairies within the Region are regulated under the General Waste Discharge Requirements for Concentrated Animal Feeding Operations (Dairies and Related Facilities) within the Santa Ana Region (Board's General Dairy Permit), Order No. R8-2007-001, NPDES No. CAG018001. The General Dairy Permit allows discharge of storm water from dairies only for storms exceeding a 24-hour 25-year frequency. Portions of the area lack flood control facilities, and storm runoff from these areas is predominantly carried by flows on and parallel to roadways The San Bernardino and Riverside County Flood Control Districts, in cooperation with local municipalities, have coordinated to construct flood control facilities in the area.

On April 19, 2004, construction began on the project known as County Line Channel (also known as Eastvale San Bernardino Line 2-13) sponsored by San Bernardino County Flood Control District, Riverside County Flood Control

and Water Conservation District, and the City of Ontario. The three-mile-long concrete-lined drainage channel along the Riverside/San Bernardino county line will intercept runoff. Overland surface storm flows from the City of Ontario and County of San Bernardino portions of the watershed is typically collected by roadways and the flows are discharged into the Cucamonga Creek Channel. The project design enables storm water to be captured and channeled into an existing facility with the capacity to contain the 100-year flow and will accommodate major storm drain laterals in the future to prevent commingling of urban runoff with agricultural drainage. In addition to these benefits, the project prevents the degradation of recharged groundwater upstream of the Chino-Corona Preserve. This project has been completed.

To comply with the recently established nitrogen/TDS objectives, groundwater problems (mostly TDS and nitrate) in the Chino Basin Watershed are being addressed through a comprehensive watershed management plan. As part of this plan, desalters are being built to increase the salt removal from the groundwater through a pump and treat system for contaminated groundwater in the southern part of Chino Basin. One desalter (Chino I Desalter) has been operational since August 2000, and a second one, known as the Chino I Expansion/Chino II Desalter Project, was completed in the spring of 2006.

(Also see discussions below regarding TMDLs for the Middle Santa Ana River watershed.)

C. *BIG BEAR LAKE WATERSHED*

The Big Bear Lake watershed is located in the San Bernardino Mountains. Major waterbodies in this watershed include:

- Big Bear Lake
- Baldwin Lake (currently a dry lakebed)
- Stanfield Marsh
- Shay Meadows
- Rathbone (Rathbun) Creek
- Summit Creek
- Grout Creek
- Knickerbocker Creek

Big Bear Lake is a high mountain reservoir occupying a relatively small, east-to-west oriented basin. The basin supports a large number of recreational activities. Lake recreational activities include fishing, swimming, boating and water skiing. Areas adjacent to the lake are used for camping, skiing, hiking, equestrian trails and other outdoor activities. Water in the lake is also used for municipal supplies. A number of water quality problems have been identified for the lake.

The 2006 303(d) list of impaired water bodies (see below) designated the following waterbodies in this sub-watershed as impaired: Big Bear Lake (nutrients, copper and mercury); Grout Creek (metals and nutrients); Knickerbocker Creek (metals and pathogens); Summit Creek (nutrients); and Rathbone Creek (nutrients and siltation). The problem pollutants have been identified by the Regional Board as coming from resource extraction activities, urban runoff, snow skiing facilities, construction and land developments, and non-point sources. In conjunction with local stakeholders, the Big Bear Lake Nutrient TMDL for Dry Hydrologic Conditions has been developed and is being implemented. For other pollutants, work is underway to develop TMDLs.

2. CWA SECTION 303(d) LIST AND TMDLS:

The 2006 water quality assessment conducted by the Regional Board[16] identified a number of waterbodies within the Region as impaired waterbodies, under Section 303(d) of the CWA[17]. These are waterbodies where the designated beneficial uses are not met and the water quality objectives are being exceeded. These waterbodies were placed on the CWA Section 303(d) list of impaired waters. The impaired waterbodies in San Bernardino County within the Santa Ana Regional Board's jurisdiction are listed in Table 2.

Federal regulations require that a total maximum daily load (TMDL) be established for each 303(d) listed waterbody for each of the pollutants causing impairment. The TMDL is the total amount of the problem pollutant that can be discharged while water quality standards in the receiving water are attained, i.e., water quality objectives are met and the beneficial uses are protected. It is the sum of the individual wasteload allocations (WLA) for point sources, load allocations (LA) for non-point sources and natural background sources, with a margin of safety. The TMDLs are the basis for limitations established in waste discharge requirements.

This Order incorporates TMDLs that have been adopted for bacterial indicators in the Middle Santa Ana River Watershed and nutrients (phosphorus) for dry hydrological conditions in Big Bear Lake. On August 26, 2005, the Regional Board adopted Resolution No. R8-2005-001 amending the Basin Plan to incorporate Bacterial Indicator TMDLs for Middle Santa Ana River Watershed Waterbodies. On April 21, 2006, the Regional Board adopted Resolution No. R8-2006-0023 amending the Basin Plan to incorporate a Nutrient TMDL for Dry Hydrological Conditions for Big Bear Lake. A Mercury TMDL for Big Bear Lake is currently under development, and TMDLs are scheduled for development for all pollutants identified in Table 2. The stakeholders in this watershed are collaborating in the development and implementation of the TMDLs.

[16] On April 24, 2009, the Regional Board adopted an Integrated List of Impaired Waters Under Clean Water Act Sections 305(b) and 303(d), Resolution No. R8-2009-0032.

[17] 2006 CWA Section 303(d) list of water quality limited segments (http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r8_06_303d_reqtmdls.pdf)

Federal regulations (40 CFR 122.44(d)(vii)(B)) require that the NPDES permits be consistent with the applicable wasteload allocations in the TMDLs. This Order requires the Permittees to implement BMPs designed to reduce pollutants to achieve applicable wasteload allocations by the compliance dates in the approved TMDLs.

For 303(d) listed waterbodies without a TMDL, the Permittees currently require certain categories of new and significant re-development projects that drain into these impaired waterbodies to treat post-construction runoff with BMPs of medium to high treatment effectiveness. This Order further requires the Permittees to develop BMPs and/or strategies as part of a Watershed Action Plan and continue their participation in the TMDL development.

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Table 2

CLEAN WATER ACT SECTION 303(D) LISTED WATERBODIES & TMDL SCHEDULE[18]

Waterbody	Hydro Unit	Size Affected	Pollutant Stressor	Source	Priority	TMDL Schedule	Permittees
Big Bear Lake	801.710	2970 acres 2970 acres 2970 acres 2970 acres 2970 acres 2970 acres 2970 acres 2970 acres	Copper Mercury[19] Metals Noxious aquatic plants Nutrients Sedimentation/Siltation[20] PCBs (Polychlorinated biphenyls)	Resource Extraction Resource Extraction[21] Resource Extraction Construction/Land development Construction/Land development Snow Skiing Activities Construction/Land development Snow Skiing Activities Unknown	Medium Medium Medium Medium Medium Medium Medium Medium	2007 2007 2007 2006 2006 2006 2019	City of Big Bear Lake County of San Bernardino
Summit Creek	801.710	1 mile	Nutrients	Construction/Land Development	Medium	2008	City of Big Bear Lake, County of San Bernardino
Knickerbocker Creek	801.710	2 miles 2 miles	Metal Pathogens	Unknown Non-point Source Unknown Non-point Source	Medium	01/03 – 01/05 Sole Source	City of Big Bear Lake, County of San Bernardino
Grout Creek	801.720	2 miles 2 miles	Metal Nutrients	Unknown Non-point Source Unknown Non-point Source	Medium	01/02 – 0105 2008	City of Big Bear Lake, County of San Bernardino
Rathbone Creek	801.720	2 miles 2 miles	Nutrients Sedimentation/Siltation	Unknown Non-point Source Snow Skiing Activities	Medium	2008 2006	City of Big Bear Lake, County of San Bernardino
Mountain Home Creek, East Fork	801.700	1 mile	Pathogens	Unknown Non-point Source	Low	2019	County of San Bernardino
Mountain Home Creek	801.580	4 miles	Pathogens	Unknown Non-point Source	Low	2019	County of San Bernardino
Mill Creek (Prado Area)	801.250	4 miles	Nutrients Suspended Solids	Agriculture, Dairies Dairies	Medium Medium	2019 01/00 – 01/05	Ontario, Rancho Cucamonga, Upland, SBCFCD, County of San Bernardino
Mill Creek, Reach 1	801.580	5 miles	Pathogens	Unknown Non-point Source	Low	2019	Redlands, SBCFCD, County of San Bernardino
Mill Creek, Reach 2	801.580.	8 miles	Pathogens	Unknown Non-point Source	Low	2019	SBCFCD, County of San Bernardino
Santa Ana River, Reach 4	801.270	12 miles	Pathogens	Non-point Source	Low	2019	Colton, Rialto, Highland, Grand Terrace, Redlands, City of San Bernardino, SBCFCD, County of San Bernardino
Lytle Creek	801.400	18 miles	Pathogens	Unknown Non-point Source	Low	01/08 – 01/11	City of San Bernardino, SBCFCD, County of San Bernardino
Chino Creek, Reach 1	801.210	2 miles	Nutrients	Agriculture Dairies	Medium	2019	Chino, Chino Hills, SBCFCD, County of San Bernardino
Prado Park Lake	801.210	60 acres	Nutrients	Non-point Source	Low	01/08 – 01/11	Chino, Chino Hills, County of San Bernardino

[18] Based on STATE BOARD 2006 CWA Section 303(d) List of Water Quality Limited Segments, Santa Ana Regional Water Quality Control Board, USEPA Approved June 28, 2007 (http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r8_06_303d_reqtmdls.pdf)

[19] Big Bear Lake is recommended for delisting for copper in the Proposed 2008 303(d)-305(b) Integrated Report

[20] Big Bear Lake is recommended for delisting for sedimentation/siltation in the Proposed 2008 303(d)-305(b) Integrated Report

[21] Resource extraction was removed as a potential source for Mercury in Big Bear Lake and replaced with atmospheric deposition in the Proposed 2008 303(d)-305(b) Integrated Report

VI. FIRST, SECOND AND THIRD-TERM PERMITS; URBAN STORM WATER RUNOFF POLLUTION CONTROL PROGRAMS/POLICIES

Prior to EPA's promulgation of the final storm water regulations, the counties of Orange, Riverside and San Bernardino requested areawide NPDES permits for storm water runoff. On August 29, 1990, the Regional Board issued Order No. 90-136 to the San Bernardino County permittees (first-term permit). In 1996, the Board adopted Order No. 96-32 (second-term permit). On October 25, 2002, the Board adopted Order No. R8-2002-0012 (third-term permit). These permits included the following requirements as outlined in the storm water regulations:

1. Prohibited non-storm water discharges to the MS4s, with certain exceptions.
2. Required the municipalities to develop and implement a Municipal Storm Water Management Plan (MSWMP) to reduce pollutants in urban storm water runoff to the maximum extent practicable (MEP).
3. Required the discharges from the MS4s to implement Best Management Practices (BMPs) to the MEP to meet water quality standards in receiving waters.
4. Required the municipalities to identify and eliminate illicit connections and illegal discharges to the MS4s.
5. Required the municipalities to establish and maintain legal authority to enforce storm water regulations.
6. Required monitoring of dry weather flows, storm flows, and receiving waters and conduct program assessments.
7. Required the permittees to inventory, prioritize and inspect construction sites and industrial and commercial facilities based on threat to water quality.
8. Required the permittees to develop a restaurant inspection program to address practices that may have an impact urban runoff quality such as: oil and grease disposal; trash bin area management; parking lot cleaning; spill clean-up; and maintenance of grease traps and interceptors.
9. Required the permittees to review and approve Water Quality Management Plans for categories of new development and significant redevelopment projects to address the impact of post-development runoff on water quality and hydromodification.
10. Required the permittees to develop a unified response plan to respond to any sewage spills that may have an impact on receiving water quality (Sanitary Sewer Overflow Unified Sewage Response Plan, July 1, 2003).

The following programs and policies have been implemented or are being implemented by the permittees. During the first-term permit, the permittees developed a Drainage Area Management Plan (1993 DAMP). The 1993 DAMP included a number of BMPs

and a very extensive public education program. The monitoring programs for the first and second-term permits included 10 monitoring stations within streams and flood control channels. The number of monitoring stations was later reduced to 5 stations to allow the Permittees to apply resources to a bacterial source monitoring program. The Executive Officer approved a delay in implementing the bioassessment requirement of the third-term permit to allow the development of indices of biological integrity that could be applied to inland waters. Subsequently, a regional bioassessment monitoring program was initiated by the Surface Water Ambient Monitoring Program (SWAMP) to determine the conditions of the receiving water in a more holistic manner. This Order requires the Permittees to participate in the regional bioassessment monitoring program. The findings and conclusions from these monitoring stations and monitoring programs (Riverside County, Orange County and others are participating in this regional effort) have been used to identify problem areas and to re-evaluate the monitoring program and the effectiveness of the BMPs. The future direction of some of these program elements will depend upon the results of the ongoing studies and a holistic approach to watershed management.

Other elements of the MSWMP included identification and elimination of illicit connections and illegal discharges and establishment of adequate legal authority to control pollutants in storm water discharges. The permittees have completed a survey of their storm drain systems to identify illegal/illicit connections and have adopted appropriate ordinances to establish legal authority. Some of the more specific achievements during the previous term permits are as follows:

1. Interagency Agreements and Coordination: The Permittees established a program management structure through an interagency Implementation Agreement and established a Management Committee with designated representatives from each of the Permittees to guide the program. The Permittees reviewed and revised the Implementation Agreement as part of the ROWD.

2. Ordinances, Plans and Policies: The Permittees completed a review of their storm drain ordinances and enforcement procedures for prohibiting discharges to the MS4s and for taking appropriate enforcement actions. The Area-Wide Enforcement Guidelines were subsequently prepared to support enforcement actions and to introduce consistency among the Co-Permittees' enforcement actions. In 2004, the Permittees replaced their Model Guidelines for New Development and Redevelopment with the Water Quality Management Plan Guidance and Template (WQMP), which was approved in 2004 and updated in 2005. The Permittees continue to provide training for appropriate public agency personnel on the Municipal Activities Pollution Prevention Strategy (MAPPS). The goal of this program is to ensure that public agency facilities and associated activities do not become a source of pollutants in storm water runoff. These "facilities" include the Permittees' vehicle and equipment fueling and fleet maintenance yards, corporate yards, hazardous materials storage facilities, material transfer and storage facilities, waste management and storage, fire stations, animal shelters, and municipal swimming pools. The MAPPS lists the

potential pollutants for these facilities and provides a list of BMPs for controlling these pollutants.

3. Municipal Inspections: The Permittees completed the development of the MS4 Solution Database. This database houses the inventory of construction, industrial, and commercial sites/facilities within each Permittee's jurisdiction. The inventory is regularly updated with new information.

   The Permittees developed and distributed BMP guidelines for the control of pollutants from mobile vehicle maintenance, carpet cleaning, commercial landscape maintenance, and pavement cutting activities.

4. HCOC Mapping: In early 2005, the Permittees initiated a a GIS-based mapping program to identify stream channels in the area that could be susceptible to excessive erosion and should be considered in assessing hydrologic conditions of concern (HCOC). Upon completion of this project, it will be integrated into the Watershed Action Plan.

5. Illegal Discharge/Illicit Connections: Litter, Debris and Trash Control: The Permittees completed a general characterization of the trash collected from the permitted area and are using this information to develop BMPs specifically targeting the major sources of trash in urban runoff.

6. Municipal Facilities/Activities: The San Bernardino County Flood Control District completed an assessment of their flood control facilities to evaluate opportunities to configure and/or to reconfigure channel segments to function as pollution control devices and to optimize beneficial uses.

   The Permittees developed and distributed BMP guidelines for the control of household use of fertilizers, pesticides, herbicides, and other chemicals, and pavement cutting activities.

   The Permittees worked with the County Fire Chiefs Association to develop a list of appropriate BMPs to be implemented to reduce pollutants from training activities, fire hydrant/sprinkler testing or flushing, non-emergency fire fighting, and any BMPs that could feasibly be implemented to address flows that occur during emergency firefighting activities.

7. Program Review: The annual reports and the Report of Waste Discharge included an effectiveness assessment of various program elements. Based on the monitoring results and the program effectiveness assessments, the 2006 ROWD recommended a shift to compliance-based outcomes measured primarily by compliance with water quality objectives and TMDL implementation. The ROWD also included an analysis of the impact of urban storm water runoff on the beneficial uses and recommended a risk-based approach to address problems associated with urban storm water runoff.

The requirements specified in this Order are consistent with the approach recommended in the ROWD including the TMDLs adopted by the Regional Board and approved by the State and the USEPA.

8. Public Education: In addition to developing and distributing fact sheets, brochures, and flyers with BMP information to control the discharge of pollutants in urban runoff, the Permittees have utilized a number of other avenues to convey this message to the public. These include: (1) public service announcements utilizing a multi-media approach, such as newspapers, radio, and television; (2) presentations at elementary schools and high school automotive classes; (3) educational displays at libraries and public buildings throughout the permitted area; (4) a point-of-purchase campaign with fact sheets containing information on integrated waste management, proper use of pesticides and fertilizers and integrated pest management programs; (5) a point-of-discharge campaign by warning the public about the dangers of waste disposals into the storm drains by stenciling all storm drain inlets; and (6) a web-site with links to other programs and services offered by the Permittees to combat storm water pollution including a 24-hour hotline to report spills, leaks and any illegal discharges to the MS4s. The Permittees have already met or exceeded the goal of a minimum of 5 million impressions per year by targeting all residents, businesses, commercial and industrial establishments within the Permitted area.

   The Permittees also completed a public awareness survey to determine the effectiveness of their existing public and business education strategy. The permittees participated in joint outreach programs with other entities including, but not limited to,, SAWPA[22], Caltrans, and other municipal storm water programs.

   The most effective programs and public education efforts should be continued to reinforce the importance of public participation and awareness to control pollutants in urban storm water runoff.

   The proposed Order includes additional requirements for an effective residential program as irrigation and nuisance flows from residential areas continue to be significant sources of nutrients, pesticides and other pollutants (from over fertilization or improper use of fertilizers, pesticides and other household chemicals).

9. Public Agency Training: During the second-term permit, the Permittees developed and conducted an 8-hour training program on the Municipal Activities Pollution Prevention Strategy (MAPPS). The MAPPS training program provided a basic storm water training and task-specific education for all targeted Permittee staff. These included key staff involved in sewage system maintenance, storm drain system inspection and maintenance, landscape maintenance, road and street maintenance, and key staff at maintenance and storage facilities.

[22] SAWPA: Santa Ana Watershed Project Authority

The MAPPs training was expanded in the third-term permit to include illegal discharge identification, response, and reporting; industrial/commercial inspection program, new and redevelopment program and public agency activities program. During the third-term permit, the Permittees refined their training program and developed web-based training modules to provide better access to the training program. The online training program is enhanced by various other training efforts, including live presentations and on the job training.

However, Regional Board staff conducted audits of the urban runoff program for each of the Permittees and determined that many of the Permittees' storm water program staff and contract staff were not adequately trained. The fourth-term permit requires the Permittees to develop appropriate curriculum for staff at various levels to make the storm water program more effective.

10. Watershed Activities: The Principal Permittee represented the Permittees in various watershed efforts dedicated to improving water quality, gathering technical information to support the MS4 program, TMDL activities, and regional and sub-regional monitoring programs. (See Section VII, below for a list of these programs.)

    The Permittees worked with other local and State agencies to provide a consistent urban storm water pollution control message to the public. These programs included:

    a. Public Health (Safe Drinking Water Program, Vector Control Program, Housing/Property Improvement Program, and Food Protection Program),

    b. Fire Department - Hazardous Materials Division, (Household Hazardous Waste Program, Emergency Response and Enforcement, Field Services, and Local Oversight Program),

    c. Economic Development / Public Services Group (Flood Control Function, Transportation Function, Waste Management Function, Regional Parks Function, Land Use Services and Code Enforcement Function), and

    d. San Bernardino County Special Districts (Operations Divisions consisting of Street Lighting Districts, Recreation and Parks Districts, Road Districts; Water and Sanitation Division consisting of nine water districts and seven sanitation districts).

    The Regional Board and the Permittees recognize the importance of watershed-based plans to address such complex issues related to the control of pollutants from various sources in urban storm water runoff. The fourth-term Permit includes requirements for the development and implementation of a Watershed Action Plan (see Section VIII, below).

11. Related Activities: The Permittees stabilized a number of flood control channels, constructed a sediment basin, expanded an existing basin, and identified, eliminated or properly documented illicit connections to the MS4s.

12. Water Quality Monitoring: The Permittees continue to monitor water quality at five sites for a variety of constituents. Three of the five sites were outfall locations selected to represent the quality of storm water from the drainage area; two sites serve as receiving water monitoring sites. The Permittees also participate in a number of TMDL-related or other regional or sub-regional monitoring programs. A number of programs related to the monitoring programs were completed during the third-term permit (see Section VII, below). These monitoring programs continue to indicate that urban storm water runoff contains elevated levels of pollutants (see Section VII, below).

    The fourth-term Perrnit includes additional monitoring requirements consistent with the federal regulations (40 CFR 122.48) and California Water Code Sections 13267 and 13383.

VII. WATER QUALITY ASSESSMENTS

An accurate and quantifiable measurement of the impact of the various elements of the storm water management programs is difficult, due to the temporal and spatial variations in storm water runoff quality, incremental nature of BMP implementation, the lack of comprehensive baseline monitoring data, and the existence of some of the programs and policies prior to initiation of formal storm water management programs. There are generally two accepted methodologies for assessing water quality improvements: (1) conventional monitoring such as chemical-specific water quality monitoring; and (2) programmatic assessments such as monitoring of the amount of household hazardous waste collected and disposed off at appropriate disposal sites, the amount of used oil collected, the amount of debris removed, etc.

Water quality monitoring data submitted to date document a number of exceedances of water quality objectives specified in the Basin Plan, CTR criteria and/or USEPA's storm water benchmarks for fecal coliform bacteria, total suspended solids (TSS), nutrients, COD and metals. Toxicity has also been observed at some of the monitoring locations. The 303(d) list of impaired waterbodies within the Region (see Table 2, above) also indicates that urban runoff is a significant source for these impairments. These findings indicate that urban storm water runoff continues to cause or contribute to water quality impairments.

A comparison of wet weather water quality monitoring data for 2000-2006[23] with that from 1994-1999[24] shows that the median concentrations for most constituents have not changed significantly. Furthermore, monitoring data for the period 1994-2006 indicate that median concentrations of wet weather composite samples at monitoring stations[25]

[23] 2006 ROWD
[24] 2002 ROWD
[25] Drainage at Site 2 (Cucamonga Creek @ Hwy 60) is predominantly urban, influenced by commercial and industrial land uses with some contribution from open space/rural and residential land uses. The predominant land use at Site 3 (Cucamonga Creek @ Hellman) is agricultural, but there is contribution from open space/rural, and discharge from a municipal wastewater treatment plant between Sites 2 and

2, 3, and 5 exceeded the USEPA benchmarks for TSS, COD, NO_3-N, and several metals. With the exception of Site 10 (Santa Ana River upstream of Seven Oaks Dam, tributary to mostly undeveloped areas), coliform bacteria concentrations were far above the Basin Plan water quality objectives. These data support the need for continued monitoring and additional control measures to control the discharge of pollutants from the MS4s.

To understand background indicator bacteria levels in the watershed necessary for the implementation of the MSAR TMDL, the Permittees conducted background indicator bacteria studies. Samples were collected quarterly from August 2000 to June 2006 during dry weather (<0.1 inch precipitation) at three sites (Cucamonga Canyon Site, Seven Oaks Dam Site, and Forest Falls Site) with no direct impact from urban runoff, sanitary sewer systems, or POTW discharge. The Seven Oaks Dam Site is located upstream of the dam and corresponds to stormwater monitoring Site 10. The Forest Falls Site is downstream of forested areas with few permanent campsites. Statistics from samples collected from December 2003 to June 2006, suggested that the Seven Oaks Dam Site (Site 10) had the highest concentrations of enterococcus and fecal streptococcus present, and that Cucamonga Creek Site and the Forest Falls Site have lower concentrations. Due to the predominance of non-detect data, similar determinations cannot be made for total coliform, *E. coli*, or fecal coliform concentrations. However, overall, samples taken at the Forest Falls Site exhibited the lowest concentrations of these types of indicator bacteria[26].

The Principal Permittee conducted an analysis of the receiving water monitoring data collected during the last 15 years for a number of monitoring sites (Sites 2, 3, 8[27], and 10[28]). This analysis indicates that the most significant water quality problem associated with urban storm water runoff is bacterial contamination. The Permittees' monitoring data were then compared to monitoring data available from other sources (NAWQA, RWQCB 305(b) Assessment) to determine beneficial use impacts and pollutants causing the impacts. This analysis was then used to prioritize problem areas and to propose a risk-based approach to address these problems.

Based on the evaluation of monitoring data described above, the 2006 ROWD prioritized the pollutants of concern with regards to storm water management as follow:

a. High Priority: Coliform bacteria
b. Medium Priority: Zinc, copper, lead
c. Low Priority: Nutrients, COD, TSS

During the prior permit terms, there was an increased focus on watershed management initiatives and coordination among the municipal permittees in Orange, Riverside and San

3. Monitoring site 5 (Hunts Lane n/o Hospitality Lane) is within a constructed storm drain system and flow is mostly from commercial and light industrial land uses with some urban contribution.

[26] 2005-2006 Annual Report.

[27] Site 8 station is located in the Santa Ana River (SAR) at Hamner Avenue, runoff is mostly from urban land uses.

[28] Site 10 station is located at SAR, upstream of Seven Oaks Dam, runoff is mostly from open/rural areas.

Bernardino Counties. These efforts resulted in a number of regional monitoring programs and other coordinated program and policy developments. The Principal Permittee continues to be an active participant in the Storm water Quality Standards Task Force (SWQSTF), the Big Bear TMDL and Middle Santa Ana River (MSAR) Bacterial Indicator TMDL, and the Storm Water Monitoring Coalition Studies. In addition to the TMDL implementation and monitoring activities, the Permittees participate in the Regional Integrated Freshwater Bioassessment Monitoring Program and the BMP Effectiveness Project to assess the effectiveness of LID techniques.

The Permittees, as participants in the SMC, have completed several monitoring-related activities, including Comparative Evaluation of Microbial Source Tracking Techniques, Model Monitoring Program Guidance, Peak Flow Study, and Laboratory Inter-Calibration.

It is anticipated that with continued implementation of the MSWMP, the ROWD and the requirements specified in this Order, the goals and objectives of the storm water regulations will be met, including protection of the beneficial uses of all receiving waters.

VIII. FUTURE DIRECTION/2006 ROWD & MSWMP

The NPDES permit renewal application (2006 ROWD) and the areawide Municipal Storm Water Management Program (MSWMP) describe the programs and policies the Permittees are proposing to implement during the fourth-term permit. The 2006 ROWD and MSWMP are the principal guidance documents for urban storm water management programs within San Bernardino County.

During the first three permit cycles, the Permittees focused on characterizing storm water quality and establishing a fundamentally sound program in each of the key areas identified in EPA regulations [40 CFR §122.34(b)]: (1) public education and outreach; (2) public involvement/participation; (3) illicit discharge detection and elimination; (4) construction site storm water runoff control; (5) post-construction storm water management in new development and redevelopment; and (6) pollution prevention/good housekeeping for municipal operations.

The sampling data collected over the years have been used to prioritize the most significant water quality problems in the receiving waters. As indicated in Section VII, above, the highest priority for the storm water program is the reduction of bacterial contamination.

For the fourth-term Permit, the Permittees have proposed to develop and implement a risk-based, outcome-oriented, compliance-focused program and will shift storm water management program from process-based outcomes which were mostly measured through completion of programmatic or administrative tasks. Under the fourth-term Permit, compliance will be determined based on attaining water quality standards and compliance with the wasteload allocations specified in the Total Maximum Daily Loads (TMDLs). Risk-based assessment and management aim to reallocate and reapportion program resources to target pollutants-of-concern that pose the greatest threat to human health or the environment. An outcome-oriented program places much greater

emphasis on demonstrating the effectiveness of various implementation activities. Direct measures (such as changes in water quality, tons of hazardous waste collected, etc.) will be preferred over indirect measures (such as advertising impressions, events attended, etc.). In particular, where TMDLs have been adopted for specific pollutants, the Permittees will shift available resources to be compliance-focused, to achieve compliance with water quality objectives. Program elements will be targeted toward executing the requirements identified in the TMDL implementation plans and pollution reduction goals specified in this Order. The primary goal of a compliance-focused program is to ensure storm water discharges consistently meet the water quality objectives identified in the Basin Plan. A comprehensive water quality monitoring program that is proposed in the fourth-term Permit will be used to evaluate the success of this new initiative.

This Order requires the Permittees to develop and implement comprehensive plans designed to achieve compliance with the wasteload allocations by the dates specified in the approved TMDLS. This Order requires that the results of the water quality monitoring provide the feedback loop to evaluate the effectiveness of the BMPs and programs implemented in the watershed and demonstrate Permittees' progress towards compliance with the wasteload allocations. Other TMDLs planned during the next MS4 Permit term include Big Bear Lake Nutrient TMDL (for all weather conditions), Big Bear Lake Mercury TMDL, Big Bear Lake and Rathbone Creek Sediment TMDL, and Big Bear Lake Watershed Metals TMDLs. The Permittees, within the affected watersheds, are required to participate in the development and implementation of those TMDLS. This Order may be reopened to incorporate any TMDLs_that may_be adopted and approved during the permit term.

An audit of each of the Permittees' storm water management programs during the third-term permit indicated no clear nexus between the watershed protection principles specified in the MSWMP and the WQMP and the Permittees' General Plan or related documents such as Development Standards, Zoning Codes, Conditions of Approval, Project Development Guidance, etc. It appears that aspects of the existing procedures, Development Standards, Ordinances and Municipal Codes may be barriers to implementation of watershed protection principles, especially low impact development techniques. This Order requires the Permittees to review and revise the Permittees' General Plan, Comprehensive or Master Plan, Municipal Codes, Subdivision Ordinances, Project Development Standards, Conditions of Approval or related documents to facilitate implementation of low impact development and other watershed protection principles.

The USEPA has recommended a shift to watershed-based NPDES permitting[29] and a watershed approach[30] to CWA programs, including NPDES programs. The Permittees

[29] EPA: Watershed-based NPDES permitting is a process that emphasizes addressing all stressors within a hydrologically-defined drainage basin, rather than addressing individual pollutant sources on a discharge-by-discharge basis.

[30] EPA (1996a): "The watershed approach is a coordinating framework for environmental management that focuses public and private sector efforts to address the highest priority problems within hydrologically defined geographic areas, taking into consideration both ground and surface water flow."

and the Regional Board also recognize that a watershed-based approach is expected to be effective in controlling pollutants in urban storm water runoff. Consistent with this approach, this Order requires the Permittees to develop, implement and monitor the effectiveness of a Watershed Action Plan that integrates hydromodification and water quality management strategies with land use planning policies, ordinances, and plans within each jurisdiction. A watershed approach considers the diverse pollutant sources and stressors and watershed goals within a defined geographic area (i.e., watershed boundaries) and it has three basic components: (1) *Geographic Focus*: Watersheds are nature's boundaries. They are the land areas that drain to surface waterbodies, and they generally include lakes, rivers, estuaries, wetlands, streams, and the surrounding landscape. Ground water recharge areas are also considered. (2) *Sound Management Techniques Based on Strong Science and Data*: Sound scientific data, tools, and techniques are critical to inform the process. Actions taken include characterizing priority watershed problems and solutions, developing and implementing action plans, and evaluating their effectiveness within the watershed. (3) *Partnerships/Stakeholder Involvement*: Watersheds transcend political, social, and economic boundaries. Therefore, it is important to involve all the affected interests in designing and implementing goals for the watershed. Watershed teams may include representatives from all levels of government, public interest groups, industry, academic institutions, private landowners, concerned citizens, and others.

To promote transparency and consistency within the permitted area, this Order requires each Permittee to develop its own local implementation plan (LIP) that specifies how each program element of the MSWMP and this Order will be implemented within its jurisdiction. The LIP shall specify the Permittee's legal authority and standard operating procedures including but not limited to its ordinances, plans, policies, procedures, personnel, tasks, schedules, checklists, educational materials, forms, maps of drainage areas, maps of wetlands or other environmentally sensitive areas, tools and resources utilized to implement the MSWMP requirements and requirements specified in this Order within its jurisdiction. The LIP shall identify the organizational units and personnel responsible for implementation of each program element, establish internal reporting requirements to ensure and promote accountability, and shall describe an adaptive method of evaluation and assessment of program effectiveness for the purpose of identifying program improvements.

The audits conducted by the Regional Board have also shown a need to improve program effectiveness assessment. This Order specifies quantifiable measures for evaluating program effectiveness.

The above-mentioned strategies for the fourth-term permit build upon and continue the programs and policies developed by the Permittees during the prior term permits as described in Sections VI and VII, above. A combination of these programs and policies and the requirements specified in this Order should improve control of pollutants in storm water runoff from storm water conveyance facilities owned and/or controlled by the permittees.

IX. PERMIT REQUIREMENTS

The legislative history of storm water statutes (1987 CWA Amendments), US EPA regulations (40CFR Parts 122, 123, and 124), and clarifications issued by the State Water Resources Control Board (State Board, Orders No. WQ 91-03 and WQ 92-04) indicate that a non-traditional NPDES permitting strategy was anticipated for regulating urban storm water runoff. Due to economic and technical infeasibility of full-scale end-of-pipe treatments and the complexity of urban storm water runoff quality and quantity, MS4 permits generally include narrative requirements for the implementation of BMPs in place of numeric effluent limits.

The requirements included in this Order are meant to specify those management practices, control techniques and system design and engineering methods that will result in maximum extent practicable (MEP) protection of the beneficial uses of the receiving waters. The State Board (Orders No. WQ 98-01 and WQ 99-05) concluded that MS4s must meet the technology-based MEP standard and water quality standards (water quality objectives and beneficial uses). The U. S. Court of Appeals for the Ninth Circuit subsequently held that strict compliance with water quality standards in MS4 permits is at the discretion of the permitting authority. Any requirements included in the Order that are more stringent than the federal storm water regulations is in accordance with the CWA Section 402(p)(3)(iii), and the California Water Code Section 13377 and are consistent with the Regional Board's interpretation of the requisite MEP standard.

The 2006 Report of Waste Discharge (ROWD) included a discussion of the current status of San Bernardino County's urban storm water management program and the proposed programs and policies for the next five years (fourth-term permit). A separate Municipal Storm Water Management Plan (MSWMP), submitted with the ROWD, defines the storm water programs and activities to be implemented during the fourth permit term and includes by reference a number of related documents such as the Water Quality Management Plan (WQMP). This Order incorporates these documents (2006 ROWD and MSWMP and other related documents).

This Order recognizes the significant progress made by the Permittees during the prior term permits in implementing various elements of the storm water program. This Order also recognizes regional and innovative solutions to such a complex problem, addresses deficiencies of the Permittees' storm water programs observed during the audits conducted by Regional Board staff, considers comments by the USEPA on other draft MS4 Permits and recommendations in the recently published report on Urban Storm Water Management by the National Research Council[31] (NRC) study. This Order specifies quantifiable performance measures to determine compliance and assess the effectiveness of the storm water programs. This Order incorporates an integrated watershed approach in solving water quality and hydromodification impacts resulting from urbanization and aims to promote low impact development techniques as a key element to mitigate impacts from new and redevelopment projects. The proposed permit also includes water quality based effluent limits based on wasteload allocations

[31] National Research Council Report (2008), http://www.nap.edu/catalog.php?record_id=12465

in approved TMDLs. The goal of these programs and policies that are included in this Order is to achieve and maintain water quality standards in the receiving waters.

The major requirements include: 1) Discharge prohibitions; 2) Effluent limitations and discharge specifications, including wasteload allocations for discharges to 303(d) listed waterbodies with adopted TMDLs and Permittees' De Minimus Discharges; 3) Receiving water limitations; 4) Legal authority and enforcement; 5) Prohibition on illicit connections and illegal discharges; 6) Control of sewage spills, sanitary sewer line leaks, septic system failures and portable toilet discharges; 7) Municipal inspection programs; 8) New development, including significant re-development requirements, including quantifiable measures for low impact development implementation and management of hydrologic conditions of concern and a time schedule to develop a watershed approach to address water quality and hydromodification issues; 9) public education and outreach; 10) Municipal facilities/activities; 11) Municipal construction projects; 12) Training program for storm water managers, planners, inspectors, and municipal contractors; and 13) Monitoring and reporting requirements.

These programs and policies are intended to improve urban storm water quality and protect the beneficial uses of receiving waters of the region.

1. DISCHARGE PROHIBITIONS

In accordance with CWA Section 402(p)(3)(B)(ii), this Order prohibits the discharge of non-storm water to the MS4s, with a few exceptions. The specified exceptions are consistent with 40 CFR 122.26(d)(2)(iv)(B)(1). If the permittees or the Executive Officer determines that any of the exempted non-storm water discharges contain pollutants, a separate NPDES permit, a separate Waste Discharge Requirement or coverage under the Regional Board's De Minimus permit will be required.

2. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS, INCLUDING WASTE LOAD ALLOCATIONS FOR DISCHARGES TO 303(D) LISTED WATERBODIES WITH ADOPTED TMDLS

This Order regulates the discharge of urban runoff as per 40 CFR122.26(d)(2)(iv)(B)(1). This Order also regulates de minimus types of discharges from Permittees' facilities and/or operations. The Regional Board regulates some of the "authorized discharges" under the de minimus permit. The Permittees' de minimus discharges are subject to maximum daily concentration limits consistent with the Regional Board's General De Minimus Permit for Discharges to Surface Waters, Order No. R8-2009-0003, NPDES No. CAG 998001. Permittees' de-minimus discharges covered under this Order include: 1) dewatering wastes from subterranean seepage, except for discharges from utility vaults; 2) discharges resulting from hydrostatic testing of vessels, pipelines, tanks, etc.; 3) discharges resulting from the maintenance of potable water supply pipelines, tanks, reservoirs, etc.; 4) discharges resulting from the disinfection of potable water supply pipelines, tanks, reservoirs, etc.; 5) discharges from potable water supply systems resulting from initial system startup, routine startup, sampling

of influent flow, system failures, pressure releases, etc.; 6) discharges from fire hydrant testing or flushing; 7) swimming pool discharges; 8) discharges resulting from diverted stream flows; and 9) Construction dewatering wastes. This Order specifies procedures for Regional Board notification of Permittees' de-minimus discharges.

NPDES regulations at 40 CFR 122.44(d)(vii)(B) require that NPDES permits be consistent with wasteload allocations approved by the USEPA. Wasteload allocations in adopted TMDLs for the Middle Santa River (MSAR) Watershed Bacterial Indicator, and the Big Bear Lake Nutrient TMDL for Dry Hydrological Conditions are included in this Order as Water Quality-Based Effluent Limitations (WQBELS). However, since the compliance dates of the adopted TMDLs are beyond the expected 5-year duration of this NPDES Permit, the Permittees are required to monitor and report effectiveness of the BMPs specified in the TMDL Implementation Plans and this Order with respect to pollutant reduction goal(s) as one measure of progress towards attainment of WLAs in accordance with the compliance schedules specified in the TMDL Implementation Plans. If water quality standards in the impaired receiving waters are met through implementation of appropriate control measures, the Basin Plan will be amended to revise the TMDLs.

3. RECEIVING WATER LIMITATIONS

Receiving water limitations are included to ensure that discharges from the MS4 systems do not cause or contribute to violations of applicable water quality standards in receiving waters. The compliance strategy for receiving water limitations is consistent with the USEPA and State Board guidance and recognizes the complexity of storm water management.

This Order requires the permittees to meet water quality standards in receiving waters in accordance with USEPA requirements, as specified in State Board Order No. WQ 99-05. If water quality standards are not met through implementation of BMPs, the permittees are required to re-evaluate the programs and policies and propose more effective BMPs. Compliance determination will be based on this iterative BMP implementation/compliance evaluation process.

4. LEGAL AUTHORITY/ENFORCEMENT

The Permittees have adopted a number of ordinances, municipal codes, and other regulations to establish legal authority, control discharges to the MS4s and enforce these regulations as specified in 40 CFR 122.26(d)(2)(i)(A, B, C, E, and F). The Permittees are required to enforce these ordinances and to take enforcement actions against violators (40 CFR 122.26(d)(2)(iv)(B-D)).

The third-term permit required the Permittees to establish the authority and resources to administer either civil or criminal penalties and/or penalties for violations of their local water quality ordinances. Although a few Permittees have imposed monetary penalties for repeated violations of its ordinances, program evaluations conducted during the third-term permit showed that enforcement

activities undertaken by a majority of the Permittees have consisted primarily of Notices of Violation (NOVs) that are mostly to educate the public on the environmental consequences of illegal discharges. In some cases, multiple NOVs and stop work orders were issued to the same facilities for recurring violations without progressive enforcement. In the case of San Bernardino County, additional action has sometimes included recovery of investigative and cleanup costs from the responsible party. In case of egregious or criminal violations, the option exists for referral to the County District Attorney for possible prosecution. The fourth-term permit requires the Permittees to document and implement progressive and decisive enforcement actions, evaluate the effectiveness of their enforcement program and sanctions by tracking compliance and evaluating the amount of time to return to compliance. This Order also requires the Permittees to establish the authority to immediately abate discharges to its MS4s caused by unresponsive dischargers and recover its costs.

Since the 2006 ROWD identified bacteria as the highest priority pollutant for the permitted area, this Order requires the Permittees to promulgate ordinances that would specify control measures for known pathogen or bacterial sources, such as animal wastes, if those types of sources are present within their jurisdiction.

This Order requires the Permittees to include in the Local Implementation Plan (LIP) their legal authority and mechanisms to implement the various program elements required by this Order to properly manage, reduce and mitigate potential pollutant sources within each Permittee's jurisdiction. The LIP shall include citations of appropriate local ordinances, identification of departmental jurisdictions and key personnel in the implementation and enforcement of these ordinances. The LIP shall include procedures, tools and timeframes for progressive enforcement actions and procedures for tracking compliance.

5. ILLEGAL DISCHARGES / ILLICIT CONNECTIONS TO MS4s, LITTER DEBRIS AND TRASH CONTROL

Federal regulation, 40 CFR 122.26(d)(2(iv)(B), requires the Permittees to eliminate illicit discharges to the MS4s. During the second-term permit, the Permittees completed a survey of the MS4 systems and eliminated or permitted all identified illicit connections. The Permittees have also established a program to address illegal discharges and a mechanism to respond to spills and leaks and other incidents of discharges to the MS4s. Program evaluations conducted during the third-term permit showed that this program element is primarily complaint driven or an incidental component of municipal inspections or conveyance system inspections.

This Order requires the Permittees to develop a plan for each jurisdiction to conduct focused, systematic field investigations, outfall reconnaissance survey, indicator monitoring, and track their sources[32]. A proactive illicit discharge

[32] Table 2: Land uses, Generating Sites and Activities that Produce Indirect Discharges from IDDE, A Guidance Manual for Program Development and Technical Assessments, October 2004 CWP.

detection and elimination (IDDE) program shall be integrated with other program elements including: GIS mapping of the Permittees' conveyance systems to track sources, aerial photography, municipal inspection programs for construction, industrial, commercial, storm drain systems, municipal facilities, etc., watershed monitoring, public education and outreach, pollution prevention, stream restoration efforts, and rapid assessment of stream corridors to identify dry weather flows and illegal dumping.

6. SEWAGE SPILLS, INFILTRATION INTO MS4 SYSTEMS, SANITARY SEWER LINE LEAKS, SEPTIC SYSTEM FAILURES AND PORTABLE TOILET DISCHARGES

Federal regulation, 40 CFR 122.26(d)(2)(iv)(B)(4), requires the Permittees to develop procedures to prevent, contain, and respond to spills that may discharge into the MS4s. The Permittees have already developed a program to address various types of spills to the MS4s. This Order requires the Permittees to continue to implement the unified sewer response plans in collaboration with the local sanitation districts. To facilitate swift response actions, the Permittees are required to provide 24-hour access to MS4s to the sanitation districts. The Permittees should also work cooperatively with the local sanitation districts to determine if exfiltration from leaking sanitary sewer lines is causing or contributing to urban storm water pollution problems. In addition, the Permittees are required to control infiltration or seepage from sanitary sewers to the MS4s through routine preventive maintenance of the storm drain system (40 CFR 122.26(d)(2)(iv)(B)(7)). This Order also requires the Permittees to implement control measures and procedures to prevent, respond to, contain and clean up all sewage and other spills from sources such as portable toilets and septic systems.

On May 2, 2006, the State Board issued the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (SSO Order) to address proper management and operation of sewer collection systems and to control sanitary sewer overflows. It requires dischargers/enrollees to develop and implement a written Sewer System Management Plan (SSMP) approved by the discharger's governing board and report sewer spills through an on-line reporting system. This Order requires the Permittees to coordinate the review of the unified sewage spill response plan developed during the third-term permit with the local sewering agencies to make it consistent with the requirements of the SSO Order. This Order also requires each Permittee to include in its LIP the interagency or interdepartmental sewer spill response coordination and responsibilities.

The MS4 program audits indicated that a majority of the Permittees with septic systems have inadequate information with regard to the number and location of systems within their jurisdiction. This Order requires the Permittees to develop an inventory of septic systems within its jurisdiction and establish a program to ensure that septic system failure rates are minimized.

7. MUNICIPAL INSPECTION PROGRAM

Federal regulations, 40 CFR 122.26(d)(2)(iv)(A-D), require the Permittees to inventory, prioritize and inspect industrial, construction and commercial facilities. The third-term permit required the Permittees to inventory construction, industrial and commercial facilities within their jurisdiction and to prioritize them for inspection based on threat to water quality. The permit specified the frequency at which high, medium, low priority sites are to be inspected. During the third-term permit, the Permittees proposed to develop a risk-based scoring system to prioritize facilities for inspections. Until approval of this risk-based prioritization system, the Permittees are required to continue the inspection program and prioritize facilities for inspection based on threat to water quality as specified in the third-term permit.

An evaluation of the municipal inspection programs during the third-term permit indicated certain deficiencies in the commercial, industrial and construction programs of some of the Permittees. In many instances, program documentation of progressive enforcement and facilities' return to compliance were not properly documented. This Order requires Permittees to document inspections and enforcement and evaluate the effectiveness of their inspection and enforcement program by tracking the time for facilities to return to compliance. During the third-term permit, most of the Permittees utilized the MS4 Solution Database to document their facility inventory, inspections and enforcement activities. This Order requires the Permittees to update the information in the MS4 Solution Database or use an equivalent web accessible database on a regular basis. The Permittees who do not have an internet accessible database shall initiate quarterly reporting and update of the inventory, inspection and enforcement database for facilities within their jurisdiction.

In order to address discharges to the MS4s from residential sources, the fourth-term permit requires the Permittees to develop and implement a residential program to prevent residential discharges from causing or contributing to a violation of water quality standards in the receiving waters (40 CFR 122.26(d)(2)(iv)(A)).

8. NEW DEVELOPMENT AND SIGNIFICANT REDEVELOPMENT

Federal regulation, 40 CFR 122.26(d)(2)(iv)(A)(2), requires the Permittees to develop a comprehensive master plan to address discharges from new and significant redevelopment projects. During the third-term permit, the Permittees revised their new development guidelines to address water quality and hydromodification impacts resulting from urbanization. A Water Quality Management Plan Guidance and Template was approved by the Regional Board in 2004 and amended in 2005. The Permittees were required to review and approve project-specific Water Quality Management Plans (WQMP) to address post-construction impacts. The WQMP should be designed to address water quality impacts, including hydrologic conditions of concern, from new and significant redevelopment projects through: (1) site design BMPs, including low impact development (LID) techniques; (2) source control BMPs; and (3) treatment control BMPs. This Order recognizes the importance of LID techniques to minimize the impact of urbanization on water quality. The fourth-term permit requires the project

proponents to infiltrate, harvest and reuse, evapotranspirate, or bio-treat the volume of runoff from a 24-hour, 85th percentile storm event where feasible. The Order also provides alternatives and in-lieu programs for project sites where infiltration, harvesting and re-use, evapotranspiration and bio-treatment are not feasible.

Program evaluations conducted during the third-term permit indicated a need for establishing a need for improved integration between the watershed protection principles, including LID techniques into the planning and approval processes of the Permittees. This Order requires the Permittees to review and revise their Development Standards, Zoning Codes, Conditions of Approval, Development Project Guidance, ordinances, and other related documents, where feasible, to identify and eliminate barriers to incorporate watershed protection principles.

The Southern California Monitoring Coalition (SMC), including project lead agency, the San Bernardino County Flood Control District, in collaboration with SMC members, Southern California Coastal Water Research Project (SCCWRP) and the California Storm Water Quality Association (CASQA), is developing a Low Impact Development Manual for Southern California with funding from the State Water Resources Control Board, CASQA and the SMC. This manual will be incorporated into the CASQA BMP Handbooks. The Permittees are encouraged to utilize the manual as a resource for proper LID design and implementation techniques.

Program evaluations have also shown deficiencies in the Permittees' inspection, and tracking of post-construction BMPs. This Order requires the Permittees to revise their close-out procedures to include field verification that site design, source control and treatment control BMPs are operational and consistent with the approved WQMP.

This Order incorporates new project categories and revised thresholds for several categories of new development and redevelopment projects that trigger the requirement for a WQMP. The 2008 National Research Council (NRC) report[33] indicates that roads and parking lots constitute as much as 70% of total impervious cover in ultra-urban landscape, and as much as 80% of the directly connected impervious cover. Roads tend to capture and export more storm water pollutants than other impervious covers. As such, the Permittees are required to develop a standard design and post-development BMP guidance for streets, roads, highways, and freeway improvements that meet the performance standards for site design/LID BMPs, source control, treatment control as well as hydromodification control. The NRC report also indicates that there is a direct relationship between impervious cover and the biological condition of downstream receiving waters. The Permittees are required to address hydrologic conditions of concern from new development and significant redevelopment projects to minimize downstream impacts.

Consistent with a long term holistic approach to address water quality and hydromodification impacts resulting from urbanization, this Order requires Permittees to develop a Watershed Action Plan that integrates, to the extent

[33] National Research Council Report (2008), http://www.nap.edu/catalog.php?record_id=12465

practicable, water quality, stream protection, storm water management and re-use strategies with land use planning policies, ordinances, and plans within each jurisdiction. These plans should address cumulative impacts of development on vulnerable streams, preserve or restore, consistent with the maximum extent practicable standard, the structure and function of streams, and protect surface and groundwater quality. The Order specifies that the Watershed Action Plan include strategies for addressing (303(d) listed waterbodies with adopted TMDLs with or without implementation plans as well as those impaired water bodies without a TMDL. The Permittees are also required to participate in TMDL development and implementation.

9. PUBLIC AND BUSINESS EDUCATION AND OUTREACH PROGRAMS

Federal regulation, 40 CFR 122.26(d)(iv), requires the Permittees to develop a comprehensive storm water management plan with public participation and 40 CFR 122.26(d)(iv)(B)(6) requires the Permittees to engage in outreach activities to facilitate the proper management of pollutants. Public outreach is an important element of the overall urban pollution prevention program. The Permittees have implemented a strategic and comprehensive public education program to preserve and enhance the quality of receiving waters. The Principal Permittee has taken the lead role in the outreach programs and has targeted various groups including businesses, industry, commercial enterprises, developers, utilities, environmental groups, institutions, homeowners, school children, and the general public. The Permittees have developed a number of educational materials, have established a storm water pollution prevention hotline and website, started an advertising and educational campaign, and distribute public education materials at a number of public events. The Permittees are required to continue these efforts and to expand their public participation and education programs by participating in joint outreach programs with other agencies including, but not limited to, the SWQSTF, Caltrans, and other municipal storm water programs.

This Order also requires the Permittees to develop and distribute fact sheets/BMPs to address sources from residential sources such as: (1) auto washing and maintenance activities; (2) use and disposal of pesticides, herbicides, fertilizers and household cleaners; and (3) collection and disposal of pet wastes.

The Permittees are required to review their public education and outreach efforts and revise these activities, if necessary, to address public outreach needs.

Federal regulation, 40 CFR 122.26(d)(v), requires the Permittees to conduct a program assessment to determine the reduction in pollutant loadings due to urban storm water runoff management programs. Each Permittee is required to implement an assessment program, guided by the CASQA Program Effectiveness Guidance manual or equivalent alternative.

10. MUNICIPAL FACILITIES AND ACTIVITIES

Federal regulation, 40 CFR 122.26(d)(iv)(A), requires the Permittees to ensure that public agency activities and facilities do not cause or contribute to violations

of water quality standards in receiving waters. The third-term permit incorporated performance commitments in the ROWD to prevent public agency facilities and activities from causing or contributing to a pollution or nuisance in receiving waters. The Permittees were also required to develop and distribute BMP fact sheets for various public agency activities. The third-term permit also specified minimum requirements for street sweeping and inspection and maintenance of drainage facilities. Permittee as well as contract staff that perform public agency activities were required to be properly trained.

Program evaluations conducted during the third-term permit indicated varying degrees of compliance at public agency facilities and activities. This Order requires each Permittee to inventory and inspect its fixed facilities, field operations and drainage facilities to ensure that public agency facilities do not cause or contribute to a pollution or nuisance in receiving waters.

Fixed public facilities and field operations include, but are not limited to, public streets and roads, parking facilities, fire training facilities, flood management and conveyance systems, POTWs, solid waste transfer facilities, land application sites, corporate yards, maintenance and storage yards, household hazardous waste collection facilities, municipal airfields, recreational facilities, and special event or festival venues. The Permittees are required to include in their local implementation plan procedures and schedules for inspections and maintenance of public agency facilities and activities.

11. MUNICIPAL CONSTRUCTION PROJECTS

The third-term permit authorized the discharge of storm water from construction activities on one acre or more that are under ownership or direct responsibility of the Permittees. The Permittees were required to notify the Executive Officer prior to commencement of construction activities, and to comply with the substantive requirements of the latest Statewide General Construction Activities Storm Water Permit.

Program evaluations conducted during the third-term permit indicated that some of the Permittees were not submitting or were not aware of the requirement to submit a Notice of Construction or Permit Registration Documents (PRDs) and a Notice of Completion for municipal construction projects.

This Order continues the requirement of the third-term permit and builds upon it by requiring Permittees to include post-construction BMP information for municipal projects along with the Notice of Termination submitted to the Executive Officer upon completion of the construction activity. The Notice of Termination must include photographs of the completed project, a location map, structural post-construction BMP location, field verification report and long term operation and maintenance responsibility. The Permittees are required to develop a database of post-construction BMPs for which the Permittees are responsible and shall reference this database in the local implementation plans.

Emergency public work projects required to protect public health and safety are exempted from these requirements, until the emergency ends, at which time they need to comply with the requirements.

12. TRAINING PROGRAM FOR STORM WATER MANAGERS, PLANNERS, INSPECTORS, AND MUNICIPAL CONTRACTORS

Education of municipal planning, inspection, and maintenance staff is critical to ensure that land use decisions, local permit approvals and municipal facilities and activities do not cause or contribute to an exceedance of receiving water quality standards. During the third-term permit, the Permittees developed a web-based training program to provide better access to specific training elements. The Municipal Activities Pollution Prevention Strategy (MAPPS) online-training program addressed BMPs for public agency facilities and activities.

This Order requires the Permittees to define the necessary expertise and competencies for various job functions involved in the implementation of the areawide and local storm water programs and to develop an appropriate curriculum. The Permittees are required to conduct the training program for field operations and municipal inspection staff, for storm water managers, and for those involved in the review and approval of WQMPs and CEQA documents. The training curriculum should address the need for interdepartmental collaboration and communication to address issues related to storm water pollution controls.

13. MONITORING AND REPORTING REQUIREMENTS

Prior monitoring programs conducted by the Permittees consisted of drainage area characterization, BMP evaluation, storm water, and receiving water monitoring. These early programs focused on identifying pollutants, estimating pollutant loads, tracking compliance with water quality objectives, and identifying sources of pollutants. The San Bernardino County monitoring program, as well as other monitoring programs nationwide, has shown that there is a high degree of uncertainty in the quality of storm water runoff and that there are significant variations in the quality of urban runoff spatially and temporally. However, most of the monitoring programs to date have indicated that there are a number of pollutants in urban storm water runoff. A definite link between pollutants in urban runoff and beneficial use impairments has been established at least in a few studies.

To date, wet weather monitoring has shown elevated pollutant concentrations at monitoring Sites 2, 3 and 5. Monitoring Site 2 is located 400 feet south of Freeway 60, west of Archibald Avenue, on the east side of Cucamonga Creek Channel, in the City of Ontario. Land use within this drainage area is primarily commercial and industrial. Site No. 3 is located at Hellman Avenue, between Pine Avenue/Schleisman Road and Chino-Corona Road/Chandler Street, 75 feet east of Hellman Avenue bridge on the south side of Cucamonga Creek Channel

near the City of Chino on the San Bernardino County/Riverside County line. This site is mainly agricultural. Site No. 5 is located in the Hunts Lane access road north of Hospitality Lane, within a manhole located in the asphalt parking lot behind a group of commercial facilities in the City of San Bernardino. This site receives flows from predominantly restaurants and other businesses in the area. Using wet weather monitoring data from 1994-99, the 2000 ROWD identified Site 5 to have the highest average concentration for BOD, copper, zinc, and TSS while Site 3 has the highest average concentrations for nitrate and phosphorus. First flush data from the 1999-2000 monitoring events showed elevated levels consistent with prior years' data for Sites 2, 3, and 5. During the third-term permit, a Pollutant Source Investigation and Control Plan[34] was developed and implemented to investigate elevated pollutant concentrations of coliform bacteria, zinc, copper and lead at Site 5. This Order requires continued implementation of the plan, including annual reporting and BMP effectiveness evaluation for the Site 5 drainage area. This Order also requires the Permittees to continue first flush monitoring at storm drain monitoring Sites 2, and 3 to refine source identification and control techniques. Some of these efforts may be blended into the Watershed Action Plan that is required under the proposed Order.

The Order also requires the Permittees to participate in monitoring programs to support TMDL development and implementation. The Permittees are also participating in several other monitoring-related activities, including Comparative Evaluation of Microbial Source Tracking Techniques, Model Monitoring Program Guidance, Peak Flow Study, and Laboratory Inter-Calibration. Under the auspices of the Storm Water Monitoring Coalition, Southern California Coastal Water Research Project prepared "Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California", August 2004 Technical Report No. 419. This report noted, ".the lack of mass emissions stations in the inland counties hampers their ability to estimate the proportional contribution of these inland areas to cumulative loads downstream." The coalition consists of representatives from the Counties of Ventura, Los Angeles, Long Beach, Orange, San Bernardino, Riverside, and San Diego. An integrated Watershed Monitoring Plan should address any shortcomings in the overall monitoring programs and avoid duplicative efforts within the same watershed.

This Order requires the Permittees to continue their participation in these watershed coordination efforts. The third-term permit required the Permittees to initiate bioassessement monitoring. To allow for a holistic approach, this Order requires the Permittees to participate in the Regional Integrated Freshwater Bioassessment Monitoring Program in lieu of a separate bioassessment monitoring program for the permitted area.

This Order requires the Permittees to re-evaluate their Water Quality Monitoring Plan and submit a revised plan for approval. The revised integrated watershed monitoring program should integrate the goals and objectives of the Watershed Action Plan and rectify data gaps from previous monitoring efforts.

[34] 2005-2006, 2006-2007, 2007-2008 Annual Reports

X. WATER QUALITY BENEFITS/COST ANALYSIS/FISCAL ANALYSIS

There are direct and indirect benefits from clean beaches, clean water, and clean environment. It is difficult to assign a dollar value to the benefits the public derives from fishable and swimmable waters. In 1972, at the start of the NPDES program, only 1/3 of the U.S. waters were swimmable and fishable. In 2008, more than 2/3 of the U.S. waters meet these criteria. In the November 1999 "*Money*" magazine survey of the "Best Places to Live," clean water and air ranked as two of the most important factors in choosing a place to live. Thus, environmental quality has a definite link to property values. Clean lakes and beaches and other water recreational facilities also attract tourists.

The true magnitude of the urban runoff problem is still elusive and any cost estimate for cleaning-up urban runoff would be premature short of end-of-pipe treatments. For urban storm water runoff, end-of-pipe treatments are cost prohibitive and are not generally considered as a technologically feasible option. Over the last decade, the Permittees have attempted to define the problem and implemented best management practices to combat the problem. The costs incurred by the Permittees in implementing these programs and policies are included in the annual reports.

The area-wide program is funded by the Permittees. The Principal Permittee prepares an annual budget for the Management Committee. The Principal Permittee allocates 95 percent of the approved budget costs to the co-permittees based on percentage calculated using the cost allocation formula defined in the Implementation Agreement.

The costs incurred by the Permittees in implementing these programs and policies can be divided into two broad categories (the costs indicated below are for the entire San Bernardino County storm water program):

1. Shared costs: These are costs that fund activities performed mostly by the Principal Permittee under the Implementation Agreement. These activities include overall storm water program coordination; intergovernmental agreements; representation at the California Storm Water Quality Association, Regional Board/State Board meetings and other public forums; preparation and submittal of compliance reports and other reports required under the NPDES permits and Water Code Section 13267, budget and other program documentation; coordination of consultant studies, co-permittee meetings; training seminars, water quality monitoring, and Countywide pubic education and outreach. Actual area-wide storm water program expenditures have increased from $571,000 for FY 1995-96 (2nd term) to $1,593,000 in FY 2006-07 (3rd term). During the third-term permit there has been an increase of about 15%/year from 2002-2007 in these program expenses. The Storm Water Program had allocated a budget of $1,735,500 for FY 2007-08 and proposed a budget of $1,765,500 for FY 2008-2009[35]. Below is a breakdown of the expenditure items and the corresponding percentage weight in the total budget.

The permittees identified the following budget for Fiscal Year (2008-2009):

[35] San Bernardino County Storm water Program, Annual Report for Reporting Year (Fiscal Year) July 2007-June 2008, Nov 2008.

EXPENDITURE ITEMS	AMOUNT ($)	PERCENTAGE
Public Education Program	300,000	18.69
Big Bear Lake TMDL	250,000	15.58
Administration	170,000	10.59
Chino Basin TMDL Implementation (Middle Santa Ana River)	160,000	9.97
MS4 Database Development	150,000	9.35
Storm Water Quality Standards Study (SAWPA)-Phase 3	150,000	9.35
Monitoring Program	100,000	6.23
Training	100,000	6.23
Participation in Regional Monitoring Program (SCCWRP)	70,000	4.36
Annual Report Preparation	50,000	3.12
Consultant Costs	30,000	1.87
Participation in Statewide Storm Water Issues (CASQA)	30,000	1.87
HCOC Map and Documentation	25,000	1.56
Permit Renewal Tasks	20,000	1.25
Subtotal	**1,605,000**	
Approved Reserved Fund (2008-09)	160,500	
Total Budget	1,765,500	

2. Individual Costs for ROWD/MSWMP Implementation for the third-term permit: These are costs incurred by each Permittee for implementing programs that complement the NPDES program by reducing the potential for pollutants to enter the storm drain system. Most of these programs existed prior to the MS4 program and these include: (1) street sweeping; (2) hazardous waste collection and recycling; and (3) storm drain and other municipal facilities maintenance. The MSWMP required additional programs and policies to ensure that these activities were not a significant contributor of pollutants to the MS4s and the receiving waters. In 2006/07, the Permittees determined their total Individual Costs for these programs to be $60.138 million.

Funding sources for the Storm Water Program for individual permittees are General Funds, capital funds, storm drain fees, sewer funds, storm water management fees,

development fees, licensing fees, plan check fees, NPDES construction inspection fees, business license fees, gas tax, utility tax, solid waste funds, and others.

XI. ANTIDEGRADATION ANALYSIS

The Regional Board has considered whether a complete antidegradation analysis, pursuant to 40 CFR 131.12 and State Board Resolution No. 68-16, is required for the storm water discharges. The Regional Board finds that the pollutant loading rates to the receiving waters will be reduced with the implementation of the requirements in this Order. As a result, the quality of storm water discharges and receiving waters will be improved, thereby improving protection for the beneficial uses of waters of the United States. Since this Order will not result in a lowering of water quality, a complete antidegradation analysis is not necessary, consistent with the federal and state antidegradation requirements.

XII. ANTI-BACKSLIDING

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations of 40 CFR 122.44(*l*) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order. Therefore this Order conforms with the anti-backsliding requirements of the CWA.

XIII. PUBLIC WORKSHOPS

The Regional Board conducted a public workshop on the first draft of the Order on August 3, 2009 at the Loma Linda City Council Chambers.

XIV. PUBLIC HEARING

The Regional Board will hold a public hearing (scheduled to start at 9:00 a,m,) regarding the proposed waste discharge requirements on January 29, 2010 at the City Council Chambers, City of Loma Linda, 25541 Barton Road, Loma Linda, CA. A Notice of Public Hearing was published in the Legal Notices section of The Sun, a local newspaper, on November 13, 2009. Further information regarding the conduct and nature of the public hearing concerning these waste discharge requirements may be obtained by writing or visiting the Santa Ana Regional Board office, 3737 Main Street, Suite 500, Riverside, CA 92501-3348. This and other information are also available at the website at: www.waterboards.ca.gov/santaana. A Notice of Public Hearing and Hearing Procedure is also posted on the Regional Board's website at:

http://www.waterboards.ca.gov/santaana/water_issues/programs/stormwater/san_bernardino_permit.shtml.

XV. INFORMATION AND COPYING

Persons wishing further information may write to the above address or call Maria Macario at (951) 321-4583 or email at mmacario@waterboards.ca.gov. Copies of the application, proposed waste discharge requirements, and other documents (other than those which the Executive Officer maintains as confidential) are available at the Regional Board office for inspection and copying by appointment scheduled between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday (excluding holidays).

XVI. REGISTER OF INTERESTED PERSONS

Any person interested in a particular application or group of applications may leave his/her name, address, and phone number as part of the file for an application. Copies of the final waste discharge requirements will be emailed to all interested parties.

E-mail registration:

http://www.waterboards.ca.gov/resources/email_subscriptions/reg8_subscribe.shtml

In addition to the permittees, comments were solicited from the following agencies and/or persons:

Government Agencies

U. S. Environmental Protection Agency – John Kemmerer/Eugene Bromley (W-5-1)
US Army District, Los Angeles, Corps of Engineers - Permits Section
NOAA, National Marine Fisheries Service
US Fish and Wildlife Service – Carlsbad
U.S. Department of Agriculture - Forest Services, San Bernardino County National Forest
California Department of Transportation (Cal Trans), District 8, Paul Lambert
California Department of Parks and Recreation - Chino Hills State Park
Inland Valley Development Agency, San Bernardino International Trade Center and Airport
State Water Resources Control Board – David Rice, Office of the Chief Counsel
State Water Resources Control Board – Bruce Fujimoto, Division of Water Quality
State Department of Water Resources - Glendale
California Regional Water Quality Control Board, North Coast Region (1) – Executive Officer
California Regional Water Quality Control Board, San Francisco Bay Region (2) - Executive Officer
California Regional Water Quality Control Board, Central Coast Region (3) - Executive Officer
California Regional Water Quality Control Board, Los Angeles Region (4) - Executive Officer
California Regional Water Quality Control Board, Central Valley Region (5S) - Executive Officer
California Regional Water Quality Control Board, Central Valley Region (5R) – Assistant Executive Officer

California Regional Water Quality Control Board, Central Valley Region (5F) – Assistant Executive Officer
California Regional Water Quality Control Board, Lahontan Region (6SLT) - Executive Officer
California Regional Water Quality Control Board, Lahontan Region (6V) – Assistant Executive Officer
California Regional Water Quality Control Board, Colorado River Basin Region (7) - Executive Officer
California Regional Water Quality Control Board, San Diego Region (9) - Executive Officer
California Department of Fish and Game - Ontario
California Department of Public Health – San Bernardino
California Department of Parks and Recreation - Perris
South Coast Air Quality Management District - Diamond Bar
Riverside County Flood Control District – Jason Uhley
Orange County Public Works Department - Chris Crompton/Richard Boone

Interested Parties

AEI/CASC – Jeff Endicott
URS/Greiner - Bob Collacott
Building Industry Association –Mark Grey
Latham & Watkins – Paul Singarella/Shirin Zandipour
Best, Best, and Krieger
Southern California Association of Governments (SCAG), Los Angeles
San Bernardino Associated Governments (SANBAG)
Santa Ana Watershed Project Authority - Celeste Cantu
Inland Empire West Resource Conservation District - General Manager

Universities and Colleges (Chancellor)

California State University - California State University San Bernardino
San Bernardino Community College District - Chaffey College Campus
San Bernardino Community College District - Crafton Hills College Campus
San Bernardino Community College District - San Bernardino Valley College Campus
University of Redlands
Loma Linda University

School Districts (Superintendent)

Alta Loma Elementary School District
Bear Valley Unified School District
Central Elementary School District
Chaffey Joint Union High School District
Chino Valley Unified School District
Colton Joint Unified School District
Cucamonga Elementary School District
Etiwanda Elementary School District

Fontana Unified School District
Mountain View Elementary School District
Mt. Baldy joint Elementary School District
Ontario-Montclair Elementary School District
Rialto Unified School District
Rim of the World Unified School District
Redlands Unified School District
San Bernardino City Unified School District
Upland Unified School District
Yucaipa Joint Unified School District

Hospitals (Administrator)

Bear Valley Community Hospital
Chino Community Hospital
Doctors Hospital
Kaiser Foundation Hospital
Loma Linda Community Hospital
Loma Linda University Medical Center
Mountains Community Hospital
Ontario Community Hospital
Patton State Hospital
Redlands Community Hospital
St. Bernardine Medical Center
San Antonio Community Hospital
San Bernardino Community Hospital
San Bernardino County Hospital

Environmental Organizations

Lawyers for Clean Water – Daniel Cooper
Orange County Coastkeeper – Garry Brown
Inland Empire Waterkeeper - Autumn DeWoody
Defend the Bay – Bob Caustin
Sierra Club, San Gorgonio Chapter
Natural Resources Defense Council (NRDC) – David Beckman/Bart Lounsbury
Cousteau Society
Audubon Sea & Sage Chapter

Newspapers

Press Enterprise
Inland Valley Daily Bulletin
Big Bear Grizzly
Chino-Chino Hills Champion Newspapers
Fontana Herald News
Highland Community News
Redlands Daily Facts
San Bernardino Sun
Los Angeles Times

Orange County Register

Railroads

AT&SF Railway Company
Union Pacific Railroad Company
BNSF Railway Company

Water Districts (General Manager)

Big Bear Municipal Water District
Inland Empire Utilities Agency
Cucamonga Valley Water District
East Valley Water District
Monte Vista Water District
San Bernardino Valley Municipal Water District
West San Bernardino County Water District
Yucaipa Valley Water District Orange County Water District
Metropolitan Water District
Western Municipal Water District
Orange County Water District

Attachment 7: Notice of Intent Municipal Construction Activity

ATTACHMENT 7

CALIFORNIA REGIONAL WATER QUALITY CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD – SANTA ANA REGION

NOTICE OF INTENT

TO COMPLY WITH THE TERMS OF THE SAN BERNARDINO COUNTY MUNICIPAL STORMWATER PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES

ORDER No. R8-2010-0036 (NPDES No. CAS618036)

MARK ONLY ONE ITEM 1. ☐ New Construction / Reconstruction 2. ☐ Change of Information for WDID# _____

I. OWNER

Name	Contact Person		
Mailing Address	Title		
City	State	Zip	Phone ( ) – Fax ( ) – Email :

II. CONTRACTOR INFORMATION

Name	Contact Person		
Local Mailing Address	Title		
City	State	Zip	Phone ( ) – Fax ( ) – Email:

III. SITE INFORMATION

A. Project Title	Site Address		
City	State	Zip	Contact Person Phone ( ) –
B. Construction commencement date: (Month / Day / Year)	C. Projected construction completion date: (Month / Day / Year)		

D. Type of Work: ☐ Utility ☐ Flood Control ☐ Transportation ☐ Other (Specify) Description of Work: _____	E. Total size of project/construction site: ____Acres Total size of area to be disturbed: ____Acres.

IV. RECEIVING WATER INFORMATION

A. Does the storm water runoff from the construction site discharge to (Check all that apply):
1. ☐ Indirectly to waters of the U.S.
2. ☐ Storm drain system - Enter owner's name:_____
3. ☐ Directly to waters of U.S. (e.g. , river, lake, creek, stream, or to a pipe/channel that flows without inflow from other sources between site and water body etc.)

V. IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (mark one) ☐ A SWPPP has been prepared for this facility and is available for review ☐ A SWPPP will be prepared and ready for review by (date): ___/___/___ B. Date WQMP approved by local agency: ___/___/___ ☐ Not Applicable.	C. MONITORING PROGRAM (MP) (mark one) ☐ A MP has been prepared for this facility and is available for review ☐ A MP will be prepared and ready for review by (date): ___/___/___

VI. CERTIFICATIONS

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. In addition, I certify that the Provisions of Section No. XIV of Order No. R8-2010-0036, including the development and implementation of a WQMP, a Storm Water Pollution Prevention Plan (SWPPP) and a Monitoring Program (MP), will be complied with."

Printed Name: _____ **Title:** _____

Signature: _____ **Date:** _____

Attachment 8: Notice of Termination Municipal Construction Activity

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD – SANTA ANA REGION

NOTICE OF TERMINATION

OF COVERAGE UNDER THE SAN BERNARDINO COUNTY MUNICIPAL STORMWATER PERMIT
FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY

ORDER No. R8-2010-0036 (NPDES No. CAS618036)

I. WDID No. _____

II. OWNER

Name	Contact Person		
Mailing Address	Title		
City	State	Zip	Phone ( ) – Fax ( ) – Email:

III. SITE INFORMATION

A. Original Project Title	Site Address			
City/Unincorporated Area	State CA	Zip	Site Contact Person	
B. Contractor Name	Phone ( ) – Fax ( ) – Email:		Title	
Local Mailing Address	City		State	Zip
Qualified SWPPP Practitioner	Phone ( ) – Fax ( ) – Email:			

IV. BASIS OF TERMINATION

__ 1. The construction project is completed and the following conditions have been met.

- ☐ All elements of the Storm Water Pollution Prevention Plan have been completed.
- ☐ Construction materials and waste have been disposed of properly.
- ☐ The site is in compliance with all local storm water management requirements.
- ☐ A post-construction storm water operation and management plan is in place (Attach a description of the post construction BMPs, the location (Latitude /Longitude), and a map of the locations of the PCBMPs).
- ☐ Field Verification Inspection (include a copy of the report) performed on ___/___/___ by Name_____

__ 2. Construction activities have been suspended; either temporarily ____ or indefinitely ___ and the following conditions have been met.

- ☐ All elements of the Storm Water Pollution Prevention Plan have been completed.
- ☐ Construction materials and waste have been disposed of properly.
- ☐ An effective combination of erosion and sediment control is in place for all denuded areas and other areas of potential erosion.
- ☐ The site is in compliance with all local storm water management requirements.

Date of suspension ____ / ____ / ____ Expected start up date ____ / ____ / ____

IV. CERTIFICATION

I certify under penalty of law that all storm water discharges associated with construction activity from the identified site that are authorized by NPDES General Permit No. CAS000002 have been eliminated or that I am no longer the owner of the site. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with construction activity under the General Permit, and that discharging pollutants in storm water associated with construction activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this Notice of Termination does not release an owner of liability for any violation of the General Permit or the Clean Water Act.

Printed Name: _____ **Title:** _____

Signature: _____ **Date:** _____

Attachment 9: Notice of Intent for Municipal De-Minimus Discharges

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION
NOTICE OF INTENT
TO COMPLY WITH THE TERMS AND CONDITIONS OF THE

☐ **Riverside County MS4 Permit**
ORDER NO. R8-2010-0033
NPDES NO. CAS 618033

☐ **San Bernardino County MS4 Permit**
ORDER NO.R8-2010-0036
NPDES NO. CAS618036

GENERAL WASTE DISCHARGE REQUIREMENTS FOR DISCHARGE TO SURFACE WATERS THAT POSE INSIGNIFICANT (DE MINIMUS) THREAT TO WATER QUALITY

I. PERMITTEE (*Person/Agency Responsible for the Discharge*)
Agency/Company
Name:_____
Address/*Street* _____
City _____State _____ZIP_____Contact Person:_____
Phone: (_____)_____; Email: _____

II. FACILITY
Name:_____
Address/Street _____
City _____State _____ZIP_____Contact Person:_____
Phone: (_____)_____; Email: _____

a. Projected Flow Rate (gpd):_____,
b. Receiving Water (identify):_____

III. INDICATE EXISTING PERMIT NUMBER: (*if applicable*)
a. Individual Permit Order No. _____ NPDES No. _____
b. General Permit Order No. R8-2010-003-_____
c. Others (specify) _____

IV. CERTIFICATION:

I certify under penalty of law that I am an authorized representative of the permittee and that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the permittee will comply with the terms and conditions stipulated in Orders No. R8-2009-0003 and (R8-2010-0033 or R8-2010-0036, as applicable) including the monitoring and reporting program issued by the Executive Officer of the Regional Board.

Name:_____Title:_____
(type or print)

Signature: _____ Date: _____

Email: _____

Remarks: If changes to facility ownership and/or treatment processes were made after the issuance of the existing permit, please provide a description of such changes on another sheet and submit it with this Notice of Intent.

V. OTHER REQUIRED INFORMATION - FOR NEW DISCHARGERS AND FOR NEW DISCHARGES AND LOCATIONS NOT PREVIOUSLY REPORTED BY EXISTING DISCHARGERS.

Please provide a COMPLETE characterization of your discharge. A complete characterization includes, but is not limited to:

a. A list of constituents and the discharge concentration of each constituent;

b. The estimated average and maximum daily flow rates at unit of gallons per day(gpd); the frequency and duration of the discharge and the date(s) when discharge will start;

c. The proposed discharge location(s) as latitude and longitude for each discharge point;

d. A description of the proposed treatment system (if appropriate);

e. The affected receiving water; the receiving water(s) shall be
   1) receiving storm drain/creek, and/or
   2) the ultimate receiving water, such as Santa Ana River, San Jacinto River, Lake Elsinore, Prado Park Lake, etc.;

f. A map showing the path from the point of initial discharge to the ultimate receiving water. Please try to limit your maps to size of 8.5" X 11".

g. A list of known or suspected leaking underground tanks and other facilities or operations that have, or may have impacted the quality of the underlying groundwater within 200 feet of the site property lines for projects with expected discharge flow rates of less than 100,000 gallons per day and within 500 feet of the site property lines for projects with expected discharge flow rates of greater than 100,000 gallons per day.

h. Any other information deemed necessary by the Executive Officer.

VI. OTHER

Attach additional sheets to explain any responses which need clarification. List attachments with titles and dates below:

You will be notified by a representative of the RWQCB within 30 days of receipt of your application. The notice will state if your application is complete or if there is additional information you must submit to complete your application, pursuant to Division 7, Section 13260 of the California Water Code.