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Shane L. Silsby, Director

December 7, 2015

By E-Mail

Mr. Kurt Berchtold, Executive Officer
California Regional Water Quality Control Board, Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Subject: Comment – Draft Order No. R8-2015-0001, NPDES Permit No. CAS618030

Dear Mr. Berchtold:

The County of Orange, as Principal Permittee of the Orange County Stormwater Program, and the Orange County Flood Control District (collectively, "County") appreciate the opportunity to provide comments on *Draft Order No. R8-2015-0001, NPDES Permit No. CAS618030 National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements* issued on October 22, 2015 ("Draft Order"). The following comments pertain to those changes in strike-out and underline on the County's revised Attachment A. The County's comments also pertain to State Water Resources Control Board ("State Water Board") Order No. WQ-2015-0075 and to issues that have changed subsequent to the County's prior written comments made on June 20, 2014 and February 13, 2015.

The north Orange County Permittees ("Permittees") were involved in the development of these comments and the Cities of Anaheim, Brea, Buena Park, Huntington Beach, Irvine, Laguna Hills, Lake Forest, La Palma, Orange, Seal Beach and Tustin have directed that they be recognized as concurring entities on this letter.

The County recognizes the efforts of Regional Board staff to continue to collaboratively engage with the Permittees and key stakeholders and the positive changes that have occurred in the development of the Third Draft of the municipal stormwater permit for north Orange County. In particular, the Permittees acknowledge the following key changes to the Draft Order:

- The re-affirmation of an adaptive management approach, through the development of the Watershed Management Plans (WMPs), as the fundamental basis of permit compliance in a manner that is consistent with Orders No. WQ- 99-05 and WQ-2015-0075.
- The designation of the San Diego Regional Water Quality Control Board as regulating the discharges of urban runoff from the entire jurisdictions of the City of Laguna Hills and the City of Laguna Woods as well as the designation of the Santa Ana Regional

Water Quality Control Board as regulating the discharges of urban runoff from the entire jurisdiction of the City of Lake Forest.

The Draft Order, however, still presents several key issues of significant concern to the Permittees. We have summarized each of these below and provided requested language modifications, as appropriate. We also reserve the right to respond to other commenters at the hearing and present evidence for the record.

I. The Draft Order does not consider the Report of Waste Discharge (ROWD) and the significant water quality outcomes that have been achieved in Orange County, and therefore lacks substantial evidence to support new or modified program requirements.

The Permittees submitted a Report of Waste Discharge (ROWD) to the Santa Ana Regional Water Quality Control Board ("Regional Board") on October 3, 2013. The ROWD evaluated the fourth term MS4 Permit activities and discussed the accomplishments of the Orange County Stormwater Program. The ROWD findings, in particular the "State of the Environment" discussion, must be explicitly considered since they are the technical basis/ substantial evidence for the regulations and activities that will be required in the fifth term MS4 permit.

The Permittees' application for a fifth term MS4 permit is predicated on the assessment of the "State of the Environment" (ROWD Section 2). This assessment describes the results of the long-term monitoring and special studies that are used to examine the condition of the surface water environment in Orange County. The "State of the Environment" analyses identified the following water quality priorities for north Orange County for the next permit term:

- Fecal indicator bacteria from urban and nonurban sources;
- Nutrients from shallow groundwater; and
- Toxicity, principally from pesticides.

Based on the key findings and the experience gained from implementing the program for over 20 years, the ROWD also presented corresponding recommendations for the fifth term MS4 permit to ensure further improvements in surface water quality.

Despite the detailed activities and accomplishments described in the ROWD, the discussion in the Draft Order regarding the ROWD and "State of the Environment" is limited to two brief references within the Draft Technical Report (Section VIII.B, pg. 29; XII.B.1, pg. 50).

In addition, Section B of the Findings (Discharge Characteristics and Runoff Management) only contains generic statements about water quality and omits the key findings presented in the ROWD. Although the Findings within Section B may have been the general factual basis for the Permittees' first and second term permits, they are not appropriate for an advanced fifth term stormwater program, especially if they do not acknowledge the activities and accomplishments to date.

Although the Permittees acknowledge there is new language in the Draft Technical Report that mentions the ROWD and the priority pollutants, it is a cursory recognition. Instead, the ROWD should serve as a foundational document as it is reporting on the long-term successes of the very program that is being permitted. As such, the Permittees continue to contend that the key

findings from the ROWD and the State of the Environment should be included within the Findings and Technical Report and be the principal technical justification for any permit modifications.

Omission of any consideration of the significant water quality outcomes that have been achieved in Orange County (*e.g.*, coastal water quality) creates a false case for increasing regulatory requirements. Without support from specific findings and other evidence, a number of requirements may be perceived as arbitrary and capricious and adopted without substantial evidence in the administrative record.[1]

Action: The Draft Order should be modified to include Attachment A as an additional Finding in Findings Section B: Discharge Characteristics and Runoff Management.

II. The Draft Order should allow the time necessary for the development of the Watershed Management Plans and corresponding analyses.

The Draft Order includes a compliance pathway for the Orange County Stormwater Program through the development and implementation of a WMP. In addition to identifying the actions/BMPs that will be implemented to achieve water quality standards and applicable WQBELs, the Plan must also include a 'reasonable assurance' that the proposed actions will achieve water quality standards. The Draft Order requires the Permittees to submit the draft WMP and corresponding analyses within one year (maximum 18 months with approval from the EO) from the date of the Notice of Intent to the Regional Board. Instead, and to ensure that there is meaningful stakeholder participation, the County proposes a longer period of time to develop the WMP consistent with the approach taken by the Los Angeles and San Diego regions, including the following:

- Permittee submits a Notice of Intent (NOI) and schedule for development of the WMP
- EO approves schedule – within 30 days **[1 month total]**
- Permittee submits the preliminary results of the Assessment and Prioritization to the Regional Board – within 6 months of NOI/schedule approval **[7 months total]**
    - Meet and confer with Regional Board – within 1 month **[8 months total]**
    - Address Regional Board comments – within 1 month of receiving comments **[9 months total]**
- Permittee identifies the water quality improvement strategies/actions and runs the RAA – within 15 months from Assessment and Prioritization approval **[24 months total]**
    - Meet and confer with Regional Board – within 1 month **[25 months total]**
    - Address Regional Board comments – within 1 month of receiving comments **[26 months total]**
- Permittee to develop Draft WMP – within 6 months from RAA approval **[32 months total]**

[1] *City of Rancho Cucamonga v. Regional Water Quality Control Bd.*, 135 Cal.App.4th 1377, 1384–1385 (2006); Code Civ. Proc., § 1094.5(b).

  - Meet and confer with Regional Board for approval – within 1 month **[33 months total]**

- Permittee to develop Draft Final WMP – within 3 months of receiving comments **[36 months total]**
- EO provides draft conditions of approval for Draft Final WMP – within 2 months of receipt of Draft Final WMP **[38 months total]**
- Draft Final WMP is publically noticed – 30 days prior to the expected date of approval of the WMP.
- Permittees to develop Final WMP – within 2 months of Board approval to address any comments, as needed **[40 months total]**

While the above schedule proposes 40 months to develop the WMP, it should be recognized that the WMPs are multi-year plans and time schedules that are being developed with the goal of ensuring stormwater runoff does not cause or contribute to exceedances of water quality standards or WQBELs. Thus, they should be thoughtfully developed in collaboration with the Regional Board to ensure that they are meeting the intent of the permit in the most efficient and pragmatic way so that they can ultimately achieve their goals.

Action: Modify the schedule for the development of the WMP and assurance analyses.

III. Section XIII should allow the TSO process to be a viable compliance pathway and reflect the support for trading. In addition, the TMDL Appendices (Appendix B though H) should be revised so that they are consistent with the corresponding Basin Plan Amendments.

As previously noted in the County's comments on the First and Second Draft Orders, there are several issues that remain with the TMDL requirements. The overarching concerns are as follows:

- The Permit should be revised to allow a TSO to be a viable compliance pathway for the Receiving Water Limitations and the WQBELs where final WLA deadlines have passed, so long as the Permittee is in compliance with the TSO .
- The Permit should reflect the support of the Regional Board for pollutant trading, which is supported by US EPA. This is particularly needed for the Nutrient TMDL and Organochlorine TMDLs.
- Some of the Waste Load Allocation tables and/or supplemental information are not directly from the Basin Plan and, as such, introduce potential confusion and/or inconsistencies with the adopted TMDLs as expressed within the BPAs. These tables include key information and important footnotes that are part of the WLAs. Although the Permittees acknowledge the modifications that have been made in this section, the original tables from the TMDL BPAs are still in a modified form, which introduces potential confusion and inconsistencies.

Action: Revise the Draft Order as indicated in Attachment B (Note: Blue text represents modifications that the Regional Board made from the Second to the Third Draft of the Order and highlighted text

represents the further modifications that are proposed by the Permittees).

IV. The Draft Order Should Define What Constitutes a Non-Priority Project.

The Draft Order requires the Permittees to classify development and redevelopment projects over which they have authority as "priority projects" or "non-priority projects" (Section XII.B.2). The Draft Order then requires that those non-priority projects that "are, or affect areas that are exposed to storm water and which may be sources of pollution in urban runoff" to implement source control and site design BMPs and document those BMPs in a Project Plan (Section XII.O.1-2). Although the Draft Order provides some clarification as to what constitutes a non-priority project, the language is vague and overly inclusive as it refers to projects that "may be sources of pollution in urban runoff."

While the Permittees understand that the threshold between a priority and non-priority project is based on square footage, it, nonetheless, provides a way for the Permittees to prioritize development projects and their corresponding requirements. Consistent with that approach, it is important that the Permittees are able to clearly prioritize amongst the non-priority projects as well. The current threshold of "may be sources of pollution in urban runoff" is so vague that it will result in more projects being required to submit a Non-priority Project Plan than necessary and would impose requirements on projects where these is no legal or evidentiary basis to do so. Instead, the Permittees propose that an alternative threshold be utilized so that the types of projects that are required to develop a Non-priority Project Plan are prioritized and would be those that would significantly contribute to a priority pollutant of concern.

Action: Modify the Draft Order as follows (in blue text).

~~M.~~O. *General Requirements for Non-Priority Projects*

1. *Where a non-priority project includes modifications or improvements that are, or affect areas that are exposed to storm water and which are a significant source of a pollutant(s) ~~may be sources of pollution in urban runoff~~, Co-permittees must require ~~non-priority~~ such projects (see Section XII.B.) to implement source control and site design BMPs to remove pollutants in urban runoff consistent with the maximum extent practicable standard.*[20]

   a. *Each Co-permittee must develop policies and procedures to identify non-priority projects that include modifications or improvements that are, or affect areas that are, exposed to storm water and which may be a significant source of the pollutant(s. Non-priority project prioritization may also be addressed within a Watershed Management Plan.~~that have the potential to incorporate source control or site design BMPs~~.*

In addition, the non-priority projects should continue to focus on the incorporation of source control and site design BMPs as a part of their Project Plans instead of treatment control BMPs. As such, the Permittee recommend that footnote 20 be modified to be consistent with the current approach [Order No. R8-2009-0030, XII.B.7 – page 53 of 93.]

Action: Modify the Draft Order footnote 20 as follows (in blue text).

[20] ~~*This requirement must not be construed to mean that structural treatment control BMPs are not required for non- priority projects; only that there is no presumption requiring rebuttal that treatment control BMPs are economically or technically feasible.*~~ *The Non-Priority Project Plans will identify the*

site design, source controls, and/or any other BMPs required by the Co-Permittee, which may or may not include treatment control BMPs.

V. The Draft Order Should be revised to broaden allowable water quality trading options consistent with US EPA's Water Quality Trading Policy..

The Draft Order includes a new section (N. Credit Programs) to allow the Permittees to generate and use credits for priority projects in order to satisfy the requirements to treat the design capture volume or flow from the project (Section XII.N). However, the Draft Order severely constrains the ability of the Permittees to implement such a program by requiring that the credits be generated by a structural treatment control LID BMP "that is located on property which is owned or controlled by the proposed project proponent" and that the credits be used within a small geographic area.

Section II.N.1.c. constrains the ability of the program to function so much, that it is doubtful if credits could actually be generated and utilized. In essence, the current language would only allow a project proponent to trade with themselves and only within the same drainageshed. The Draft Order's trading language is in conflict with US EPA's 2003 Water Quality Trading Policy, which allows a much broader range of options. The Permittees do not think that this is the intent of the Regional Board.

Action: Modify the Draft Order as follows (in blue text).

N. Credit Programs

1. Co-permittees are authorized to allow the transfer of design capture volume or flow "credits" to priority projects. These credits may be used by a priority project to satisfying requirements in this Order to treat the design capture volume or flow from the project using structural treatment controls subject to the following limitations:

c. The credit must be generated by a structural treatment control LID BMP ~~that is located on property which is owned or controlled by the proposed project proponent~~. The property on which the facility is located and the property where the project is located need not be contiguous. ~~of the nearest receiving water of the U.S. in which the structural treatment control LID BMP is located~~.

VI. The toxicity testing requirements should be aligned with federally promulgated test methods (Monitoring and Reporting Program II.F)

Section II.F of the Monitoring and Reporting Program includes a requirement to use "USEPA's Test of Significant Toxicity Approach." The Test of Significant Toxicity ("TST") is an improper NPDES permit requirement because the TST is scientifically unreliable and has never been promulgated as an approved method for assessing compliance with NPDES permits.

Test methods used to determine compliance with NPDES permits must be formally promulgated by the EPA under the Administrative Procedure Act ("APA"). (40 C.F.R. § 122.44(i)(1)(iv); 5 U.S.C. § 553(b), (c).) Once promulgated, only the methods codified in EPA's regulations may be used to measure waste constituents. (40 C.F.R. § 136.1(a).) Promulgated

WET methods include, in part, multiple-concentration WET tests[2] and four statistical methods for evaluating the tests.[3] (40 C.F.R. § 136.3(a); EPA, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,* EPA-821-R-02-013, (Fourth Ed., Oct. 2002).) The federal regulations permit the use of a "more sensitive" method than promulgated methods where, in part, "[t]he modified method [is] sufficiently sensitive and meet[s] or exceed[s] performance of the approved method(s) for the analyte(s) of interest, as documented by meeting the initial and ongoing quality control requirements in the method." (40 C.F.R § 136.6(b)(2).) Importantly, EPA has never promulgated regulations allowing a WET test comprised of a single-concentration of a sample compared to a control (referred to here as a "two-concentration" test), allowing use of the TST (reversed null hypothesis assuming toxicity), or approving the TST evaluation procedure. (*Ibid.*)

Since the second draft Permit was released, the County has applied the TST analytical approach to toxicity data gathered at two stations in the dry weather mass emissions program. The TST approach was applied concurrently with the existing dilution method and the results were compared. Two samples from each monitoring station were tested using the TST approach. Eight samples from one station and nine samples from the other station were tested using the multi-concentration dilution method.

A comparison of test results demonstrates that the TST approach gave the Ceriodaphnia reproduction test a failing grade in 100% of the samples, compared with only 11.11% and 25% using the dilution method. Toxicity was not indicated in any tests using Selenastrum growth or fathead minnow survival and growth. If the County had not conducted concurrent tests, using the dilution method and the TST method for comparison, failures under the TST approach indicate violations of the Permit even where no such violation occurred.

These preliminary results lend support to the conclusion that the TST does not provide a performance equivalent to the methods promulgated by EPA in 2002. (40 C.F.R. §§ 136.1, 136.6.) Where, as here, the results of a TST procedure erroneously indicate toxicity in violation of NPDES permit requirements, the Permittees have no ability to rebut that evidence and may incur liability based on a flawed test rather than on impaired water quality. (40 C.F.R. § 122.41, subd. (j); *Sierra Club v. Union Oil Co.* (9th Cir. 1988) 853 F.2d 667, 669 [a Permittee cannot "impeach its own reports of permit violations by showing sampling error"].) Similarly, if test results erroneously indicate nontoxicity, a Permittee will miss the opportunity to improve the quality of its discharge water.

Not only does the TST lack certainty required of tests used to determine compliance with NPDES permits, it also lacks internal safeguards essential to the legal and scientific validity of WET tests. (*Edison Elec. Inst. v. EPA* (D.C. Cir. 2004) 391 F.3d 1267, 1271.) The WET testing methods that EPA promulgated in 2002 were the subject of a legal challenge on multiple grounds, one of which is the tendency of WET testing to result in an unacceptable number of false indications of toxicity and nontoxicity. (*Ibid.*) The Court in *Edison* recognized that "WET tests are not without their flaws[,]" (*id.* at 1274), particularly because WET test methods do not

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[2] The promulgated methods require four or more concentrations plus a control with 0% sample; e.g., NOEC and IC_{25} for chronic toxicity in fresh water organisms.

[3] The four approved statistical methods are the Dunnett's Procedure, T-test with the Bonferroni Adjustment, Steel's Many-One Rank Test, and Wilcoxon Rank Sum Test with the Bonferroni Adjustment.

rely on comparisons with an independent, objective, true value, which means that "their scientific validity must be assessed through other means." (*Id.* at 1270.) Despite the recognized flaws in WET tests, the Court upheld the promulgated tests, because the multiple-concentration test design, developed over "years of scientific studies, negotiation, and public notice-and-comment" provided safeguards to protect against an unacceptably high number of false results. The Court described the safeguards as follows:

> A single WET test involves exposing multiple batches of organisms to the effluent at various concentrations, as well as to a "control" sample of pure water, and then aggregating the effects on each batch. Statistical analysis then is used to ensure that any observed differences between the organisms exposed to a given effluent concentration and those exposed to the control blanks most likely are not attributable to randomness - - that they are statistically significant. See Final Rule, 67 Fed. Reg. at 69,957-58. This safeguard addresses the petitioners' concerns [regarding false positives]. EPA, in short, has offered a reasoned and thorough explanation of its decision on this subject.

(*Id.* at 1272-1273.)

A multiple-concentration approach is thus an essential part of WET testing, because it provides an alternative, within-test assessment of the test's scientific reliability. (*Id.*) Multiple-concentration test methods provide assessment of reliability by allowing a toxicologist to determine if the causal relationship described above exists and to ensure that any observed differences between the organisms exposed to effluent concentrations and those exposed in the control most likely are not attributable to mere randomness. (*See id.* at 1274.) Use of the TST, which has not been promulgated and by itself results in higher false positive rates, compounded by the use of a two-concentration WET test design, eliminates the multiple-concentration safeguards that form the basis of the Court's approval of WET testing in Edison.

Because the TST lacks within-test quality controls present in promulgated multiple-concentration dilution WET tests, the TST fails to "meet or exceed performance of the approved method(s)" and is a scientifically unsound method for assessing compliance with the Permit. (40 C.F.R. § 136.6.)

Test methods used to determine compliance with NPDES permits must be formally promulgated by the EPA. (40 C.F.R. § 122.44(i)(1)(iv); 5 U.S.C. § 553(b), (c).) Once promulgated, the codified methods must be used to measure waste constituents. (40 C.F.R. § 136.1(a).) When it promulgated WET test methods and four statistical approaches for evaluating test results, the EPA did not promulgate the TST or a two-concentration WET test. Since the second draft Permit was released, the EPA also withdrew is approval for the State Water Resources Control Board to use the TST as an alternative testing procedure. (See *Southern California Alliance of Publicly Owned Treatment Works v. USEPA* (E.D. Cal. 2014) Case No. 2:14-CV-01513, Docket No. 53-2 (June 4, 2015).) EPA's approval of the TST as an alternative test procedure is required because the TST is not otherwise authorized by federal law or regulation. (40 C.F.R §§ 136.1, 136.5.) As a result, the Regional Board lacks legal authority to require the TST approach in the Permit.

Further, informal correspondence from the EPA and the EPA's 2010 Guidance, National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document do not provide the Regional Board with authority to require the TST. A state agency cannot rely on an action by EPA in a way that indicates EPA's action is binding unless that action has been subject to the formal rulemaking procedures, including public notice and comment. (*Appalachian Power Co. v. EPA* (D.C. Cir. 2000) 208 F.3d 1015; *see also Natural Res. Def. Council v. EPA* (9th Cir. 2015) 779 F.3d 1119; *Natural Res. Def. Council v. EPA* (D.C. Cir. 2011) 643 F.3d 311.) The APA's rulemaking procedures are designed to "assure fairness and mature consideration of rules of general application." (*Chrysler Corp. v. Brown* (1979) 441 U.S. 281, 303.) Courts have repeatedly chastised state agencies and EPA for engaging in a pattern and practice of rulemaking contrary to the APA. (See e.g., *Nat'l Envtl. Dev. Ass'ns Clean Air Project v. EPA* (D.C. Cir. 2014) 752 F.3d 999; *Iowa League of Cities v. EPA* (8th Cir. 2013) 711 F.3d 844, 862; *Sierra Club v. EPA* (D.C. Cir. 2012) 699 F.3d 530; *Natural Res. Def. Council, supra,* 643 F.3d at 321; *Appalachian Power Co., supra,* 208 F.3d 1015; *Fairfield County Bd. of Comm'rs v. Nally* (2015) 143 Ohio St. 3d 93, 104.)

Of great concern here is that a legally and scientifically flawed method or evaluation procedure will result in an unreasonably high number of false indications of violations or an unreasonably high number of false indications of nontoxicity. Neither of these results will be based on actual water conditions. One will expose Permittees to administrative, civil, and criminal liability, and the other fails to protect water quality.

Action: Delete the requirement to utilize the USEPA's TST approach from the MRP Section II.F (and footnote 6) and allow toxicity testing be conducted utilizing federally promulgated methods.

F. Toxicity Testing

The water quality monitoring program must include toxicity testing~~, analyzed using USEPA's Test of Significant Toxicity approach~~

[6]. ~~USEPA. 2010. National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document. EPA 833-R-10-003. US Environmental Protection Agency, Office of Wastewater Management, Washington D.C.~~

VII. The Draft Order should enable implementation of the Inspection Approach for Industrial Sites Recommended in the ROWD.

The ROWD contained an analysis of the commercial and industrial inspection programs and concluded that the prescriptive nature of the prioritization criteria limited the ability of the Permittees to adaptively manage the program to address high priority pollutants of concern. With the priority water quality constituents of concern now clearly identified, the resources being expended on inspection programs need to be focused on those facilities that pose the greatest risk to water quality and those that are not in compliance.

Action: The requirements for the industrial and commercial inspection programs must be revised to enable the Permittees to focus each year on the 20% of their commercial and industrial site inventories

that may be contributing to water quality impairment.

OTHER COMMENTS/MODIFICATIONS

In addition to the comments provide above, the Permittees recommend the following modifications to the Draft Order.

1. The Permittees should be allowed to demonstrate that their discharge did not cause or contribute to an exceedance by demonstrating that there is an alternative source of the pollutant, that the pollutant is not associated with the MS4 discharges; OR that the pollutant was not discharged from the MS4. Requiring all to be demonstrated is overly stringent and unnecessary.

   IV. RECEIVING WATER LIMITATIONS
   D.b.iii

   b. Where Co-permittees have comingled discharges to the receiving water, or where Co-permittees ' discharges comingle in the receiving water, compliance in the receiving water shall be determined for the contributing Co-permittees as a whole unless an individual Co-permittee can demonstrate that its discharge did not cause or contribute to the exceedance as follows:

   i. Demonstrate that there was no discharge from the Co-permittee's MS4 into the applicable receiving water during the relevant time period;

   ii. (2) Demonstrate that the discharge from the Co-permittee's MS4 was controlled to a level that did not cause or contribute to the exceedance in the receiving water;

   iii. (3) Demonstrate that there is an alternative source of the pollutant that caused the exceedance, that the pollutant is not typically associated with MS4 discharges, ~~and~~ or that the pollutant was not discharged from the Co-permittee's MS4; or

   C.iv. (4) Demonstrate that the Co-permittee is in compliance with the Watershed Management Plan provisions under Section XI.

2. The restaurant inspection program results from the Orange County Health Care Agency (HCA) are submitted to the Permittees once a month. In the absence of any evaluation of the efficacy of this inspection program, the inspection program and referral process should remain consistent with the current approach.

   X. MUNICIPAL INSPECTIONS OF COMMERCIAL SITES
   C.2

   ~~*2. Where the inspecting agency staff observes known or suspected violations of a local Co-permittee's requirements related to the control of discharges of pollutants to their MS4s, the known or suspected violation must be referred to the Co-permittee within two (2) business days of the inspection date.*~~

3. The language in the Draft Order "documentation of a written acknowledgement of the obligations on the project proponents" is unclear as to what the requirement is.

XII. NEW DEVELOPMENT (INCLUDING SIGNIFICANT REDEVELOPMENT)
B.18.d

c.d. The project owner signs and acknowledges the ~~Documentation of a written acknowledgement of the~~ obligations ~~on the project proponent~~ as established in the final project WQMP and the related municipal ordinance(s),

4. The requirement below to maximize retention is directly contrary to the later sections of the permit which require systematic consideration of the factors that may preclude on-site retention such as the presence of sub-surface contamination and should be deleted.

XII. NEW DEVELOPMENT (INCLUDING SIGNIFICANT REDEVELOPMENT)
C.2

~~1.2. Source control, site design, and structural treatment control BMPs must be designed to maximize retention of the site's design capture volume unless such measures pose an unmitigatable environmental hazard.~~

5. The language in the Draft Order is unclear as to what "schedule" is being referred to. In addition, it is unclear if the "related impact fees or services" are the same as the in-lieu fee. The permit provision should be modified to clarify these two issues.

XII. NEW DEVELOPMENT (INCLUDING SIGNIFICANT REDEVELOPMENT)
J.1.d

d. If a schedule has been designed to mitigate the water quality impacts of the untreated design capture volume or flow and the schedule has been approved by the Executive Officer, the Co-permittee has collected the related impact fees or services from the project proponent;

6. The Draft Order should clarify that the Permittees are only maintaining an inventory and conducting inspections for potable water distribution facilities, not the distribution system.

XIV. MUNICIPAL FACILITIES/ACTIVITIES
B.1.g

f.g. Potable water distribution facilities (this does not include the distribution system, wells, etc.);

In addition to the comments provide above, the Permittees recommend the following modifications to the Draft Order – Monitoring and Reporting Program.

7. Given the similarities between the Sections, the MRP should either combine Sections D.4.a and D.4.b or clarify that the main differences are.
    a. For D.4.a monitoring - the first flush of the first storm event would include toxicity testing and the priority pollutant scan
    b. For D.4.b monitoring - the toxicity testing is conducted on the storm flow 24 hour period following the first flush and there is no priority pollutant scan

8. Section D.5 of the MRP discusses the locations of the outfalls that must be monitored under dry weather conditions, however, the MRP lists the receiving waters instead of the outfalls. The MRP should clarify that the monitoring is at the corresponding outfalls at these locations.

   II. WATER QUALITY MONITORING
   D. Outfall Monitoring Requirements – D.5

   5. The Co-permittees must sample outfalls ~~biannually (2 times per year) during sampling years~~ under dry-weather conditions ("dry-weather sample") at each outfall monitoring location ~~during the applicable even or odd monitoring years~~ as follows:. ~~Each sample must consist of a composite of discrete samples collected hourly during a 24-hour period~~.

   i. Twice each year (2 times per year) on samples taken from outfall monitoring locations during the applicable even or odd year: ~~in~~ Carbon Creek, Coyote Creek, East Garden Grove-Wintersburg Channel, Bolsa Chica Channel, Fullerton Creek, Central Irvine Channel, and Costa Mesa Channel.

   5.ii. Four times per year, on a quarterly basis, during the even or odd monitoring year, on samples taken from outfall monitoring locations: ~~in~~ Peters Canyon Wash, San Diego Creek at Campus Drive and Harvard Avenue, and Santa Ana Delhi Channel.

9. Section D.6 of the MRP needs to clarify that the compositing procedures are only for dry weather sampling. Wet weather compositing procedures are discussed in D.4 and are not necessarily 24 hours based on the first flush or storm flow conditions.

   II. WATER QUALITY MONITORING
   D. Outfall Monitoring Requirements – D.6

   6. All wet-weather and dry-weather samples must be tested for the parameters indicated in Table 1 below. Each dry weather sample must consist of a composite of discrete samples collected ~~hourly~~ during a 24-hour period.

10. Section D.7.a of the MRP is now referencing specific TMDL monitoring within the baseline water quality outfall monitoring requirements. This section should not refer to the TMDL monitoring requirements.

    II. WATER QUALITY MONITORING
    D. Outfall Monitoring Requirements – D.7.a

    a. Diazinon, chlorpyrifos, malathion, and dimethoate must be tested for in dry-weather samples that must be taken monthly from outfall monitoring locations discharging into Newport Bay ~~according to applicable TMDL requirements~~.

Thank you for your attention to our comments. Please contact each of the undersigned directly if you have any questions. For technical questions, please contact Chris Crompton at (714) 955-0630 or Richard Boon at (714) 955-0670, as appropriate.

Sincerely,

Mary Anne Skorpanich, Deputy Director
OC Environmental Resources

Ryan Baron, Senior Deputy County Counsel
Office of the County Counsel

Attachments: A - Proposed Finding
B - Proposed Revisions to TMDL Provisions (XVIII) and Appendices B-H

Cc: (Electronic copies only)
North Orange County Permittees
Orange County Technical Advisory Committee
Jason Uhley, Riverside County Flood Control and Water Conservation District
Marc Rodabaugh, San Bernardino County Flood Control District

Attachment A

Proposed Finding: B. Discharge Characteristics and Runoff Management

State of the Environment. The Orange County Stormwater Program (hereinafter the "Program") has measured a broad suite of contaminants and other measures of receiving water condition (i.e. toxicity, bioassessment) over many years. Based upon an analysis of the frequency and magnitude of the exceedances of regulatory standards presented in the "State of the Environment" section of the Report of Waste Discharge, fecal indicator bacteria, nutrients and pesticide related toxicity have been identified as the Program's priority water quality constituents of concern.

Bacterial contamination is very low during dry weather and has dropped steadily over time; beach report card grades are consistently high. The sources of bacterial contamination have been reduced through targeted actions such as diversion and disinfection and remaining issues are localized and very likely have wildlife components. Contamination is more widespread during wet weather due to the much wider range of bacterial sources in the landscape, compared to dry weather, and higher flows. In common with the American Society of Civil Engineers, the Program has noted that consistently attaining current recreational standards in wet weather may be infeasible.

Exceedances of thresholds for nutrients are widespread in the County's channels, with occurrences of macroalgal overgrowth due to nutrient over-enrichment much less widespread. Nutrient problems, however, are not limited to the urban portion of the County; regional monitoring data show nutrient enrichment and resultant effects such as increased macroalgal cover or lower dissolved oxygen present in both streams and estuaries in undeveloped regions. The major point sources of nutrients have been controlled and diffuse sources such as leaching from upland soils and intrusions from shallow groundwater are increasingly important.

Toxicity in Orange County's freshwater channels in all conditions (aquatic, sediment, wet and dry weather) occurs at low levels and is sporadic, occurring at different locations at different times and varying unpredictably across test species. Aquatic toxicity in dry weather occurs in open (undeveloped) areas at levels equivalent to those in urban areas. Use of organophosphate pesticides has declined virtually to zero but use of pyrethroid pesticides has increased and exceedances of thresholds for pyrethroid pesticides are high. The primary source of toxicity appears to be pesticides, with evidence that pyrethroids contribute to sediment toxicity. Metals, except for localized instances of elevated copper, are at low levels and do not appear to contribute to aquatic toxicity in freshwater.

Attachment B

Proposed Revisions: TMDL Provisions (XVIII) and Appendices B-H
(Revisions are shown as yellow highlighted text)

XVIII. TOTAL MAXIMUM DAILY LOAD IMPLEMENTATION

The provisions in this section require compliance with water quality-based effluent limits ("WQBELs") that implement waste load allocations ("WLAs"). The WLAs have been established in Total Daily Maximum Loads ("TMDLs") that have been adopted and approved by the Regional Board or promulgated by USEPA. The Co-permittees that are subject to each TMDL are shown in Appendix A. The applicable WQBELs are specified in Appendices B through H.

A. General TMDL Provisions

1. The responsible Co-permittees identified in Appendix A must comply with the applicable WQBELs shown in Appendices B through ~~H according~~ H according to the methods described in this Section (Section XVIII). Additionally, the City of Lake Forest must implement ~~comply with~~ any ~~conditions or provisions within the~~ TMDL and associated Phase 1 MS4 Permit requirements issued by the San Diego Regional Water Quality Control Board and applicable to the City of Lake Forest ~~that are associated with any TMDL~~.

2. ~~The TMDLs shown in Appendices G and H were promulgated by USEPA and, as of the adoption of this Order, do not have implementation plans or schedules. Until implementation plans and schedules are provided, Co-permittees responsible for complying with the WQBELs in Appendices G and H must either: (1) demonstrate that the applicable WQBELs have been achieved by the effective date of this Order; OR (2) demonstrate compliance through any one of the means identified in Subsections XVIII.B. through XVIII.E. below.~~ Unless a future deadline to comply with a WQBEL is shown in Appendices B through H, Co-permittees responsible for complying with the WQBELs must either: (1) demonstrate that the applicable WQBELs have been achieved by the effective date of this Order; OR (2) demonstrate compliance through any one of the means identified in Subsections XVIII.B. through XVIII.D. below. For TMDLs where portions of the waterbody's assimilative capacity have been distributed to various pollution sources via the TMDL and the wasteload allocations established therein, and the Regional Board authorizes pollutant trading among sources, compliance can be demonstrated by individual dischargers through attainment of assigned WLAs, or by demonstrating attainment of the applicable TMDL limits and within the associated time schedules for the impaired water body subject to the TMDL.

3. For the Sediment TMDL, the Regional Board will determine compliance with the TMDL target by calculating the annual average amount of suspended solids measured in

San Diego Creek at Jamboree Boulevard and Campus Drive over a ten year period, and by evaluating the scour studies of the creek channels and topographic surveys of all the sediment control basins in the watershed to estimate the amount of deposition. Given that annual sediment deposition can vary widely based on weather and other conditions, it is appropriate to evaluate compliance with the sediment reduction target as a 10-year running annual average of the suspended solids load measured in San Diego Creek at Jamboree Boulevard and Campus Drive.

4. The Organochlorine TMDLs are to be implemented within an adaptive management framework, with compliance monitoring, special studies, and stakeholder interaction guiding the process over time. Information obtained from sources such as compliance monitoring and special studies will measure progress towards attainment of WLAs and LAs, potentially leading to changes to TMDL allocations. Ongoing investigations and recommended special studies, if implemented, may provide information that leads to revisions of the TMDLs, adjustments to the implementation schedules, and/or improved implementation strategies.

~~3~~.5. A Co-permittee may comply with WQBELs through any lawful means.

6.4. In cases where a WQBEL is assigned jointly to a group of Co-permittees or other parties whose discharges are, or may be, commingled prior to entering the receiving water, pursuant to 40 CFR 122.26(a)(3)(vi), each Co-permittee is only responsible for discharges from the MS4 for which they are owners or operators.

7.~~5~~. Where Co-permittees have comingled discharges to the receiving water, compliance at the outfall or in the receiving water shall be determined for the group of Co-permittees as a whole unless an individual Co-permittee demonstrates that its discharge did not cause or contribute to the exceedance. A Co-permittee may demonstrate compliance with WQBELs using monitoring data to:

i. Demonstrate~~ing~~ that there are no ~~exceedences~~ violations of ~~receiving water limitations~~ TMDL requirements using monitoring data that has been collected and analyzed pursuant to an approved TMDL monitoring plan; OR

ii. ~~Demonstrating~~ Demonstrate that there are no exceedances of ~~WLAs~~ WQBELs at ~~MS4 outfalls~~ monitoring locations which have been designated pursuant to the requirements of Monitoring and Reporting Program R8-2015-0001 or Monitoring and Reporting Programs developed as a part of the TMDL and approved by the EO; OR

iii. ~~Demonstrating~~ Demonstrate that there is no discharge from the responsible Co-permittees' MS4(s) to the receiving water during the time period subject to the WQBEL.

iv. For exceedances of WQBELs for ~~pathogens~~ indicator bacteria, demonstrate through the use of generally-accepted source-identification protocols, or~~,~~ if applicable, through protocols established under California Water Code ~~S~~section 13178, that sources within the Co-permittee's jurisdiction or MS4 have not caused or contributed to the exceedance.

~~8.6.~~ A Watershed Management Plan may be developed separately for a specific WQBEL or a group of WQBELs may be combined and addressed in one plan, subject to the discretion of the Regional Board.

~~9.7.~~ For water body-pollutant combinations subject to an adopted TMDL, full compliance with ~~the~~ TMDL requirements, as incorporated in this Order, will be regarded as compliance with the receiving water limitations for the water body-pollutant combination.

~~10.8.~~ The responsible Co-permittees must submit reports which are consistent with the requirements of the TMDL.

B. Provisions for WLAs in State-Adopted TMDLs Where Final Compliance Deadlines Have Passed

1. Appendices B, C, D and F include WQBELs where the final compliance deadline established by the underlying TMDL has passed.[20] ~~.~~ The responsible Co-permittees must comply immediately with these final WQBELs. Compliance with final WQBELs shall be determined using one of the following methods:

a. The responsible Co-permittees may demonstrate compliance with final WQBELs using monitoring data ~~as follows~~ according to Subsection XVIII.A.5. above.

~~i.a. Demonstrating that there are no exceedances of receiving water limitations using monitoring data that has been collected and analyzed pursuant to an approved TMDL monitoring plan; OR~~

~~ii.b. Demonstrating that there are no exceedances of WLAs at MS4 outfalls which have been designated pursuant to the requirements of Monitoring and Reporting Program R8-2015-0001; OR~~

~~iii.c. Demonstrating that there is no discharge from the responsible Co-permittees' MS4(s) to the receiving water during the time period subject to the WLA.~~

1.~~b.~~ Co-permittee(s) may fully implement a Time Schedule Order ("TSO")~~"~~ issued by the Regional Board pursuant to California Water Code Section 13300. The responsible Co-permittees may request a TSO if they believe that additional time to comply with final WQBELs is necessary, or if otherwise pertinent deadlines in a TMDL have passed. The responsible Co-permittees' full compliance with the following TSO requirements will constitute compliance

with receiving water limitations in Section IV and with those WQBELs that implement WLAs whose final deadlines have passed in Appendices B through H.

i. The responsible Co-permittees must provide written notice to the Executive Officer of their intent to request a TSO to achieve water quality standards and/or WQBELs within a watershed according to the following requirements:

1. The notice must include a schedule for the development of the draft TSO.

a. The schedule must include a work breakdown structure for the completion of discrete tasks and the achievement of specific milestones in the development of the draft plan. The plan development schedule must identify a minimum of three (3) critical milestones. The schedule must be sufficiently detailed to allow early detection of variances that may cause the Co-Permittees to miss critical milestones or the final deadline. Deadlines may be either fixed dates or floating deadlines (e.g. "thirty days from").

b. The plan development schedule must be as short as practical, but the date for submitting a final draft TSO must not have a deadline that exceeds 12-months from the date of the notice. The Regional Board and the Executive Officer may approve extensions of time for meeting critical milestones and the final deadline. The Executive Officer may not approve extensions that exceed 6 months in total. For the duration of the extension period, the responsible Co-permittees must demonstrate compliance with receiving water limitations in Section IV and with applicable WQBELs according to Section XVIII.

c. All deadlines must be part of a measurable and verifiable schedule.

d. The TSO development schedule is subject to the approval of the Executive Officer. The Executive Officer is authorized to approve subject to conditions. Upon approval, the responsible Co-permitttees must implement the development schedule according to the critical milestones and final submittal deadline.

2. The notice must also:

a. Identify the responsible Co-permittees who will be participating in the development of the TSO and who will be subject to the TSO's requirements. .

b. Include copies of executed or draft agreements that are necessary to fund the development of the TSO.

c. Provide the contact information for representatives for each of the responsible Co-permittees.

d. Describe the management area (watershed or sub-watershed) over which the TSO will apply.

e. Describe any models or similar analyses that may be used to prepare the draft TSO according to Provision XI.E.8. below.

ii. The responsible Co-permittees must implement the development schedule for the draft TSO according to the critical milestones and final deadline provided in their notice except as follows:

a. Any changes to the critical milestones and final deadline must be requested in writing and are subject to the approval of the Executive Officer or the Regional Board. The Executive Officer may approve extensions of time not to exceed 6 months in total. For the duration where the extension period causes them to deviate from the original development schedule, the responsible Co-permittees must demonstrate compliance with receiving water limitations in Section IV and with applicable WQBELs according to Section XVIII.

b. Any written request for a change in the development schedule must include a statement of the purpose and need for the change.

c. The Executive Officer will provide a minimum of 10 days for public review of a request for a change prior to approving the request. Written requests must be received not less than 10-days prior to the affected scheduled deadline.

iii. The Co-permittees may request a TSO individually, or two or more Co-permittees may request a TSO jointly for the same WQBEL(s). If responsible Co-permittees request the Regional Board for a TSO, Regional Board staff will, at a minimum, require the following information:

a. Data which demonstrates the current quality of the relevant MS4 discharge(s) to the receiving waters in terms of concentration and/or load;

b. A detailed description and chronology of structural controls and source controls employed to reduce the pollutant load in the MS4 discharge(s) since the effective date of the TMDL;

c. Justification for the additional time desired to achieve the final WQBEL(s);

d. A detailed time schedule of specific actions that the Co-permittee(s) will take to achieve the final WQBEL(s);

e. An analysis that provides reasonable assurance that the proposed actions will achieve the final WQBEL(s) within the requisite time period, which may be the time specified in any Watershed Management Plan for the watershed at issue. The analysis must be supported, in part, by peer-reviewed models that are in the public domain

where such models are available and appropriate. (The analysis can include trend analyses that demonstrate that no additional actions are necessary to achieve the WQBEL(s) within the term of the requested TSO.);

f. A demonstration that the requested time schedule is as short as possible, taking into account the technological, operational, and economic factors that affect the design, development, and implementation of the control measures that are necessary to comply with the final WQBEL(s); and

g. If the term of the requested TSO exceeds one year, the request must also include proposed interim requirements and a time schedule for their achievement. The proposed interim requirements will include: (1) effluent limitation(s) for the pollutant(s) of concern; and (2) a detailed time schedule of specific actions the Co-permittee(s) will take to achieve the effluent limitations.

iv. Requests for TSOs must include a 'reasonable assurance' that proposed actions will achieve final WQBELs within required time periods. A reasonable assurance is expected to be supported by evidence that provides a reasonable basis to conclude that the Co-permittees' actions will achieve final WQBELs.

C. Provisions for WLAs in State-Adopted TMDLs Where Final Compliance Deadlines Have Not Passed

1. WQBELs set forth in Appendices C and E are based on TMDLs where the final compliance deadlines have not passed.[20] ~~.~~ The responsible Co-permittees must achieve compliance with the WQBELs by the final compliance dates set forth in Appendices C and E by one of the following methods:

a. The responsible Co-permittees may demonstrate compliance with applicable WQBELs using monitoring data ~~as follows:~~

~~i. Demonstrating that there are no exceedances of receiving water limitations using monitoring data that has been collected and analyzed pursuant to an approved TMDL monitoring plan;~~

~~OR~~

~~ii. Demonstrating that there are no exceedances of WLAs at MS4 outfalls which have been designated pursuant to the requirements of Monitoring and Reporting Program R8-2015-0001; OR~~

~~iii.1. Demonstrating that there is no discharge from the responsible Co-permittees' MS4(s) to the receiving water during the time period subject to the WLA.~~according to Subsection XVIII.A.5. above.

b. The responsible Co-permittees may ~~implement an approved plan designed to comply with final WQBELS WQBELs ("WQBEL~~

~~compliance plan")~~ initiate development of and implement a Watershed Management Plan according to the ~~following requirements:~~ requirements of Section XI and the following:

i. For WQBELs where the related TMDL has an implementation plan that includes a requirement that the Co-permittees develop a compliance plan, the draft ~~WQBEL compliance plan~~ Watershed Management Plan must be submitted consistent with the schedule specified in the implementation plan. ~~Otherwise, the draft WQBEL plan must be submitted within six (6) months of submission of the written notice of intent to develop the plan.~~

ii. For WQBELs where a ~~compliance~~ plan has already been developed for the related TMDL and is currently being implemented, the responsible Co-permittees may request in their written ~~no~~notification that the Executive Officer approve the plan as satisfying the requirements of ~~Subsection XVIII.C.~~ Section XI.

iii. Where monitoring data indicates that discharges of urban runoff are not achieving applicable WQBELs, submit a notice of their intent to develop and implement a Watershed Management Plan according to the requirements of Section XI within 60-days of becoming aware of the situation.

~~d. A WQBEL compliance planWatershed Management Plan may be developed separately for a specific WQBEL or a group of WQBELs may be combined and addressed in one plan, subject to the discretion of the Regional Board.~~

~~e. At a minimum, the draft WQBEL compliance plan must contain the following:~~

~~i. A characterization of the water quality in the receiving waters, as it pertains to the applicable WQBELs;~~

~~ii. Quantification of the contributions of related pollutants from the responsible Co-permittees' MS4 outfalls to the receiving waters;~~

~~iii. A description of the BMPs that are currently being employed to control the pollutant(s);~~

~~iv. A description of any proposed new BMPs, or modification of currently employed BMPs, necessary to achieve the WQBEL(s);~~

~~v. An analysis that provides reasonable assurance that the proposed actions will achieve the final WQBEL(s). The analysis must be supported, in part, by peer-reviewed models that are in the public domain where such models are available~~

~~and appropriate (The analysis can include trend analyses that demonstrate that no additional actions are necessary to achieve the final WQBEL(s).).~~

~~vi. A description of the adaptive management process that will be used to evaluate the effectiveness of the BMPs to achieve the WQBEL(s) and make improvements as necessary; AND~~

~~vii. A time schedule for the implementation of the BMPs.~~

~~f. Any draft WQBEL compliance plans is subject to the review and approval of the Executive Officer. Responsible Co-permittees must modify the plan within 60-days of written notification by the Executive Officer. Upon approval by the Executive Officer, the plan is considered final and the responsible Co-permittees must fully implement the final WQBEL compliance plan. To be considered fully implementing an approved plan, responsible Co-permittee(s) must carry out all actions consistent with the final WQBEL compliance plan and related time schedules contained therein.~~

~~g. Draft WQBEL compliance plans will be subject to a 30-day public review period. All final WQBEL compliance plans must be made available to the public and posted to the responsible Co-permittee website(s), the Principal Permittee's website, or by another method acceptable to the Executive Officer.~~

~~h. Except for inconsequential grammatical or technical corrections, changes to final WQBEL compliance plans are subject to the approval of the Executive Officer following 30-days public review as described above.~~

~~3. Co-permittee(s) may fully implement a Time Schedule Order ("TSO)" issued by the Regional Board pursuant to California Water Code Section 13300. The responsible Co-permittees may request a TSO if they believe that additional time to comply with final WQBELs is necessary.~~

D. Provisions for TMDLs Established by USEPA

1. WQBELs in Appendices G and H are based on TMDLs promulgated by USEPA. These TMDLs do not include an implementation plan adopted pursuant to California Water Code Section 13242. However, USEPA has included recommendations for implementation as part of the TMDLs. The responsible Co-permittees, subject to the WQBELs in Appendices G and H must achieve compliance with these WQBELs by one of the following methods:

a. The responsible Co-permittees may demonstrate compliance with applicable WQBELs using monitoring data as follows:

i. Demonstrating that there are no exceedances of receiving water limitations using monitoring data that has been collected and analyzed pursuant to an approved TMDL monitoring plan; OR

ii. Demonstrating that there are no exceedances of WLAs at MS4 outfalls which have been designated pursuant to the requirements of Monitoring and Reporting Program R8-2015-0001 or the EO approved Regional Monitoring Program for the BMP Strategic Plan Santa Ana-Delhi Channel and San Diego Creek subwatershed; OR

iii. There is no discharge from the responsible Co-permittees' MS4(s) to the receiving water during the time period subject to the WLA.

2. The responsible Co-permittees may ~~implement an approved plan designed to comply with final WQBELS ("WQBEL compliance plan")~~ initiate development of and fully implement a Watershed Management Plan according to the ~~following requirements:~~ requirements of Section XI and the following:

~~i. The Co-permittees must submit written notice to the Executive Officer of their intent to develop a WQBEL compliance plan within 180 days of the effective date of this Order.~~

a. For WQBELs where a ~~compliance~~ plan has already been developed for the related TMDL and is currently being implemented, the responsible Co-permittees may request in their written notification that the Executive Officer approve the plan as satisfying the requirements of ~~Subsection XVIII.D~~ Section XI.

~~iii. A WQBEL compliance plan may be developed separately for a specific WQBEL or a group of WQBELs may be combined and addressed in one plan, subject to the discretion of the Regional Board.~~

~~iv. At a minimum, the draft WQBEL compliance plan must contain the following:~~

~~A. A characterization of the water quality in the receiving waters, as it pertains to the applicable WQBELs;~~

~~B. Quantification of the contributions of related pollutants from the responsible Co-permittees' MS4 outfalls to the receiving waters;~~

~~C. A description of the BMPs that are currently being employed to control the pollutant(s);~~

~~D. A description of any proposed new BMPs, or modification of currently-employed BMPs, necessary to achieve the WQBEL(s);~~

~~E. An analysis that provides reasonable assurance that the proposed actions will achieve the final WQBEL(s). The analysis must be supported, in part, by peer-reviewed~~

models that are in the public domain where such models are available and appropriate. (The analysis can include trend analyses that demonstrate that no additional actions are necessary to achieve the final WQBEL(s).).

F. A description of the adaptive management process that will be used to evaluate the effectiveness of the BMPs to achieve the WQBEL(s) and make improvements as necessary; AND

G. A time schedule for the implementation of the BMPs.

v. Any draft WQBEL compliance plans is subject to the review and approval of the Executive Officer. Responsible Co-permittees must modify the plan within 60 days of written notification by the Executive Officer. Upon approval by the Executive Officer, the plan is considered final and the responsible Co-permittees must fully implement the final WQBEL compliance plan. To be considered fully implementing an approved plan, responsible Co-permittee(s) must carry out all actions consistent with the final WQBEL compliance plan and related time schedules contained therein.

vi. Draft WQBEL compliance plans will be subject to a 30-day public review period. All final WQBEL compliance plans must be made available to the public and posted to the responsible Co-permittee website(s), the Principal Permittee's website, or by another method acceptable to the Executive Officer.

vii. Except for inconsequential grammatical or technical corrections, changes to final WQBEL compliance plans are subject to the approval of the Executive Officer following 30-days public review as described above.

Appendix B

Water Quality-Based Effluent Limits for Nutrients in Newport Bay

The following water quality-based effluent limits ("WQBELs") apply to discharges of urban runoff from MS4s owned or controlled by those Co-permitees discharging into Newport Bay as indicated in Appendix A. The WQBELs in this Appendix are based on the waste load allocations ("WLAs") in the Nutrient TMDL. The nutrient TMDL for the Newport Bay/San Diego Creek Watershed distributes the portions of the waterbody's assimilative capacity to various pollution sources so that the waterbody achieves its water quality standards. The Regional Board supports the trading of pollutant allocations among sources where appropriate. Trading can take place between point/point, point/nonpoint, and nonpoint/nonpoint pollutant sources. Compliance with the WQBELs in this Appendix will be determined according to methods described in Section XVIII of Order No. R8-2015-0001.

The Nutrient TMDL has been approved by Santa Ana Regional Water Quality Control Board, the State Water Resources Control Board, the Office of Administrative Law ("OAL") and USEPA. The Nutrient TMDL was adopted by the Santa Ana Regional Water Quality Control Board in Resolution No. 98-9 (amended by Resolution No. 98-100). The TMDL was approved by the Office of Administrative Law on February 10, 1999 and April 16, 1999. The compliance deadlines that were adopted as part of this TMDL have passed and the following WQBELs are effective on the effective date of this Order.

I. Final WQBELs

The responsible Co-permittees must comply with the methods described in Section XVIII of Order No. R8-2015-0001 to demonstrate compliance with the following final WQBELs:

A. Summary of Loading Targets and Compliance Time Schedules

TMDL	December 31, 2002[5]	December 31, 2007[5]	December 31, 2012[5]
Newport Bay Watershed Total Nitrogen - Summer Load[1]	200,097 lbs.	153,861 lbs.	
Newport Bay Watershed Total Nitrogen - Winter Load[2]			144,364 lbs.
Newport Bay Watershed Total Phosphorus - Annual Load[3]	86,912 lbs.	62,080 lbs.	
San Diego Creek, Reach 2 Total Nitrogen - Daily Load[4]			14 lbs.

[1]Total nitrogen summer loading limit applies between April 1 and September 30.
[2]Total nitrogen winter loading limit applies betweenOctober 1 and March 31 when the mean daily flow rate at San Diego Creek at Campus Drive is below 50 cubic feet per second (cfs), and when the mean daily flow rate in San Diego Creek at CampusDrive is above 50 cubic feet per second (cfs), but not as the result of precipitation.
[3]Total phosphorus annual loading is the sum of summer and winter loading during all daily flow rates.
[4]Total nitrogen daily loading limit applies when the mean daily flow rate at San Diego Creek at Culver Drive is below 25 cubic feet per second (cfs), and when the mean daily flow rate in San Diego Creek at Culver Drive is above 25 cubic feet per second (cfs), but not as the result of precipitation.

[5]Compliance to be achieved no later than this date. The Regional Board may require earlier compliance with these targets when it is feasible and reasonable.

~~Reach 1, San Diego Creek~~

~~Table B-1: Final Nutrient WQBELs for Reach 1 of San Diego Creek~~

~~Total Nitrogen[1] – Summer[2] (pounds/season)~~	~~Total Nitrogen[1] – Winter[3, 4, 5] (pounds/season)~~	~~Total Phosphorous – Annual (pounds/year)~~
~~16,628~~	~~55,442~~	~~2,960~~

~~Table B-1 Notes:~~

~~1. Total Nitrogen = NO3 + NH3 + organic N~~
~~2. Summer season: April through September~~
~~3. Winter season: October through March~~
~~4. The WQBEL for winter Total Nitrogen applies between October 1 and March 31 when the mean daily flow rate in San Diego Creek at Campus Drive is less than 50 cubic feet per second ("cfs") and Orange County MS4 Permit B-2 R8-2015-0001when the mean daily flow rate in San Diego Creek at Campus Drive is above 50 cfs but not as the result of precipitation.~~
~~5. Assumes 67 non-storm days.~~

B. Annual Total Nitrogen Load Allocations For San Diego Creek, Reach 2 During Non-Storm Conditions.[1]

	2012 Allocation lbs/day TN[2]
TMDL	14 lbs/day (TN)
Waste Load Allocation (Urban runoff)	5.5 lbs/day (TN)
Load Allocation (Nurseries, agriculture, undefined sources)	8.5 lbs/day (TN)

~~Reach 2, San Diego Creek: 5.5 pounds per day Total Nitrogen~~

1. This WQBEL for Total Nitrogen applies when the mean daily flow rate in San Diego Creek at Culver Drive is below 25-cfs and when the mean daily flow rate in San Diego Creek at Culver Drive is above 25-cfs but not as the result of precipitation.

C. Annual Total Phosphorous Load Allocations For The Newport Bay

	2002 Allocation lbs/year TP[1]	2007 Allocation lbs/year TP[1]
TMDL	86,912	62,080
Urban areas	4,102	2,960
Construction sites	17,974	12,810
Waste Load Allocation	22,076	15,770
Agricultural areas	26,196	18,720
Open space	38,640	27,590
Load Allocation	64,836	46,310

Appendix C

Water Quality-Based Effluent Limits for Fecal Coliform in Newport Bay

The following water quality-based effluent limits ("WQBELs") apply to discharges of urban runoff from MS4s owned or controlled by those Co-permitees discharging into Newport Bay as indicated in Appendix A. The WQBELs in this Appendix are based on the waste load allocations in the Fecal Coliform TMDL. Compliance with the WQBELs in this Appendix will be determined according to methods described in Section XVIII of Order No. R8-2015-0001.

The Fecal Coliform TMDL has been approved by Santa Ana Regional Water Quality Control Board, the State Water Resources Control Board, the Office of Administrative Law ("OAL") and USEPA. The Fecal Coliform TMDL was adopted by the Santa Ana Regional Water Quality Control Board in Resolution No. 99-10 The TMDL was approved by OAL on December 24, 1999 and February 28, 2000. Unless indicated otherwise below, the compliance deadlines that were adopted as part of this TMDL have passed and the following WQBELs are effective on the effective date of this Order.

I. Final WQBELs

~~A. The responsible Co-permittees must comply with the methods described in Section XVIII of Order No. R8-2015-0001 to demonstrate compliancewith the following final WQBEL to protect the water-contact recreation (REC-1) beneficial use:~~

~~Table C-1: Final WQBEL to protect REC-1~~

~~WQBEL to protect REC-1~~	~~Compliance Date~~
~~5-sample/30-days geometric mean less than 200 organisms/100mL and not more than 10% of the samples excee 400 organisms/100mL for any 30-day period[1]~~	~~As soon as possible but no later than December 31, 2014.~~

~~Table C-1 Notes:~~

~~[1]. The geometric mean shall be calculated based on a minimum of 5 representative samples of urban runoff taken over a 30-day period.~~

A. The responsible Co-permittees must comply with the methods described in Section XVIII of Order No. R8-2015-0001 to demonstrate compliance with the following final WQBEL to protect the shell fish harvesting (SHEL) beneficial use:

Table C-~~2~~ 1: Final WQBEL to protect SHEL

WQBEL to protect REC-1	Compliance Date
Monthly median less than 14 MPN/100mL and not more than 10% of the samples exceed 43 MPN/100mL	As soon as possible but no later than December ~~31~~ 30, 2019.

B. The responsible Co-permittees must provide an updated TMDL report for ~~both~~ the final WQBELs to protect ~~REC-1 and~~ SHEL no later than 60-days from the effective date of ~~this Order~~ revised SHEL standards when promulgated by the State Water Resources Control Board. The TMDL report must:

1. Integrate and evaluate the results of the relevant studies performed as part of Tasks 1 through 7 of the Fecal Coliform TMDL implementation plan (Table 5-9g of the Basin Plan);
2. Include recommendations for revisions to the TMDL if appropriate; and
3. Include recommendations for interim WQBELs and related compliance schedules.

Appendix D

Water Quality-Based Effluent Limits for Sediment in Upper Newport Bay

The following water quality-based effluent limits ("WQBELs") apply to discharges of urban runoff from MS4s owned or controlled by those Co-permitees discharging into Upper Newport Bay as indicated in Appendix A. The WQBELs in this Appendix are based on the requirements in the Sediment TMDL, exclusive of the load allocations. Compliance with the WQBELs in this Appendix will be determined according to methods described in Section XVIII of Order No. R8-2015-0001.

The Sediment TMDL has been approved by Santa Ana Regional Water Quality Control Board, the State Water Resources Control Board, the Office of Administrative Law ("OAL") and USEPA. The Sediment TMDL was adopted by the Santa Ana Regional Water Quality Control Board in Resolution No. 98-101. The TMDL was approved by OAL on February 2, 1999 and April 16, 1999. The compliance deadlines that were adopted as part of this TMDL have passed and the following WQBELs are effective on the effective date of this Order.

I. Final WQBELs

The responsible Co-permittees must comply with the methods described in Section XVIII of Order No. R8-2015-0001 to demonstrate compliance with the following final WQBELs:

A. A reduction of the annual average sediment load in the watershed from a total of approximately 250,000 tons per year to 125,000 tons per year, thereby reducing the sediment load to Newport Bay to approximately 62,500 tons per year and limiting sediment deposition in the drainages to approximately 62,500 tons per year as evaluated as a 10-year running average. Sediment control measures shall be implemented and maintained to result in a 50% reduction in the current load of sediment in the Newport Bay/San Diego Creek Watershed within 10 years.

~~Discharges of urban runoff must not transport more than 2,500 tons of sediment per year, calculated as a 10-year running average, into Newport Bay from urban areas.~~

~~B. Discharges of urban runoff must not transport more than 2,500 tons of sediment per year, calculated as a 10-year running average, into San Diego Creek and its tributaries.~~

~~C~~B. Sediment in discharges of urban runoff must not alter the distribution of habitat types in the 700-acre Upper Newport Bay Ecological Reserve, in Table D-1 below or as revised by the Department of Fish and Wildlife, by more than 1%.

Table ~~D~~C-1: Baseline Distribution of Habitat Types in the Upper Newport Bay Ecological Reserve

Habitat Type	Acres	Permissible Change (acres)
Marine aquatic	210	2.1
Mudflat	214	2.1
Salt marsh	277	2.8
Riparian	31	3.1

~~D~~C. The depths of the Unit 1 and 2 Sediment Basins (a.k.a. Unit I/III and Unit II) must be maintained at a minimum of 7-feet below mean sea level.

~~E~~D. Bathymetric and vegetation surveys must be performed no less than once every ~~three~~ five years, or as agreed to by the Executive Officer, in a manner to determine compliance with the above requirements for sediment[1].

1. Bathymetric and vegetation surveys must be performed within one year following any monitoring period in which monitoring at San Diego Creek at Jamboree Boulevard and Campus Drive (Site ID: SDMF05) shows that more than 250,000 tons of sediment were discharged into Newport Bay.

2. Bathymetric and vegetation surveys must be conducted by July 1st of each year that they are performed, and must be submitted by December 31 of the same year.

~~F~~E. All in-channel and foothill sediment-control basins tributary to Newport Bay must have an available sediment capacity that is 50% or more of each facilities' design capacity prior to November 15th of each year.

[1]The Basin Plan calls for a 3-year survey period. The period was amended pursuant to an approval granted by the Executive Officer in a letter dated February 14, 2014.

Appendix E
Water Quality-Based Effluent Limits for Organochlorine Compounds in
Newport Bay and San Diego Creek

The following water quality-based effluent limits ("WQBELs") apply to discharges of urban runoff from MS4s owned or controlled by those Co-permitees discharging into Newport Bay and San Diego Creek as indicated in Appendix A. The WQBELs in this Appendix are based on the waste load allocations ("WLAs") in the Organochlorine Compound TMDL. Compliance with the WQBELs in this Appendix will be determined according to methods described in Section XVIII of Order No. R8-2015-0001. The compliance deadlines for these WQBELs have not yet passed.

The Organochlorine Compound TMDL that the following WQBELs are based on has been approved by Santa Ana Regional Water Quality Control Board, the State Water Resources Control Board, the Office of Administrative Law ("OAL") and USEPA. The Organochlorine Compound TMDL was adopted by the Santa Ana Regional Water Quality Control Board in Resolution No. R8-2011-0037 (modifying Resolution No. R8-2007-0024). The TMDL was approved by OAL on July 26, 2013 and by USEPA on November 12, 2013. Chlordane, dieldrin, DDT and PCBs are part of the earlier USEPA-promulgated TMDL whose WLAs were superseded by the Regional Board's TMDL. As a result, the pollutant-water body WLAs established by USEPA's TMDL do not appear below and are not in effect.

I. The responsible Co-permittees must comply with the methods described in Section XVIII of Order No. R8-2015-0001 to demonstrate compliance with the final WQBELs in Table E-1. These WQBELs must be met as soon as possible but not later than December 31, 2020:

Table E-1: WQBELs by Receiving Water for Organochlorine Compounds

Water Body	Pollutant	TMDL (grams per year)[a]
San Diego Creek and Tributaries	Total DDT	396
	Toxaphene	6
Upper Newport Bay	Total DDT	160
	Chlordane	93
	Total PCBs	92
Lower Newport Bay	Total DDT	59
	Chlordane	34
	Total PCBs	241

[a] Compliance to be achieved as soon as possible but no later than December 31, 2020.

	~~Waste Load Allocation~~~~Water Quality-Based Effluent Limit (g/year)~~			
~~Receiving Water~~	~~Total DDT~~	~~Chlordane~~	~~Total PCB~~	~~Toxaphene~~
~~San Diego Creek~~	~~128.3~~	~~--~~	~~--~~	~~1.9~~
~~Upper Newport Bay~~	~~51.8~~	~~30.1~~	~~29.8~~	~~--~~
~~Lower Newport Bay~~	~~19.1~~	~~11.0~~	~~78.1~~	~~--~~

Appendix F

Water Quality-Based Effluent Limits for the Diazinon & Chlorpyrifos TMDL for Upper Newport Bay and San Diego Creek

The following water quality-based effluent limits ("WQBELs") apply to discharges of urban runoff from MS4s owned or controlled by those Co-permitees discharging into Upper Newport Bay or San Diego Creek as indicated in Appendix A. The WQBELs in this Appendix are based on the waste load allocations in the Diazinon & Chlorpyrifos TMDL. Compliance with the WQBELs in this Appendix will be determined according to methods described in Section XVIII or Order No. R8-2015-0001.

The Diazinon & Chlorpyrifos TMDL has been approved by Santa Ana Regional Water Quality Control Board, the State Water Resources Control Board, the Office of Administrative Law ("OAL") and USEPA. The Diazinon & Chlorpyrifos TMDL was adopted by the Santa Ana Regional Water Quality Control Board in Resolution No. R8-2003-0039. The TMDL was approved by OAL on January 5, 2004 and February 13, 2004. The compliance deadline that was adopted as part of this TMDL has passed and the following WQBELs are effective on the effective date of this Order.

I. The responsible Co-permittees must comply with the methods described in Section XVIII of Order No. R8-2015-0001 to demonstrate compliance with the final WQBELs in Table F-1:

Table F-1: WQBELs for Chlorpyrifos and Diazinon in Upper Newport Bay and San Diego Creek

	Chlorpyrifos (ng/L)		Diazinon (ng/L)	
Receiving Water	Acute Concentration (24-hour average)	Chronic Concentration (4-consequtive day average)	Acute Concentration (24-hour average)	Chronic Concentration (4-consequtive day average)
Upper Newport Bay	18	8.1	--	--
San Diego Creek	18	12.6	72	45

Appendix G

Water Quality-Based Effluent Limits for Toxic Pollutants (Metals and Selenium) into San Diego Creek and Newport Bay

The following water quality-based effluent limits ("WQBELs") apply to discharges of urban runoff from MS4s owned or controlled by those Co-permitees discharging into San Diego Creek and Newport Bay as indicated in Appendix A.

The WQBELs in this Appendix are based on the waste load allocations in the Toxic Pollutants (Metals and Selenium) TMDL. The TMDL was promulgated by USEPA on June 17, 2002. Pollutant-water body combinations for diazinon, chlorpyrifos, and organochlorinated compounds have been superseded by Basin Plan Amendments by the Regional Board. Therefore, the waste load allocations for these compounds have not been incorporated into this Appendix as WQBELs and are not in effect.

Compliance with the WQBELs in this Appendix will be determined according to methods developed pursuant to Section XVIII or Order No. R8-2015-0001 ~~Subsection II.B. of Monitoring and Reporting Program R8-2015-0001.~~. Compliance deadlines for the WBELs in this Appendix were not established; these WQBELs are effective on the effective date of this Order.

I. The responsible Co-permittees must comply with the methods described in Section XVIII of Order No. R8-2015-0001 to demonstrate compliance with the final WQBELs in the following Tables G-1, G-2, G-3, and G-4:

Table G-1: Concentration-based WQBELs for Metals in San Diego Creek at Campus Drive

	Base Flow (flow < 20-cfs; hardness = 400 mg/L)		Small Flows (21 ≤ flow ≤ 181-cfs; hardness = 322 mg/L)		Medium Flows (182 ≤ flow ≤ 815-cfs; hardness = 236 mg/L)		Large Flows (flow >815-cfs; hardness = 197 mg/L)
	Acute (µg/L)	Chronic (µg/L)	Acute (µg/L)	Chronic (µg/L)	Acute (µg/L)	Chronic (mg/L)	Acute (µg/L)
Cadmium, dissolved	19.1	6.2	~~5.3~~15.1	~~15.1~~5.3	~~4.2~~ 10.8	1~~0.8~~4.2	8.9
Copper, dissolved	50	29.3	40	24.3	30.2	18.7	25.5
Lead, dissolved	281	10.9	224	8.8	162	6.3	134
Zinc, dissolved	379	382	316	318	243	224	208

Table G-2: WQBELs for Discharges of Metals into Newport Bay

	Acute Concentrations (24-hour average)(µg/L)	Chronic Concentrations (4 consecutive day/96-hour average)(µg/L)	Mass-based Loads (pounds/year)[2]
Cadmium, dissolved[1]	42	9.3	9,589
Copper, dissolved	4.8	3.1	3,043
Lead, dissolved	210	8.1	17,638
Zinc, dissolved	90	81	174,057

Notes for Table G-2:

1. Values for dissolved cadmium apply only to discharges to Upper Newport Bay

2. Mass-based loads are measured in the Newport Bay water column according to the Basin Plan.

Table G-3: WQBELs for Discharges into the Rhine Channel

Mercury (kg/year)	Chromium (kg/year)
0.0171	5.66

Table G-4: WQBELs for Discharges of Selenium in San Diego Creek at Campus Drive

	Base Flows Flow < 20-cfs	Small Flows (21 ≤ flow ≤18-cfs)	Medium Flows (182 ≤ flow ≤ 814-cfs)	Large Flows (flow > 814-cfs)	Annual Total
Maximum Permissible Annual Load (pounds/year)	0.4	1.0	1.0	5.3	7.6