City of Seal Beach

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July 7, 2009

BY EMAIL AND U.S. MAIL

State Water Resources Control Board
Office of Chief Counsel
Jeannette L. Bashaw, Legal Analyst
P.O. Box 100
Sacramento, CA 95812-0100

Re: Petition of City of Seal Beach for Review of Action by the California Regional Water Quality Control Board, Santa Ana Region, in Adopting Order No. R8-2009-0030, NPDES Permit No. CAS 618030

Dear Ms. Bashaw:

This is to inform the State Water Resources Control Board that the City of Seal Beach ("Petitioner") hereby submits this Petition for Review and joins in the Petition for Review submitted by the County of Orange and the Orange County Flood Control District on June 22, 2009 (the "County Petition"). The Petition seeks review of the California Regional Water Quality Control Board, Santa Ana Region May 22, 2009 adoption of Order No. R8-2009-0030 related to NPDES Permit No. CAS 618030. Exhibit A. The County is the principal permittee; Petitioner is a co-permittee.

I. Name, Address, Telephone Number and Email Address of Petitioner

City of Seal Beach
Vince Mastrosimone, Director of Public Works
211 8th Street
Seal Beach, CA 90740
Telephone: 714-990-7650
Email: vmastrosimone@ci.seal-beach.ca.us

II. SPECIFIC ACTION OF THE REGIONAL BOARD FOR WHICH REVIEW IS SOUGHT

Petitioners request the State Water Resources Control Board ("State Board") to review the Regional Board's Order No. R8-2009-0030, reissuing NPDES Permit No. CAS618030 (hereafter, the "Permit ")

III. DATE OF REGIONAL BOARD'S ACTION

The Regional Board adopted the Permit on May 22, 2009.

IV. STATEMENT OF REASONS THE ACTION WAS INAPPROPRIATE OR IMPROPER

Petitioners believe the Permit adopted by the Regional Board generally embodies an appropriate approach to improving water quality in the County while reflecting the work the Permittees have initiated during the prior permit terms and the work they have committed to perform in the future. However, several provisions of the Permit – including the Low Impact Development ("LID") and Total Maximum Daily Load ("TMDL") provisions – are inappropriate or improper in that, among other things, they impose obligations on Petitioners that are not mandated or supported by the Clean Water Act ("CWA") and/or Porter-Cologne Water Quality Control Act ("Porter-Cologne" or "Water Code") and violate provisions of Porter Cologne. A more detailed discussion of these issues is provided in Section VI below.[1] Petitioners have previously raised these and other issues, verbally and in writing, to the Regional Board.

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[1] Petitioners may provide the State Board with additional reasons why the Permit is inappropriate and/or improper. Any such additional reasons will be submitted to the State Board as an amendment to this Petition. Petitioners also may dispute certain findings that form the basis of the Permit, which similarly will be detailed in any amendment to this Petition.

V. HOW THE PETITIONERS ARE AGGRIEVED

Petitioners are Permittees under the Permit. They, along with the other Permittees, are responsible for compliance with the Permit. Failure to comply with the Permit exposes Petitioners to liability under the CWA and Porter-Cologne, and subjects them to potential lawsuits by government regulators and/or third parties. To the extent that certain provisions in the Permit are improper or inappropriate, Petitioners should not be subject to such actions.[2]

VI. ACTION PETITIONERS REQUEST THE STATE WATER BOARD TO TAKE

The issues raised in this Petition may be resolved or rendered moot by Regional Board staff actions. Accordingly, Petitioners request the State Board hold this Petition in abeyance at this time. Depending on the outcome of the Regional Board actions, Petitioners will, if necessary, request the State Board to consider the Petition and schedule a hearing.

VII. POINTS AND AUTHORITIES

The following is a brief discussion of the issues Petitioners raise in this Petition. To the extent not addressed by the Regional Board, Petitioners also seek review of the Permit on the grounds raised in Petitioners' previous written comments. Petitioners will submit to the State Board a complete statement of points and

[2] Petitioners may provide the State Board with additional information concerning the manner in which they have been aggrieved by the Regional Board's action in adopting the Permit. Any such additional information will be submitted to the State Board as an amendment to this Petition.

authorities in support of this Petition, as necessary, if and when Petitioners request the State Board to consider the Petition.

A. The Permit's LID Provisions Violate Water Code Section 13360(a) by Dictating How Permittees Are to Comply With the Permit and Are Otherwise Unreasonable, Arbitrary, and Not Supported by Evidence.

1. The Regional Board Can Establish Permit Conditions But Cannot Tell Permittees How to Comply With the Conditions.

Under the CWA, municipal separate storm sewer system ("MS4") permits must require controls to reduce the discharge of pollutants to the maximum extent practicable (the so-called MEP standard). According to the Permit, the Regional Board has determined that the Permit requirements are consistent with the MEP standard. It is appropriate and proper for the Regional Board to require Permittees to comply with the MEP standard. It is a violation of Porter-Cologne for the Regional Board to tell Permittees ***how*** to comply with the MEP standard.

Section 13360(a) of the Water Code prohibits the Regional Board from specifying a particular manner of complying with permit requirements. However, in Section XII.C of the Permit (as well as other sections) that is precisely what the Regional Board has done. Section XII.C very specifically requires that Permittees address storm water quality in a certain manner, namely by on-site infiltration, harvest and reuse, or evapotranspiration. Only where these LID methods are infeasible may Permittees allow the use of on-site bio-treatment or other regional LID methods. Even more prescriptive, Permittees may not address storm water quality with proven effective structural treatment controls unless they issue the project proponent a waiver.

Accordingly, the State Board should remand the Permit to the Regional Board to revise Section XII.C to allow Permittees the flexibility to choose the best control measures to meet the MEP standard.

2. Without a Sufficient Factual Basis, the LID Requirements Are Unreasonable and Arbitrary.

In addition to being prescriptive, the Permit's LID provisions also are unreasonable, arbitrary and not supported by evidence. In spite of evidence that the prescribed subset of on-site LID methods the Permit requires are not always the best means of addressing storm water quality, the Permit requires that these methods generally be used. While the parties agree that LID methods generally can be an effective tool for addressing storm water quality, without evidence in the record that they always are better, they should not be mandated to the exclusion of other effective tools.

Accordingly, the State Board should remand the Permit to the Regional Board to revise Section XII.C to allow Permittees the flexibility to choose the best control measures to meet the MEP standard.

B. It Is Inappropriate and Improper for the Permit to Implement Technical TMDLs; the Clean Water Act Does Not Require that MS4 Permits Implement TMDLs.

1. TMDLs Must be Adopted Into the Basin Plan with Implementation Plans.

Section XVIII.B of the Permit implements so-called "technical" TMDLs. These are EPA-developed TMDLs that do not have implementation plans. The Regional Board has not adopted these technical TMDLs into the Basin Plan.

Under federal law, the Regional Board must incorporate TMDLs into its Basin Plan. *See* 40 C.F.R. § 130.7(d)(2). Under state law, the TMDLs must include implementation plans. *See, e.g.*, ***Do TMDLs Have to Include Implementation Plans?***, Memorandum dated March 1, 1999, from William R. Attwater, Chief Counsel, State Board Office of Chief Counsel, to Gerard J. Thibeault, Executive Officer, Santa Ana Regional Water Quality Control Board ("The Regional Water Quality Control Boards (Regional Water Boards) are required to incorporate TMDLs in their water quality control plans (basin plans). Implementation plans are a required component of basin plans."). *See also* State Water Resources Control Board, ***Total Maximum Daily Loads (TMDL) Questions & Answers***, April 2001 ("Before a TMDL is enforceable it must be incorporated into the appropriate Basin Plan by amending the Basin Plan in accordance with state law. If TMDLs are not incorporated into Basin Plans, they have no legal standing under state law.").

U.S. EPA recognizes that in California even EPA-developed TMDLs must be incorporated into the Basin Plan. *See* U.S. EPA Region 9, ***Guidance for Developing TMDLs in California***, Sections 3.2 and 3.4, January 7, 2000.

Because the Regional Board has not adopted into the Basin Plan the technical TMDLs referenced in Section XVIII.B of the Permit, they are not enforceable and should not be included in the Permit. Accordingly, the State Board should remand the Permit to the Regional Board to remove the technical TMDLs.

2. EPA's Technical TMDL for an Impaired Segment of Coyote Creek in the Los Angeles Region Cannot be Implemented in the Permit.

One of the technical TMDLs implemented in Section XVIII.B of the Permit is a technical TMDL for an impaired segment of Coyote Creek located in the Los

Angeles Region, not the Santa Ana Region. The Regional Board has not listed the segment of Coyote Creek that is located in the Santa Ana Region as impaired. In addition to the argument above for why it is inappropriate and improper for the Regional Board to implement technical TMDLs in the Permit, implementation of the Coyote Creek TMDL in the Permit is inappropriate and improper for several additional reasons.

First, it is not appropriate under the CWA to implement a TMDL for water segment that is not listed as impaired. Under the CWA and U.S. EPA's implementing regulations, states are to identify impaired water segments, rank the segments in order of priority, and then establish TMDLs for those segments according to their ranking. *See, e.g.*, ***San Francisco Bay Keeper v. Whitman***, 297 F.3d 877, 880 (9th Cir. 2002). The Regional Board has not listed the upper reach of Coyote Creek as an impaired segment, nor has it proposed the upper reach for listing as impaired under section 303(d). Accordingly, it is inappropriate to implement a TMDL for the segment.

Second, by means of Section XVIII.B of the Permit, the Regional Board appears to be attempting to implement a TMDL for the upper reach of Coyote Creek without going through the rigorous public process required to establish and implement a TMDL. If the Regional Board intends to establish, implement, and enforce TMDLs for the upper reach of Coyote Creek, it needs to conduct a water body assessment for the segment, develop load and waste load allocations for the segment, develop an implementation plan for meeting the allocations, amend the Basin Plan to incorporate the TMDLs, and allow public participation in the process.

It cannot simply incorporate into the Permit the allocations developed by or for another Regional Board for a downstream waterbody.

Accordingly, the State Board should remand the Permit to the Regional Board to remove the Coyote Creek TMDL from the Permit.

3. Because the Clean Water Act Does Not Require TMDLs be Implemented in MS4 Permits, the Regional Board Must Comply with State Law to Implement TMDLs in the Permit.

Neither the CWA nor U.S. EPA's storm water regulations require that MS4 permits include provisions to implement TMDLs. It is true that where water quality-based effluent limitations ("WQBELs") designed to meet Water Quality Standards ("WQS") are included in an NPDES permit, the limits must be consistent with the assumptions and requirements of any available wasteload allocations ("WLAs") prepared by the state and approved by U.S. EPA. 40 C.F.R. § 122.44(d)(1)(vii)(B). This provision applies to NPDES permits "when applicable." 40 C.F.R. § 122.44. However, the applicable standard for MS4 permits is the MEP standard; federal law does not require that MS4 permits include conditions designed to meet WQS. *See* ***Defenders of Wildlife v. Browner***, 191 F.3d 1159 (9th Cir. 1999). Thus, the federal regulation does not require that MS4 permits include WQBELs consistent with available WLAs. In other words, federal law does not require that MS4 permits implement TMDLs.

To the extent the Regional Board has discretion to implement TMDLs in MS4 permits, it must comply with state law requirements. These requirements include considering the economic effects of such implementation (*see, e.g.*, ***City of Burbank v. State Water Resources Control Board*** (2005) 35 Cal.4th. 613), and complying

with the California Constitution's prohibition against unfunded mandates (i.e., the Regional Board must provide funding for such implementation).

Accordingly, the State Board should remand the Permit to the Regional Board to revise Section XVIII to comport with state law.

VIII. NOTICE TO REGIONAL BOARD

As indicated in the attached Proof of Service, a copy of this Petition is being simultaneously served by Federal Express upon the Executive Officer of the Regional Board.

IX. ISSUES PREVIOUSLY RAISED

As noted in Section IV above, the substantive issues raised in this Petition were presented to the Regional Board before the Regional Board acted on May 22, 2009.

X. CONCLUSION

For the reasons stated herein, Petitioners have been aggrieved by the Regional Board's action in adopting several provisions in the Permit. However, depending on Regional Board staff's actions regarding these provisions, the issues raised in this Petition may be resolved or rendered moot. Accordingly, until such time as Petitioners request the State Board to consider this Petition, Petitioners request the State Board hold this Petition in abeyance.

Thank you for your attention to this matter.

Sincerely,

City of Seal Beach

cc: Gerard J. Thibeault, Santa Ana Regional Water Quality Control Board
Geoffrey K. Hunt, County of Orange
Timothy J. Carlstedt, Bingham McCutchen LLP

PROOF OF SERVICE BY EMAIL

I am over 18 years of age, not a party to this action and employed in Los Angeles, California at 355 South Grand Avenue, 40th Floor, Los Angeles, California 90071.

On July 7, 2009, at approximately 3:00 p.m., I served by email a copy of:

PETITION FOR REVIEW

(Re: CITY OF SEAL BEACH FOR REVIEW OF ACTION BY THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SANTA ANA REGION, IN ADOPTING ORDER NO. R8-2009-0030, NPDES PERMIT NO. CAS618030)

on the following:

State Water Resources Control Board
Office of Chief Counsel
Jeannette L. Bashaw, Legal Analyst
1001 "I" Street, 22nd Floor
Sacramento, CA 95814
Email: jbashaw@waterboards.ca.gov

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration was executed on July 7, 2009.

Maurine Lopes

PROOF OF SERVICE

I am over 18 years of age, not a party to this action and employed in Los Angeles, California at 355 South Grand Avenue, 40th Floor, Los Angeles, California 90071.

I am readily familiar with the practice of this office for collection and processing of correspondence for next business day delivery by Federal Express, and correspondence is deposited with Federal Express that same day in the ordinary course of business. Today I served the attached:

PETITION FOR REVIEW

(Re: CITY OF SEAL BEACH FOR REVIEW OF ACTION BY THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SANTA ANA REGION, IN ADOPTING ORDER NO. R8-2009-0030, NPDES PERMIT NO. CAS618030)

by causing a true and correct copy of the above to be delivered by Federal Express from Los Angeles, California in sealed envelope(s) with all fees prepaid, addressed as follows:

State Water Resources Control Board
Office of Chief Counsel
Jeannette L. Bashaw, Legal Analyst
1001 "I" Street, 22nd Floor
Sacramento, CA 95814

Mr. Gerard J. Thibeault
Executive Officer
California Regional Water Quality Control Board, Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3346

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration was executed on July 7, 2009.

Maurine Lopes

State of California
California Regional Water Quality Control Board
Santa Ana Region

ORDER NO. R8-2009-0030
NPDES No. CAS618030

Waste Discharge Requirements
for
the County of Orange, Orange County Flood Control District
and
The Incorporated Cities of Orange County within the Santa Ana Region
Areawide Urban Storm Water Runoff
Orange County

FINDINGS

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

A. REGULATORY BASIS

1. The 1987 amendments to the Clean Water Act (CWA) added Section 402(p) (USC §1342(p)) establishing a framework for regulating municipal and industrial (including construction) storm water discharges under the National Pollutant Discharge Elimination System (NPDES) permit. Section 402(p) of the CWA requires NPDES permits for storm water discharges from municipal separate storm sewer systems[1] (storm drains or MS4s) as well as other designated storm water discharges that are considered significant contributors of pollutants to waters of the United States (waters of the US). On November 16, 1990, the United States Environmental Protection Agency (hereinafter EPA) amended its NPDES permit regulations to include permit application requirements for storm water discharges. These regulations are codified in Code of Federal Regulations, Title 40, Parts 122, 123 and 124 (40 CFR Parts 122, 123 & 124).

2. This order is based on Section 402(p) of the CWA; 40 CFR Parts 122, 123, and 124; Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code or CWC, 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. A revised Basin Plan was adopted by the Regional Board and became effective on January 24, 1995. The Basin Plan contains water quality objectives and beneficial uses for water bodies in the Santa Ana Region. Under the CWA, the beneficial uses and the water quality objectives to protect those beneficial uses are collectively referred to as water quality standards. The Basin Plan also incorporates by reference all State Board water quality control

[1] A municipal separate storm sewer **system** (MS4) is any conveyance or a system of conveyances designed to collect and/or transport storm water, such as, storm drains, manmade channels, ditches, roads w/drainage systems, catch basins, curbs, gutters, etc., which is not part of a Publicly Owned Treatment Works (i.e., not a combined sewer).

plans and policies, including the 1990 Water Quality Control Plan for Ocean Waters of California (Ocean Plan).

3. The requirements contained in this order are necessary to protect water quality standards of the receiving waters and to implement the plans and policies described in the above finding. These plans and policies contain numeric and narrative water quality standards for the water bodies in this Region. In accordance with Section 402(p)(2)(B)(iii) of CWA and its implementing regulations, this order requires the permittees to develop and implement programs and policies necessary to reduce the discharge of pollutants in urban storm water runoff to waters of the US to the maximum extent practicable (MEP)[2]. The legislative history and the preamble to the federal storm water regulations (40 CFR Parts 122, 123 and 124) indicate that the Congress and the EPA were aware of the difficulties in regulating urban storm water 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 best management practices (BMPs)[3] to reduce to the maximum extent practicable, the discharge of pollutants in urban storm water from the MS4s in order to support attainment of water quality standards. This order, therefore, includes Receiving Water Limitations[4] based upon water quality objectives, and requires implementation of control measures to protect the beneficial uses. It also prohibits the creation of nuisance and requires the reduction of water quality impairment in receiving waters with an ultimate goal of achieving water quality objectives of the receiving waters.

4. This order is consistent with recent court decisions and precedential orders adopted by the State Board related to municipal storm water NPDES permits. These precedential State Board orders include: Orders No. 99-05, WQ 2001-15 and WQO 2002-0014.

5. 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)).

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[2] MEP 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, gravity of the problem, technical feasibility, fiscal feasibility, public health risks, societal concerns, and social benefits.

[3] Best Management Practices (BMPs) are programs and policies, including structural controls where appropriate, that are implemented to control the discharge of pollutants.

[4] Receiving Water Limitations are requirements included in the orders issued by the Regional Board to assure that the regulated discharge does not violate water quality standards established in the Basin Plan at the point of discharge to waters of the US or the State.

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, where voter approval is needed, the permittees should strive to gain voter approval[5].

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)).

B. REGULATED ENTITIES (PERMITTEES OR DISCHARGERS)

6. On July 22, 2006, the County of Orange, Orange County Flood Control District (OCFCD) and the incorporated cities of Anaheim, Brea, Buena Park, Costa Mesa, Cypress, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, Irvine, Laguna Hills, Laguna Woods, La Habra, La Palma, Lake Forest, Los Alamitos, Newport Beach, Orange, Placentia, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster, and Yorba Linda (hereinafter collectively referred to as permittees or dischargers), submitted NPDES Application No. CAS618030 and a Report of Waste Discharge for reissuance of their areawide urban storm water permit. In order to more effectively carry out the requirements of this order, the permittees have agreed that the County of Orange will continue as principal permittee and the OCFCD and the incorporated cities will continue as co-permittees. Certain portions of the cities of Laguna Hills, Laguna Woods and Lake Forest are within the San Diego Regional Board's jurisdiction. As such, these cities are also regulated under urban storm water permit issued by the San Diego Regional Board.

7. The permittees fall into one of the following categories: (1) a medium or large municipality that services a population of greater than 100,000 or 250,000 respectively; or, (2) a small municipality that is interrelated to a medium or large municipality. Under Section 402(p) of the Clean Water Act, these dischargers (permittees) are required to obtain coverage under an NPDES permit for storm water runoff from their jurisdictions.

C. REGULATED DISCHARGES

8. This order is intended to regulate the discharge of pollutants in urban storm water runoff from anthropogenic (generated from human activities) sources and/or activities within the jurisdiction and control of the permittees and is not intended to address background or naturally occurring pollutants or flows.

9. The permittees own and operate storm drains, including flood control facilities. Some of the natural channels, streambeds and other drainage facilities that are generally considered as waters of the US have been converted to flood control

[5] 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).

facilities. The permittees have established legal authority to control discharges into these systems that they own, operate and/or regulate. As owners and/or operators of the MS4 systems, the permittees are responsible for discharges into their systems that they do not prohibit or control (except where they lack jurisdiction; see A.10 below). The discharge of pollutants into the MS4s may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. Federal regulations, 40 CFR 122.26(d)(2)(i), require the permittees to control the discharge of pollutants into the MS4s to the maximum extent practicable.

10. The permittees may lack legal jurisdiction over urban runoff into their systems from some state and federal facilities, utilities and special districts, Native American tribal lands, waste water 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 discharges. Similarly, certain activities that generate pollutants present in urban runoff may be beyond the ability of the permittees to eliminate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear and leaching of naturally occurring minerals from local geography.

11. This order regulates storm water runoff and certain types of de-minimus discharges specifically authorized under Section III of this order (collectively referred to as urban runoff) from areas under the jurisdiction of the permittees. For purposes of this order, urban runoff includes storm water and authorized non-storm water (see Section III) discharges from residential, commercial, industrial and construction areas within the permitted area and excludes discharges from feedlots, dairies, and farms. Urban runoff consists of surface runoff generated from various land uses in all the hydrologic drainage areas that discharge into waters of the US. The quality of these discharges varies considerably and is affected by land use activities, basin hydrology and geology, season, the frequency and duration of storm events, and the presence of illicit discharge[6] practices and illicit[7] connections.

12. The permittees have the authority to approve plans for residential, commercial, and industrial developments. If not properly controlled and managed, urbanization could result in the discharge of pollutants in urban runoff[8]. "America's Clean Water-The States' Nonpoint Source Assessment, 1985" and the Biennial National Water Quality Inventory Reports to Congress cite urban runoff as a major source of

[6] Illicit discharge means any disposal, either intentionally or unintentionally, of material or waste that can pollute urban runoff or create a nuisance.

[7] Illicit connections are those which are not properly authorized or permitted by the municipality or the owner/operator of the conveyance system.

[8] U.S. EPA. 1983. Results of the Nationwide Urban Runoff Program, Vol. 1, Final report. NTIS PB84-185552.

beneficial use impairment. Urban area runoff may contain[9] elevated levels of pathogens (e.g., bacteria, protozoa, viruses), sediment, trash, fertilizers (nutrients, compounds of nitrogen and phosphorus), pesticides (e.g., DDT, Chlordane, Diazinon, Chlorpyrifos), heavy metals (e.g., cadmium, chromium, copper, lead, zinc), and petroleum products (e.g., oil, grease, petroleum hydrocarbons, polycyclic aromatic hydrocarbons). Urban runoff can carry these pollutants to rivers, streams, lakes, bays and the ocean (receiving waters[10]). In addition, increased flows due to urbanization may increase erosion of stream banks and channels and cause stream channel alterations and impact aquatic resources. This order regulates the discharge of pollutants to waters of the US, to protect beneficial uses of the receiving waters.

13. Urban activities also generate non-storm water discharges such as air conditioning condensate, irrigation runoff, individual residential car washing, etc., generally referred to as de minimus type of discharges. If properly managed, these types of discharges may not contain significant amount of pollutants. Some of these de minimus types of discharges are currently being regulated under separate orders issued by the Regional Board, and some of the specific types of de minimus discharges are authorized under this order (see Section III of this order). Orders No. R8-2003-0061 (NPDES No CAG998001), R8-2004-0021 (NPDES No. CAG998002) and R8-2007-0041 (NPDES No. CAG918002) issued by the Regional Board regulate de-minimus types of discharges.

D. HISTORY OF ORANGE COUNTY MUNICIPAL STORM WATER PERMIT

14. Prior to EPA's promulgation of the storm water permit regulations, the three counties (Orange, Riverside, and San Bernardino) and the incorporated cities within the jurisdiction of the Santa Ana Regional Board requested areawide NPDES permits for urban runoff. On July 13, 1990, the Regional Board adopted Order No. 90-71 for urban storm water runoff from urban areas in Orange County within the Santa Ana Region (first term Permit). Orders No. 96-31 (second term Permit) and R8-2002-0010 (third term Permit), issued by the Regional Board on March 8, 1996 and January 18, 2002, respectively, renewed the Orange County MS4 permit.

15. Order No. R8-2002-0010 expired on January 19, 2007. On July 22, 2006, the permittees submitted a Report of Waste Discharge for renewal of the Permit. On February 20, 2007, Order No. 2002-0010, NPDES No. CAS618030, was administratively extended in accordance with Title 23, Division 3, Chapter 9, §2235.4 of the California Code of Regulations.

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[9] Makepeace, D.K., D.W. Smith, and S.J. Stanley. 1995. Urban stormwater quality: summary of contaminant data. Critical Reviews in Environmental Science and Technology 25(2):93-139.

[10] Receiving waters are waters of the U.S. (and their tributaries) which are identified in the Basin Plan as having certain beneficial uses (see Finding 19, below, for a list of these waters).

E. PERMIT RENEWAL APPLICATION AND RELATED DOCUMENTS

16. The Report of Waste Discharge (the permit renewal application) included the following major documents/information:

    a) A summary of status of current Storm Water Management Program;

    b) A Proposed Plan of Storm Water Quality Management Activities for 2007-20012, as outlined in the Draft 2007 Drainage Area Management Plan (DAMP). The 2007 DAMP includes all the activities the permittees propose to undertake during the next permit term, goals and objectives of such activities, and an evaluation of the need for additional source control and/or structural and non-structural BMPs and proposed pilot studies;

    c) The permittees have developed Local Implementation Plans (LIPs); established a formal training program; and developed a program effectiveness assessment strategy and Watershed Action Plans;

    d) A Performance Commitment that includes new and existing program elements and compliance schedules necessary to implement controls to reduce pollutants to the maximum extent practicable;

    e) A summary of procedures implemented to detect illicit discharges and illicit connection practices;

    f) A summary of enforcement procedures and actions taken to require storm water discharges to comply with the approved Storm Water Management Program;

    g) A summary of public agency activities, results of monitoring program, and program effectiveness assessment; and,

    h) A fiscal analysis.

17. The documents referenced in Finding E.16, above, are hereby incorporated as enforceable elements of this order.

F. PERMITTED AREA

18. The permitted area is shown on Attachment A. It includes the northern portions of Orange County, including the 26 incorporated cities listed under Finding 6, above. The permittees serve a population of approximately 3.1 million, occupying an area of approximately 789 square miles (including unincorporated areas and the limits of 34 cities, 26 of which are within the jurisdiction of this Regional Board; three of the cities, Laguna Hills, Laguna Woods and Lake Forest, are within both the San Diego and Santa Ana Regional Boards' jurisdictions). The permittees have jurisdiction over and/or maintenance responsibility for storm water conveyance systems within Orange County. The County Flood Control system includes an estimated 740 miles of storm drains. A major portion of the urbanized areas of Orange County drains into waterbodies within this Regional Board's jurisdiction. In certain cases, where a natural streambed is modified to convey storm water flows, the conveyance system becomes both a storm drain and a receiving water. The major storm drain systems and drainage areas in Orange County, which are within this Region, are shown on

Attachment B. A portion of the Orange County drainage area is within the jurisdiction of the San Diego Regional Board and is regulated under an order issued by that Board.

G. RECEIVING WATERS AND BENEFICIAL USES

19. Storm water runoff from the MS4s in Orange County enter, or are tributary to, various water bodies of the Region. The permitted area can be subdivided into five tributary watersheds: the San Gabriel River drainage area, the Huntington Harbour and Bolsa Bay drainage area, the Santa Ana River drainage area, the Newport Bay drainage area, and the Irvine and Newport Coast Areas of Special Biological Significance (see Attachment B). These watersheds are tributary to the Pacific Ocean. The surface water bodies in Orange County that could be impacted by urban runoff include:

Inland Surface Streams

Santa Ana River, Reaches 1 and 2

Aliso Creek (tributary to Santa Ana River)

Carbon Canyon Creek (tributary to Santa Ana River)

Santiago Creek, Reaches 1, 2, 3, and 4 (tributary to the Santa Ana River)

Silverado Creek (tributary to Santiago Creek)

Black Star Creek (tributary to Santiago Creek)

Ladd Creek (tributary to Santiago Creek)

San Diego Creek, Reaches 1 and 2 (tributary to Newport Bay)

San Joaquin Freshwater Marsh (tributary to San Diego Creek)

Other tributaries to San Diego Creek: Bonita Creek, Serrano Creek, Peters Canyon Wash, Hicks Canyon Wash, Bee Canyon Wash, Borrego Canyon Wash, Agua Chinon Wash, Laguna Canyon Wash, Rattlesnake Canyon Wash, and Sand Canyon Wash

Santa Ana Delhi Channel (tributary to Newport Bay)

Big Canyon Wash (tributary to Newport Bay)

Buck Gully

Los Trancos Creek

Coyote Creek (tributary to San Gabriel River)

Other tributaries to the above listed rivers, creeks and channels

Bays, Estuaries, and Tidal Prisms

Anaheim Bay and Seal Beach National Wildlife Refuge

Sunset Bay

Bolsa Bay and Bolsa Chica Ecological Reserve

Upper and Lower Newport Bay

Tidal Prism of Santa Ana River (to within 1000 feet of Victoria Street) and Newport Slough, Santa Ana Salt Marsh

Tidal Prism of San Gabriel River (River Mouth to Marina Drive)

Tidal Prisms of Flood Control Channels Discharging to Coastal or Bay Waters (e.g. Huntington Harbour)

Ocean Water

Nearshore Zone

San Gabriel River to Poppy Street in Corona Del Mar

Poppy Street to Southeast Regional Boundary

Offshore Zone

Waters between Nearshore Zone and limit of State Waters

Lakes and Reservoirs

Anaheim Lake

Irvine Lake (Santiago Reservoir)

Laguna, Lambert, Peters Canyon, Rattlesnake, Sand Canyon and Siphon Reservoirs

20. The beneficial uses of these water bodies include: municipal and domestic supply, agricultural supply, industrial service and process supply, groundwater recharge, navigation, hydropower generation, water contact recreation, non-contact water recreation, commercial and sport fishing, warm freshwater and limited warm freshwater habitats, cold freshwater habitat, preservation of biological habitats of special significance, wildlife habitat, preservation of rare, threatened or endangered species, marine habitat, shellfish harvesting, spawning, reproduction and development of aquatic habitats, and estuarine habitat. The ultimate goal of this storm water management program is to achieve water quality objectives in the receiving waters, thereby protecting their beneficial uses.

21. Federal regulations, 40 CFR 131.10(a), prohibits the states from designating a water body for waste transport or waste assimilation. This order prohibits the construction of treatment BMPs within waters of the US. However, if the discharges are sufficiently treated to protect the beneficial uses of the receiving waters, further polishing of the discharge within waters of the US may be considered on a case-by-case basis. Federal authorization under Section 404 and Water Quality Standards Certification under Section 401 of the Clean Water Act may be required for waste treatment or conveyance within waters of the US. Pursuant to Water Code Section 13260, Waste Discharge Requirements may be required for such facilities within waters of the State. Under certain conditions, stream flows may be diverted for treatment (see Section III for conditions on return flows from facilities that extract, treat and return flows from the waters of the US).

H. INTERRELATED WATERSHEDS AND STORM WATER PERMITS

22. The Santa Ana River Basin is the major watershed within the jurisdiction of the Regional Board. The lower Santa Ana River Basin (downstream from Prado Basin) includes the Orange County drainage areas, and the Upper Santa Ana River Basin includes the San Bernardino County and the Riverside County drainage areas. Generally, the San Bernardino County drainage areas drain to the Riverside County drainage areas, and Riverside County drainage areas discharge to Orange County.

23. Within the Region, runoff from the San Bernardino County areas is generally conveyed to the Riverside County areas through the Santa Ana River or other drainage channels tributary to the Santa Ana River. These flows are then discharged to Reach 2 of the Santa Ana River through Prado Basin (Reach 3 of the Santa Ana River). During dry weather conditions, most of the flow in Reach 2 is recharged in Orange County. During wet weather, some of the flow is discharged to the Pacific Ocean through Reach 1 of the Santa Ana River.

24. The three county areas within this Region are regulated under three areawide permits for urban storm water runoff. These areawide NPDES permits are:

    Orange County, NPDES No. CAS618030;

    Riverside County, NPDES No. CAS618033; and,

    San Bernardino County, NPDES No. CAS618036.

    For an effective watershed management program, cooperation and coordination among the regulators, the municipal permittees, the public, and other entities are essential.

25. Studies conducted by the USEPA, the states, flood control districts and other entities indicate the following major sources for urban storm water pollution nationwide:

    Industrial sites where appropriate pollution control and BMPs are not implemented;

    Construction sites where erosion and siltation controls and other BMPs are not implemented; and,

    Urban runoff where the drainage area is not properly managed.

26. A number of permits have been adopted to address pollution from the sources identified in Finding 25, 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). 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 requiring coverage under the State's General Permits for new

developments to be implemented 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.

27. 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 Orange County. 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.

28. 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. These industries and construction sites are also regulated under local laws and regulations. Federal regulations, 40 CFR Part 122.26(d)(2)(iv)(C), also require the permittees to develop and implement programs to control the discharge of pollutants from these sites. A coordinated effort between the permittees and Regional Board staff is critical to avoid duplicative and overlapping efforts when overseeing the compliance of dischargers covered under the Statewide General Permits. As part of this coordination, the permittees have been notifying Regional Board staff when they observe conditions that pose a threat or potential threat to water quality, or when an industrial facility or construction activity has failed to obtain required coverage under the appropriate general storm water permit.

29. Each watershed has unique receiving water issues, land uses, topography, soils and stream stability and habitat issues. The Regional Board and the permittees recognize the importance of integrated watershed management initiatives and regional planning and coordination in the development and implementation of programs and policies related to water quality protection. A number of such efforts are underway in which the permittees are active participants (e.g., Orange County Flood Control Master Plan, Irvine Ranch Water District Natural Treatment System Master Plan, Orange County Watershed Plans, Nutrient and Selenium Management Program, etc.). As recommended in the 2008 National Academy of Sciences Report on Urban Stormwater Management, this order provides an option for the permittees to develop and implement watershed master plans integrating water quality, hydromodification, water supply and habitat protection issues. The Regional Board recognizes that a watershed master plan should integrate all other related programs, including the storm water program and TMDL processes. Consistent with this approach, some of the municipal storm water monitoring programs have already been integrated into a regional monitoring program. The Regional Board also recognizes that, in certain cases, diversion of funds targeted for certain monitoring programs to regional monitoring programs may be necessary. The

Executive Officer is authorized to approve, after proper public notification and consideration of all comments received, the integrated watershed management initiatives and regional planning and coordination programs and regional monitoring programs. The permittees are required to submit all documents, where appropriate, in an electronic format. All such documents will be posted at the Regional Board's website and all interested parties will be notified. In addition, the website will include the administrative and civil procedures for appealing any decision made by the Executive Officer. Some urban runoff issues, such as monitoring, public education and training can be more effectively addressed on a regional or statewide basis, thereby increasing program consistency and efficiency. This order encourages continued participation in such programs and policies.

30. The permittees are required to conduct inspections (40 CFR Part 122.26(d)(2)(iv)(C)(2)) of construction sites, industrial facilities and commercial establishments. Inspection requirements, including criteria for prioritization of facilities for the inspection, were included in the third term permit. The construction and industrial inspection programs in the third term permit had established criteria/examples. However, the commercial inspection program only included a preliminary list of types of facilities to be inspected. Further refinements to the commercial inspection program are included in this order and these include: moving mobile businesses into their own program; including eating establishments (previously their own pilot program); and the addition of some key categories, not included on the 3rd term permit list. It should also be noted that some of these additional categories are directly related to current categories or identified in the Model Urban Runoff Program[11] and all of the additional categories are proposed for inclusion in other Southern California MS4 permits. To avoid duplicative efforts, the permittees need not inspect facilities that have been inspected by Regional Board staff, if the inspection was conducted during the specified time period. It is anticipated that many of the inspections required under this order can and will be carried out by inspectors currently conducting other types of inspections for the permittees (i.e., grading, building, code enforcement, etc.), during their normal duties. It is critical that these inspectors be properly trained in storm water pollution prevention and related issues.

I. POTENTIAL POLLUTANTS IN STORM WATER RUNOFF/IMPACTS ON BENEFICIAL USES

31. The permittees have conducted urban runoff and receiving water monitoring as required under the first, second and third term permits. The third term permit required monitoring using a wider array of methods to assess impacts caused by pollutants in urban runoff. In addition to monitoring the water column under wet and dry weather conditions, the permittees were required to monitor: water column toxicity, mass emission rates, estuary/wetlands including sediment and benthic monitoring, bacteriological/pathogen concentrations and bioassessment analysis. These monitoring programs indicate exceedances of Basin Plan, CTR and/or AB

[11] Model Urban Runoff Program, prepared by the City of Monterey, California Coastal Commission, et. al., revised February 2002 by California Coastal Commission.

411 objectives for a number of constituents. The Report of Waste Discharge identifies copper and zinc, trash and debris, pesticide toxicity and pathogens as the major pollutants of concern. Monitoring data indicate that storm water and dry weather urban runoff continue to have pollutants at levels that could cause or contribute to exceedances of water quality objectives in the receiving waters. The permittees are proposing to conduct special studies to address these pollutants of concern during the fourth term permit.

32. The annual reports submitted by the permittees indicate that urban runoff is still causing or contributing to water quality standards violations. Some of the samples collected during both dry and wet weather exceeded the water quality standards. However, the exceedances during wet weather were more widespread compared to dry weather runoff. The monitoring reports indicate that there is some reduction in the mass loading rates for some of the metals, such as copper and zinc.

33. The results from the monitoring programs did not establish a clear correlation between pollutants in dry or wet weather runoff and impacts on beneficial uses in the receiving waters. However, exceedances of water quality objectives, including exceedances of AB411 standards, were reported for a number of monitoring locations by the permittees. Shoreline monitoring data indicate that AB411 exceedances are higher during the summer months (AB411 season) compared to the winter months. For the interior channels, AB411 exceedances were higher than shoreline, but were not significantly different for summer and winter months[12]. The index of biotic integrity rating is generally poor for most urban streams. The monitoring data also indicated sporadic exceedances of water quality objectives for dissolved oxygen, pH, turbidity, ammonia-nitrogen, surfactants, and some of the metals[13].

34. During the summers of 1999 and 2000, a number of locations along the Orange County coast exhibited elevated bacterial levels. Since then a number of studies have been conducted that indicate that urban runoff, especially dry weather runoff, is a major contributing factor to the Orange County coastal bacterial contamination problems. To address this bacterial problem, the permittees currently divert dry weather low flows from some of these areas to the sanitary sewer. With the diversion of dry weather flows to the sanitary sewer, there have been significant improvements in the beach water quality. A number of studies have been conducted to determine the source of this microbial contamination and to develop permanent remedial measures. These studies have not conclusively determined the sources or solutions to this problem.

35. Monitoring results have indicated the presence of elevated concentrations of pesticides in storm water runoff from urban areas. The permittees have developed and implemented a model plan entitled, "Management Guidelines for Use of Fertilizers and Pesticides". The Report of Waste Discharge indicates that through implementation of this program, the municipalities have reduced the use of fertilizers

[12] Unified Annual Progress Report, 2005-2006, Page C-11-31.

[13] Unified Annual Progress Report, 2005-2006, Attachment C-11-VII.

and pesticides. The permittees are required to review this plan to make any needed changes. TMDLs are being developed for some of the pesticides for the Newport Bay watershed. This order may be reopened to include any TMDL requirements.

36. Pollutants in urban runoff can impact the beneficial uses of the receiving waters and can cause or threaten to cause a condition of pollution or nuisance. Pathogens, such as bacteria, viruses, protozoa, (from sanitary sewer overflows, septic system leaks, spills and leaks from portable toilets, pets, wildlife and human activities) can impact water contact recreation, non-contact water recreation and shellfish harvesting. Microbial contamination of the beaches from urban runoff and other sources has resulted in a number of health advisories issued by the Orange County Health Officer. Oil and grease (from automobiles, industrial sites, etc.) can coat birds and aquatic organisms, adversely affecting respiration and/or thermoregulation. Other petroleum hydrocarbon components can cause toxicity to aquatic organisms and can impact human health. Suspended and settleable solids (from sediment, trash, and industrial activities) can be deleterious to benthic organisms and may cause anaerobic conditions. Sediments and other suspended particulates (from construction sites, erosion due to hydromodification, etc.) can cause turbidity, clog fish gills and interfere with respiration in aquatic fauna. These pollutants can also screen out light, hindering photosynthesis and normal aquatic plant growth and development. Toxic substances (from pesticides, herbicides, petroleum products, metals) can cause acute and/or chronic toxicity, and can bioaccumulate in organisms to levels that may be harmful to human health. Nutrients (from fertilizers, confined animal feeding operations, wildlife, pets and birds) can cause excessive algal blooms. These blooms can lead to problems with taste, odor, color and increased turbidity, and can depress the dissolved oxygen content, leading to fish kills. Stagnant water trapped in trash and debris creates breeding conditions for disease vectors (e.g., mosquitoes). Trash and debris, in particular plastics, have long been recognized as both aesthetic nuisances and as threats to freshwater and marine environments. Plastic debris, in the form of broken-down packaging and pre-production plastic pellets or 'nurdles', harms hundreds of wildlife species through ingestion, entanglement and entrapment. These plastic nurdles 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 preproduction plastic from point and nonpoint sources. In collaboration with the permittees, Regional Board staff is currently trying to address this problem through the State's General Storm Water Permit for Industrial Activities and local controls.

37. Pollutants in urban runoff could adversely impact human health and the environment. Human illnesses have been linked to recreational activities in coastal waters especially near storm drain outlets[14]. Bioaccumulation of pollutants, present

[14] The Santa Monica Bay Restoration Project, Epidemiology Study, 1996.

in urban runoff, can occur in fish and other aquatic organisms. These organisms may be consumed by birds and humans. Pollutants in urban runoff can also cause mortality, impair growth and reproduction anomalies in aquatic organisms. If not properly designed and maintained, urban storm water treatment systems could provide breeding areas for disease vectors, such as mosquitoes, which are a public health concern (e.g., West Nile Virus).

38. It is important to control litter in order to eliminate trash and other materials in storm water runoff. In addition to the municipal ordinances prohibiting litter, the permittees participate or organize a number of other programs such as "Coastal Cleanup Day", "Pride Days", "Volunteer Collection Day", etc. The permittees also organize solid waste collection programs, household hazardous waste collections, and recycling programs to reduce litter and illicit discharges. Additionally, the permittees have installed debris booms at a number of locations to capture trash and debris preventing it from depositing on beaches.

39. The pollutants from urbanized areas are also a significant threat to environmentally sensitive areas, such as waterbodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species), areas of special biological significance (ASBSs) and Clean Water Act Section 303(d) listed impaired waterbodies. The State Board is developing Special Protections for Storm Water and Non-point Source Discharges to ASBSs. Where applicable, the permittees are expected to comply with these Special Protection requirements for the ASBSs.

J. CWA SECTION 303(d) LISTED WATERBODIES AND TMDLS

40. Water quality assessments conducted by Regional Board staff have identified a number of water quality standards 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 the region. If this assessment indicates that beneficial uses and/or water quality objectives are not being met, then that waterbody must be listed under Section 303(d) of the CWA as an impaired waterbody. The 2006 State water quality assessment listed a number of water bodies within the Region under Section 303(d) as impaired waterbodies. For many of these impaired waterbodies, one of the listed causes of impairment is urban runoff. In the Orange County area, these include:

San Diego Creek, Reach 1 (listed for toxaphene, selenium, fecal coliform, nutrients, pesticides, sediment/siltation);

San Diego Creek, Reach 2 (listed for metals, nutrients, sediment/siltation, unknown toxicity);

Upper Newport Bay Ecological Reserve (listed for sediment toxicity, metals, copper, chlordane, PCBs, DDT, nutrients, pathogens, pesticides, sediment/siltation);

Lower Newport Bay (listed for chlordane, copper, DDT, sediment toxicity, PCBs, nutrients, pathogens, pesticides);

Anaheim Bay (listed for nickel, dieldrin, sediment toxicity, PCBs);

Huntington Harbour (listed for copper, lead, nickel, chlordane, pathogens, PCBs, sediment toxicity);

Santiago Creek, Reach 4 (listed for salinity, TDS, chlorides);

Seal Beach (listed for enteroccocus, PCBs);

Silverado Creek (listed for pathogens, salinity, TDS, chlorides);

Rhine Channel (listed for copper, lead, mercury, zinc, sediment toxicity, PCBs);

Peters Canyon Channel (listed for DDT, toxaphene);

Los Trancos Creek (Crystal Cove Creek) (listed for total and fecal coliform);

Huntington Beach State Park (listed for enteroccocus, indicator bacteria, PCBs);

Bolsa Chica State Beach (listed for copper and nickel);

Buck Gully Creek (listed for total and fecal coliform); and

Balboa Beach (listed for dieldrin, DDT, PCBs).

41. 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 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. 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, plus a margin of safety. TMDLs are one of the bases for limitations established in waste discharge requirements.

42. For 303(d) listed waterbodies without a TMDL, the permittees are required to provide special protections through development and implementation of Watershed Action Plans or other focused control measures that would address the pollutant of concern. If a TMDL has been developed and an implementation plan is yet to be developed, the permittees are required to develop constituent specific source control measures, conduct additional monitoring and/or cooperate with the development of an implementation plan.

43. TMDLs have been established by the Regional Board for sediment, fecal coliform, diazinon, chlorpyrifos and nutrients for the Newport Bay watershed. Organochlorine compounds TMDLs were adopted by the Regional Board on September 7, 2007. In addition, toxics TMDLs were promulgated by USEPA on June 14, 2002, including TMDLs for metals and selenium, and a TMDL specific to the Rhine Channel located in Lower Newport Bay.

44. TMDLs for diazinon and chlorpyrifos in San Diego Creek, and for chlorpyrifos in Upper Newport Bay, were adopted by the Regional Board on April 4, 2003, and subsequently approved by the State Board, State Office of Administrative Law, and EPA. The diazinon and chlorpyrifos TMDLs require all MS4 permittees in the

Newport Bay Watershed to develop and implement monitoring programs for diazinon and chlorpyrifos. The TMDLs also impose limits on the discharge of these compounds. This order incorporates these requirements.

45. The fecal coliform TMDL specifies WLAs for urban runoff to protect water contact recreation and shellfish harvesting beneficial uses. The implementation plan for the fecal coliform TMDL requires that monitoring and certain investigations be conducted, including a source identification and characterization investigation of urban runoff. An updated TMDL report is to be prepared based on the data and information collected, and the TMDL is to be adjusted, as necessary, based on the updated TMDL report. This order may be reopened to incorporate additional requirements based on findings in the source identification and characterization plan that is expected to be completed in 2009. This order may be reopened to incorporate additional or revised requirements based on the updated TMDL report and/or approved changes to the TMDL.

46. As indicated above, nutrient (nitrogen and phosphorus) TMDLs have been established by the Regional Board for the Newport Bay watershed. The current and future (year 2012) targets for the nutrient TMDLs are already being met. However, Board staff is currently reevaluating the nutrient TMDLs in light of evidence that there remains impairment of these waters due to eutrophication. The EPA promulgated TMDLs for selenium but, an implementation plan is yet to be developed. The Regional Board adopted Orders No. R8-2004-021 and R8-2007-0041 as interim control measures to address nitrogen and selenium in groundwater-related discharges to the Newport Bay watershed. In response to Order No. R8-2004-0021, stakeholders established a Nitrogen Selenium Management Program (NSMP) Working Group. The Working Group is implementing an approved workplan that is expected to identify comprehensive management plans for both selenium and nitrogen in groundwater in the Newport Bay watershed. Board staff is currently developing selenium TMDLs that will update and revise those established by EPA and that will include an implementation plan. The implementation plan will rely heavily on the findings and recommendations made by the NSMP Working Group. It is expected that the implementation plan will include the opportunity for an adaptive, collaborative approach by stakeholders in the watershed to address selenium and nitrogen in comprehensive and efficient fashion. This approach may be implemented through a cooperative agreement or, alternatively, through waste discharge requirements or a conditional waiver of waste discharge requirements.

47. In support of the nutrient TMDLs implementation plan, a regional monitoring program (RMP) was developed to monitor nutrients in San Diego Creek and Newport Bay. This order requires the permittees listed under the RMP to continue their participation in the RMP program.

48. On September 7, 2007, the Regional Board adopted TMDLs for organochlorine compounds (OCs) that specify WLAs for urban runoff for DDT and toxaphene in San Diego Creek, and DDT, chlordane, and PCBs in Upper and Lower Newport Bay. The OCs TMDLs also specify informational TMDLs with informational urban

runoff WLAs for chlordane and PCBs in San Diego Creek. The OCs TMDLs require approval from the State Board, the State Office of Administrative Law, and EPA. The implementation plan for the OCs TMDLs includes monitoring and, where necessary, enhanced implementation of best management practices (BMPs) to reduce erosion and sediment transport as organochlorine compounds tend to adhere to fine sediment. In addition, the OCs TMDL implementation plan provides an opportunity for dischargers to participate in the development and implementation of a comprehensive Work Plan that would address the OCs and other sources of toxicity in the San Diego Creek and Newport Bay watersheds. Once a Work Plan is developed, it is required to be approved by the Regional Board at a public hearing. Participation by the permittees in this process will obviate the need for individual actions on the tasks in Table NB-OCs-13[15] by members of the Working Group. The County of Orange and Newport Bay watershed MS4 permittees have initiated efforts to develop a Work Plan. MS4 permittees not electing to participate in the Work Plan approach will be required to implement the tasks shown in Table NB-OCs-13, as appropriate.

49. The State Board awarded a grant to the South Coast Resource Conservation and Development Council in partnership with the University of California Cooperative Extension to investigate and demonstrate strategies to reduce pesticide runoff from urban areas. A pesticide management plan for the Newport Bay watershed has been developed under this program[16].

50. If the TMDL implementation plans include compliance schedules beyond the permit term, monitoring and other requirements are being included in this order to monitor progress towards achieving future compliance.

51. Certain portions of the San Gabriel River watershed are under the Los Angeles Regional Board's jurisdiction. Urban runoff from cities and county areas within the northwestern portions of Orange County discharge into the San Gabriel River and/or its tributaries. On July 13, 2006, the Los Angeles Regional Board adopted TMDLs for metals in the San Gabriel River watershed. However, because of the state's inability to meet the March 2007 deadline for an approved TMDL prescribed in a consent decree (Heal the Bay Inc., et al. v. Browner C98-4825 SBA), on March 26, 2007, the EPA promulgated TMDLs for metals and selenium for the San Gabriel River. The upper portions of Coyote Creek flow through Orange County to join the San Gabriel River above the tidal prism. Other unnamed tributaries located in northwestern Orange County also discharge into the San Gabriel River estuary. The EPA promulgated TMDLs include wet weather wasteload allocations for Coyote Creek for copper, lead and zinc and dry weather wasteload allocations for copper for Coyote Creek. The permittees are expected to implement programs and policies consistent with the metals and selenium TMDLs for the San Gabriel River watershed. This includes constituent-specific source control programs or other equally effective programs to control

[15] Attachment 2 to Resolution No. R8-2007-0024.

[16] Darren L. Haver and John N. Kabashima, June 30, 2008, Pesticide Runoff Management Plan, Newport Bay Watershed.

the discharge of copper, lead and zinc into Coyote Creek and other tributaries in Orange County that discharge into the San Gabriel River.

52. This order requires permittees to comply with established TMDL wasteload allocations specified for urban runoff and/or storm water by implementing the necessary BMPs. NPDES regulations at 40 CFR 122.44(d)(vii)(B) require that permits be consistent with wasteload allocations approved by U. S. EPA. This order requires the permittees to comply with the urban runoff/storm water wasteload allocations specified in (1) Regional Board-adopted and USEPA approved TMDLs (including TMDLs for nutrients, fecal coliform, diazinon and chlorpyrifos); (2) Regional Board-adopted TMDLs that are approved by the State Board and State Office of Administrative Law and that are thereby effective (approval of organochlorine compounds TMDLs by the State is pending); and, (3) USEPA-promulgated TMDLs (including toxics TMDLs for the Newport watershed). Continuation of water quality/biota monitoring and analysis of the data are essential to better understand the impacts of storm water discharges on the water quality of the receiving waters, impairment caused by urban runoff, compliance with the wasteload allocations and for assessing the effectiveness of control measures.

53. Permittees will be required to comply with established TMDLs and other water quality standards or discharge requirements that may be imposed by the EPA or the State prior to the expiration of this order. This order may be reopened to address established or revised TMDLs and/or other requirements developed and adopted by the Regional Board, EPA or the State Board.

K. DRAINAGE AREA MANAGEMENT PLAN (DAMP)

54. Urban development increases population density and pollutant sources[17] such as construction activities, industrial facilities, auto emissions, wastes related to automobile maintenance activities, sanitary wastes, pesticides, pet wastes, household hazardous wastes and trash[18]. If appropriate BMPs are not implemented, retail gasoline outlets and automobile service stations could be significant sources of pollutants in urban runoff including petroleum hydrocarbons, oil and grease, metals and solvents[19].

55. The local agencies (the permittees) are the owners and operators of the storm water conveyance systems and have established appropriate legal authority to control discharge of pollutants to the MS4s. The permittees have adopted grading and erosion control ordinances and guidelines for the implementation of best management practices (BMPs) for municipal, commercial, and industrial activities.

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[17] U.S. EPA (1992). *Environmental Impacts of Storm Water Discharges: A National Profile,* EPA 841-R-92-001; Office of Water, Washington, DC.

[18] National Management Measures to Control Nonpoint Source Pollution from Urban Areas. USEPA Publication No. EPA 841-B-05-004, November 2005.

[19] Retail Gasoline Outlet and Commercial Parking Lot Storm Water Runoff Study, Western States. Petroleum Association and American Petroleum Institute (1994) at p 13. The study concludes that pollutant concentrations in storm water discharges from properly managed RGOs are similar to concentrations from commercial parking lots and diffuse urban runoff.

The permittees must exercise a combination of these programs, policies, and legal authority to ensure that pollutant loads resulting from urbanization are properly controlled and managed.

56. One of the major tools that the permittees use for urban runoff pollution prevention is the development and implementation of an appropriate DAMP, including best management practices (BMPs). The ultimate goal of the urban storm water management program is to support attainment of water quality objectives for the receiving waters and to protect beneficial uses through the implementation of the DAMP. The permittees developed and submitted a revised draft 2007 DAMP.

57. The DAMP is a dynamic document and the permittees have implemented, or are in the process of implementing, various elements of the DAMP. This order requires the permittees to continue to implement the BMPs listed in the revised DAMP; update or modify the DAMP, when appropriate, consistent with the MEP and other applicable standards; and to effectively prohibit illicit discharges to the storm drain system.

58. The Orange County DAMP defined: (1) a management structure for the permittees' compliance effort; (2) a formal agreement to underpin cooperation; and (3) a detailed municipal effort to develop, implement, and evaluate various BMPs or control programs in the areas of public agency activities, public information, new development and construction, public works construction, industrial discharger identification, and illicit discharger/connection identification and elimination.

59. In order to meet DAMP requirements and characterize and manage pollutant sources on a local level, the permittees developed LIPs. Each jurisdiction has developed its own LIP and is implementing the LIP to properly manage, reduce and mitigate potential and actual pollution sources within the boundaries of each permittee's jurisdiction.

L. NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT – WQMP/LIP/LID

60. A major portion of Orange County is urbanized with residential, commercial and industrial developments. Urban development increases impervious surfaces and storm water runoff volume and velocity and decreases vegetated, pervious surface areas available for infiltration and evapotranspiration of storm water. Increase in runoff volume and velocity can cause scour, erosion (sheet, rill and/or gully), aggradation (raising of a streambed from sediment deposition) and can change fluvial geomorphology, hydrology and aquatic ecosystems. This order includes requirements to address increases in imperviousness and changes in water quality and quantity, including hydrologic conditions of concern.

61. Recent studies have indicated that low impact development[20] (LID) BMPs are effective storm water management tools that minimize adverse impacts on storm water runoff quality and quantity resulting from urban developments. The Southern

[20] Low impact development is an approach to land development (or re-development) that works with nature to manage storm water as close to its source as possible by using structural and non-structural best management practices to reduce environmental impacts.

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. A preliminary draft of this manual indicates that effective implementation of site design LID BMPs should occur during the earliest stages of planning such as site assessment, environment review and site planning. This manual will be incorporated into the CASQA BMP Handbooks. The permittees are encouraged to utilize the manual as a resource to implement LID techniques. This order requires the 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 re-use, evapotranspiration and bio-treatment should be considered. These LID BMPs must be implemented at the project site in a manner consistent with the maximum extent practicable standard. Where LID BMPs are not feasible at the project site, more traditional, but equally effective control measures should be implemented.

62. The USEPA has determined that LID/green infrastructure can be a cost-effective and environmentally preferable approach for the control of storm water pollution and will minimize downstream impacts by limiting the effective impervious area of development. LID and the reduction of impervious areas may achieve multiple environmental and economic benefits in addition to reducing downstream water quality impacts, such as enhanced water supplies, cleaner air, reduced urban temperatures, increased energy efficiency and other community benefits, such as aesthetics, recreation, and wildlife areas. USEPA has reviewed studies[21] that have evaluated the percent EIA[22] concept (also see the SCCWRP study[23]). The limited study conducted by Dr. Richard Horner[24] concluded that a 3% EIA standard for development is feasible in Ventura County. EPA believes that EIA is a reasonable metric for incorporating LID principles into storm water permits and EPA supports

[21] See for example the analysis prepared by Dr. Richard Horner entitled, "Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for Ventura County" submitted to the Los Angeles Regional Board by NRDC.

[22] EIA=effective impervious area. These are areas where little or no infiltration of storm water occur, such as paved areas.

[23] Studies conducted by Southern California Coastal Water Research Project (SCCWRP) and others indicate that environmental impacts from developments could be minimized by limiting the effective impervious area.

[24] Dr. Richard Horner, Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for Ventura County, Development (undated).

other equally effective metrics for compliance determination. A review of the analysis of the LID metrics in storm water permitting[25] and its critique[26] indicates that there are certain shortcomings in specifying a percentage EIA as a metric. A series of stakeholder meetings[27] conducted after issuance of the first draft of this order concluded that other equally effective metrics could be used to quantify implementation of LID. It was generally agreed by the stakeholders that a numeric metric, such as a metric based on a specified volume capture may be an equally effective metric. A 5% EIA metric was included in the first draft of this order. The second draft replaces the 5% EIA metric with a volume capture metric based on the design volume specified in the WQMP.

63. On October 5, 2000, the State Board adopted Order No. WQ-2000-11, which is a precedential order. Order No. WQ-2000-11 required that urban runoff generated by 85th percentile storm events from specific types of development categories should be infiltrated, filtered or treated. The essential elements of this precedential order were incorporated into the Region 8 Orange County third term permit. In accordance with the requirements specified in the third term permit, the permittees developed a model Water Quality Management Plan (WQMP) by amending their Drainage Area Management Plan (DAMP). The model WQMP provides a framework to incorporate watershed protection principles into the permittees planning, construction and post-construction phases of defined new and redevelopment projects. The model WQMP includes site design, source control and treatment control elements to reduce the discharge of pollutants in urban runoff. On September 26, 2003, the Regional Board approved the model WQMP. The permittees have incorporated provisions of the model WQMP into their LIPs. The permittees are requiring new developments and significant redevelopments to develop and implement appropriate project WQMPs. This order requires continued implementation of structural and non-structural BMPs for new developments and significant redevelopments as per the approved model WQMP, and the priority project threshold for commercial/industrial developments has been changed to 10,000 square feet, making it consistent with the threshold for residential subdivisions. However, with the implementation of LID techniques, some of the structural treatment control BMPs may not be necessary. The project WQMPs are required to include a discussion on how LID principles are incorporated into the project. Section 7.II-3.2.4 of the WQMP requires identification of hydrologic conditions of concern (HCOC). An HCOC exists when a site's hydrologic regime is

[25] Low Impact Development Metrics in Stormwater Permitting, Prepared for the Ventura Countywide Stormwater Quality Management Program and the Orange County Stormwater Program by Geosyntec Consultants and Larry Walker Associates with Assistance from Hawks and Associates (January 2009).

[26] Critique of Certain Elements of "Low Impact Development Metrics in Stormwater Permitting" by Dr. Richard Horner (undated, submitted by NRDC on February 13, 2009).

[27] The stakeholder group included representatives from Permittees, NRDC, Orange County Coastkeeper, BIA/CICWQ, The Irvine Company, Regional Board staff, USEPA and a number of consultants and attorneys.

altered and there are significant 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. Certain jurisdictions have employed HCOC mapping efforts to assist developers in identifying areas where HCOC conditions exist. Within six months of adoption of this order, the permittees are required to conduct an HCOC mapping to identify HCOC areas in the permitted area.

64. The Region 8 Orange County third term permit required the permittees to review their planning (CEQA, General Plan, etc.) and approval processes to determine the need to revise those processes to address appropriate storm water protection principles. The model WQMP provides a framework for addressing these issues. However, Regional Board staff's audit of the permittees MS4 program indicated that all the permittees had not fully implemented the program. This order requires the permittees to reevaluate and to revise the current program implementation processes. Pollution prevention techniques, appropriate planning processes and early identification of potential storm water impacts and mitigation measures can significantly reduce storm water pollution problems. The permittees shall consider these impacts and appropriate mitigation measures during the planning and approval processes.

65. The intent of the WQMP, SWPPP and other programs and policies incorporated into this order is to minimize the impact from the project on water quality and the environment. However, compliance with this order and the DAMP does not necessarily constitute mitigation that is sufficiently specific to satisfy the requirements of CEQA with regards to projects.

66. Treatment control BMPs include vortex systems, catch basin inserts, detention basins, infiltrations areas (including LID-based), retention basins, regional treatment systems, constructed wetlands, various types of storm water filters, etc. If not properly designed and managed, these systems could be sources of pollutants and could become a nuisance and/or cause the spreading of surface water pollution, and those treatment systems with a hydraulic connection to groundwater (e.g., detention basins, infiltration systems, constructed wetlands, etc.) could be sources of groundwater pollution. Restrictions placed on urban runoff infiltration in this order (Section XII.B.5.) are based on recommendations provided by the U.S. EPA Risk Reduction Laboratory. The requirements specified in this order include identification of responsible agencies for maintaining the systems and for providing funding for operation and maintenance.

67. If not properly designed and maintained, the BMPs identified in Finding 66 could create a nuisance and/or habitat for vectors[28] (e.g., mosquitoes and rodents). Third term permit required the permittees to closely collaborate with the Orange County

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

Vector Control District during the development and implementation of such treatment systems. The permittees should continue these collaborative efforts with the Vector Control District to ensure that treatment control systems do not become a nuisance or a potential source of pollutants. There are other site conditions that limit the applicability of infiltration, including site soils, contaminant plumes, potential mobilization of naturally occurring contaminants such as selenium, high groundwater levels, etc. Such factors should be considered in the design and implementation of storm water control measures.

M. NON-STORM WATER/DE-MINIMUS DISCHARGES

68. The MS4s generally contain 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 Discharge Prohibitions, Section III.3 of this order. The Regional Board adopted a number of NPDES permits[29] to address de-minimus type of pollutant discharges. However, the permittees need not get coverage under the de-minimus permits for the types of discharges listed under Section III.3, except for discharges to the Newport Bay watershed (where coverage under the Newport Bay watershed-specific de-minimus permit is required, see Finding 69), as long as they are in compliance with the conditions specified under Section III of this order.

69. Many areas of the San Diego Creek/Newport Bay watershed have high nitrate and/or selenium levels in the soils and/or groundwater. Dewatering operations, construction activities and agricultural and other operations could mobilize these pollutants and carry them into San Diego Creek and Newport Bay. The Regional Board has adopted a General Permit, Order No. R8-2007-0041, to regulate dewatering wastes into the San Diego Creek/Newport Bay watershed. In addition, stakeholders in the watershed are in the process of developing a comprehensive nitrogen/selenium management plan to address the nitrogen/selenium issues.

N. PERMIT REQUIREMENTS AND NUMERIC EFFLUENT LIMITS

70. The first term permit required the permittees to: (1) develop and implement the DAMP and a storm water and receiving water monitoring plan; (2) eliminate illicit discharges[30] to the MS4s; and (3) enact the necessary legal authority to effectively

[29] E.g., R8-2003-0061,as amended by R8-2004-0021.

[30] Illicit Discharge means any discharge to the municipal separate storm system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all discharges that contain non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Section III, Discharge Limitations/Prohibitions, of this order, and discharges authorized by the Regional Board Executive Officer.