

**California Regional Water Quality Control Board
San Diego Region**

DRAFT UPDATES

**to the
MARCH 13, 2009 PUBLIC RELEASE DRAFT**

of the

**Waste Discharge Requirements for Discharges of Runoff from
the Municipal Separate Storm Sewer Systems (MS4s)
Draining the Watershed of the County of Orange, the
Incorporated Cities of Orange County, and the Orange County
Flood Control District within the San Diego Region**

**Tentative Order No. R9-2009-0002
NPDES NO. CAS0108740**

***UPDATES AS OF
18 June 2009***

These changes represent tentative changes to the March 13, 2009 release of Tentative Order No. R9-2009-0002. The changes are the result of meetings and conversations with the Copermittees and with the USEPA.

Permit Changes

Finding C.2 (new language)

~~Municipal MS4 storm water (wet weather) and non-storm water (dry weather) discharges are likely to contain pollutants that cause or threaten to cause an exceedance-violation of the water quality standards, as outlined in the Regional Board's Water Quality Control Plan for the San Diego Basin (Basin Plan). Wet weather and dry weather discharges~~ Storm water and non-storm water discharges from the MS4 are subject to the conditions and requirements established in the San Diego Basin Plan for point source discharges. These water quality standards must be complied with at all times, irrespective of the source and manner of discharge.

Finding C.14 (new language)

Non-storm water (dry weather) discharge is not considered a storm water (wet weather) discharge and therefore is not subject to regulation to the Maximum Extent Practicable (MEP) from CWA 402(p)(3)(B)(iii), which is explicitly for ~~"Municipal ... and Industrial Stormwater Discharges (emphasis added)".~~ Non-storm water discharges, per CWA 402(p)(3)(B)(ii) are to be effectively prohibited unless specifically exempted. Any e~~Exempted~~ discharges identified as a source of pollutants are subsequently required to be *addressed* (emphasis added) through prohibition and incorporation into IC/ID programs. Dry weather non-storm water discharges have been shown to contribute significant levels of pollutants and flow in arid, urban Southern California watersheds. The Copermittees have identified landscape irrigation, irrigation water and lawn water, previously exempted discharges, as a source of pollutants and conveyance of pollutants to waters of the United States.

Finding D.1.h (new language)

This Order establishes Municipal Action Levels (MALs) for selected pollutants based on USEPA Rain Zone 6 (arid southwest) ~~nationwide~~ Phase I MS4 monitoring data for pollutants in storm water. The MALs were computed using the statistical based population approach, one of three approaches recommended by the California Water Board's Storm Water Panel in its report, 'The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 2006). MALs are identified in Section D of this Order. Copermittees shall implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas so as not to exceed the MALs. MALs express an integration of the adequacy/inadequacy of programmatic measures and BMPs required in this

Order. ~~The exceedance of an MAL will create a presumption that MEP is not being met.~~

Finding D.2.e (modified language)

~~Heavy industrial sites are significant sources of pollutants in runoff. Pollutant concentrations and loads in runoff from industrial sites are similar or exceed pollutant concentrations and loads in runoff from other land uses, such as commercial or residential land uses. As with other land uses, LID site design, source control, and treatment control BMPs are needed at heavy industrial sites in order to meet the MEP standard. These BMPs are necessary where the heavy industrial site is larger than 10,000 square feet ~~one acre~~. ~~The one acre~~ 10,000 square feet threshold is appropriate, since it is consistent with requirements in ~~other the~~ Phase II NPDES storm water regulations that apply to small municipalities throughout California.~~

Finding D.2.g (updated language)

The increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads in storm water runoff and volume of storm water runoff. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by natural vegetated soil. Channels that have been armored with concrete, rip rap, or other man-made material may not be susceptible to the impacts of hydromodification. Nevertheless, it is important to include hydromodification measures upstream of hardened channels in the event that the hardened channels are restored to their natural state, thereby restoring the chemical, physical, and biological integrity and Beneficial Uses of local creeks.

Finding E.2 (updated reference language)

The Water Quality Control Plan for the San Diego Basin (Basin Plan), identifies the following beneficial uses for surface waters in Orange County: Municipal and Domestic Supply (MUN)¹, Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1) Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional beneficial uses are identified for coastal waters of Orange County: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish

¹ Subject to exceptions under the “Sources of Drinking Waters” Policy (Resolution No. 89-33)

Harvesting (SHELL).

Finding E.6 (updated language)

This Order does not constitute an unfunded local government mandate subject to subvention under Article XIII B, Section (6) of the California Constitution for several reasons, including, but not limited to, the following. First, this Order implements federally mandated requirements under federal Clean Water Act section 402, subdivision (p)(3)(B). (33 U.S.C. § 1342(p)(3)(B).) Second, the local agency Copermittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental dischargers who are issued NPDES permits for storm water discharges. Third, the local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. Fourth, the Copermittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in federal Clean Water Act section 301, subdivision (a) (33 U.S.C. § 1311(a)) and in lieu of numeric restrictions on their storm water discharges. Fifth, the local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under state law predates the enactment of Article XIII B, Section (6) of the California Constitution.

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Finding E.11 (updated language and added table)

Storm water discharges from urban and developing areas in Orange County are significant sources of certain pollutants that cause, may be causing, threatening to cause or contributing to water quality impairment in the waters of Orange County. Furthermore, as delineated in the CWA section 303(d) list, the Regional Board has found that there is a reasonable potential that ~~municipal~~ storm water and ~~non-storm water~~ dry weather discharges from MS4s cause or may cause or contribute to an excursion above water quality standards for the following pollutants: Indicator Bacteria, Phosphorous, Toxicity and Turbidity. In accordance with CWA section 303(d), the Regional Board is required to establish Total Maximum Daily Loads (TMDLs) for these pollutants to these waters to eliminate impairment and attain water quality standards. Therefore, certain early pollutant control actions and further pollutant impact assessments by the Copermittees are warranted and required pursuant to this Order.

Table 3. 2006 Section 303(d) Listed Waterbodies in So. Orange County

<u>Waterbody</u>	<u>Pollutant</u>
<u>Aliso Creek</u>	<u>Indicator Bacteria</u> <u>Phosphorus</u> <u>Toxicity</u>
<u>Aliso Creek Mouth</u>	<u>Indicator Bacteria</u>
<u>Dana Point Harbor</u>	<u>Indicator Bacteria</u>
<u>English Canyon Creek</u>	<u>Benzo[b]fluoranthene</u> <u>Dieldrin</u> <u>Sediment Toxicity</u>
<u>Laguna Canyon Channel</u>	<u>Sediment Toxicity</u>
<u>Oso Creek (at Mission Viejo Golf Course)</u>	<u>Chloride</u> <u>Sulfates</u> <u>Total Dissolved Solids</u>
<u>Pacific Ocean Shoreline, Dana Point HSA</u>	<u>Indicator Bacteria</u>
<u>Pacific Ocean Shoreline, Laguna Beach HSA</u>	<u>Indicator Bacteria</u>
<u>Pacific Ocean Shoreline, Lower San Juan HSA</u>	<u>Indicator Bacteria</u>
<u>Pacific Ocean Shoreline, San Clemente HA</u>	<u>Indicator Bacteria</u>
<u>Pacific Ocean Shoreline, San Joaquin Hills HSA</u>	<u>Indicator Bacteria</u>
<u>Prima Deshecha Creek</u>	<u>Phosphorus</u> <u>Turbidity</u>
<u>San Juan Creek</u>	<u>DDE</u> <u>Indicator Bacteria</u>
<u>San Juan Creek (mouth)</u>	<u>Indicator Bacteria</u>
<u>Segunda Deshecha Creek</u>	<u>Phosphorus</u> <u>Turbidity</u>

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Finding E.12 (new language)

This Order incorporates only those MS4 Waste Load Allocations (WLAs) developed in TMDLs that have been adopted by the Regional Water Board and have been approved by the State Board, Office of Administrative Law and U.S. EPA. Approved The TMDL WLAs in the Order are to be addressed using water quality-based numeric effluent limits (WQBELs) calculated as end-of-pipe numeric limits (either in the receiving waters and/or at the point of MS4 discharge) and/or as BMPs. In most cases, the numeric limit must be achieved to ensure the adequacy of the BMP program. Water quality-based effluent limits for storm water and non-storm water discharges have been included within this Order only if the TMDL has received all necessary approvals. Non-storm water dry weather TMDLs have been included in this Order as water quality-based effluent limits. Adopted TMDLs will be addressed as Cleanup and Abatement Orders (CAOs) subject to approval and adoption by the Regional Board. Storm water compliance date(s), schedules and monitoring to assess compliance will be included within each adopted TMDL CAO, even if said date(s) do not fall within the term of this Order. This Order establishes WQBELs and conditions

consistent with the requirements and assumptions of the WLAs in the TMDLs as required by 40 CFR 122.44(d)(1)(vii)(B).

A TMDL is the total amount of a particular pollutant that a water body can receive and still meet Water Quality Standards (WQSs), which are comprised of Water Quality Objectives (WQOs), Beneficial Uses and the States Policy on Maintaining High Quality Waters². The WQOs serve as the primary basis for protecting the associated Beneficial Use. The Numeric Target of a TMDL interprets and applies the numeric and/or narrative WQOs of the WQSs as the basis for the WLAs.

This Order addresses TMDLs through Water Quality Based Effluent Limits (WQBELs) that must be consistent with the assumptions and requirements of the WLA³. Federal guidance⁴ states that when adequate information exists, storm water permits are to incorporate numeric water quality based effluent limitations. In most cases, the numeric target(s) of a TMDL are a component of the WQBELs. When the numeric target is based on one or more numeric WQOs, the numeric WQOs and underlying assumptions and requirements will be used in the WQBELs as numeric effluent limitations by the end of the TMDL compliance schedule, unless additional information is required. When the numeric target interprets one or more narrative WQOs, the numeric target may assess the efficacy and progress of the BMPs in meeting the WLAs and restoring the Beneficial Uses by the end of the TMDL compliance schedule.

This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on June 11, 2008 for indicator bacteria in Baby Beach by establishing WQBELs expressed as both BMPs to achieve the WLAs and as numeric effluent limits⁵ for the City of Dana Point and the County of Orange. The establishment of WQBELs expressed as BMPs should be sufficient to achieve the WLA specified in the TMDL. The numeric effluent limits are the necessary metrics to ensure that the BMPs achieve appropriate concentrations of bacterial indicators in the receiving waters.

Finding E.13 (new language)

Basin Plan Prohibition 5 in Attachment A of the Permit states "The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited." Taken together with Finding C.1 and Discharge Prohibition 4, the Copermittees discharge from the MS4 is required to meet receiving water limitations.

² State Water Resources Control Board, Resolution No. 68-16

³ 40 CFR 122.44(d)(1)(vii)(B)

⁴ USEPA, *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*, 61 FR 43761, August 26, 1996

⁵ The Waste Load Allocations are defined in Resolution No. R9-2008-0027, A Resolution to Adopt an Amendment to the *Water Quality Control Plan for the San Diego Basin (9) to Incorporate Total Maximum Daily Loads for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay.*

This Order includes WQBELs for non-storm water discharges from the MS4. WQBELs included in this Order have been established for pollutants which have the reasonable potential to cause or contribute to an excursion of numeric or narrative water quality criteria as outlined in the Basin Plan, Water Quality Control Plan for Ocean Waters of California (Ocean Plan), and State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). This is consistent with existing Regional Board requirements in Orders for other non-storm water discharges throughout the region, including those which discharge into and from the MS4. NPDES regulations require that all permit limits be expressed, unless impracticable, as both average monthly limits (AMEL) and maximum daily limits (MDEL) for all discharges other than privately owned treatment works (40 CFR 122.45(d)).

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Section A.3 (Restored language and new language)

3. Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses, water quality objectives developed to protect beneficial uses, and the State policy with respect to maintaining high quality waters) are prohibited.
 - a. Each Copermittee must comply with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order through timely implementation of control measures and other actions to reduce pollutants in storm water ~~urban runoff~~ discharges in accordance with the ~~Jurisdictional Urban Runoff Management Program and other requirements of this Order, including any modifications. The Jurisdictional Urban Runoff Management Program must be designed to achieve compliance with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order. If exceedance(s) of water quality standards persist notwithstanding implementation of the Jurisdictional Urban Runoff Management Program and other requirements of this Order, the~~ Copermittee must assure compliance with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order by complying with the following procedure:
 - (1) Upon a determination by either the Copermittee or the Regional Board that MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Copermittee must ~~promptly~~ notify the Regional Board within 30 days and thereafter submit a report to the Regional Board that describes best management practices (BMPs) that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the Annual Report ~~update to the Jurisdictional Urban Runoff~~

~~Management Program~~ unless the Regional Board directs an earlier submittal. The report must include an implementation schedule. The Regional Board may require modifications to the report;

- (2) Submit any modifications to the report required by the Regional Board within 30 days of notification;
- (3) Within 30 days following approval of the report described above by the Regional Board, the Copermittee must revise its Jurisdictional ~~Urban-Runoff~~ Management Program and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required; and
- (4) Implement the revised Jurisdictional ~~Urban-Runoff~~ Management Program and monitoring program in accordance with the approved schedule.

b. So long as the Copermittee has complied with the procedures set forth above and is implementing the revised Jurisdictional ~~Urban-Runoff~~ Management Program, the Copermittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to do so.

c. By adoption of this Order, the Executive Officer hereby issues a standing Order that the Copermittee must repeat the same procedure set forth above to comply with the receiving water quality standard(s) unless directed to do otherwise by the Regional Board's Executive Officer.

~~c.d.~~ Nothing in section A.3 must prevent the Regional Board from enforcing any provision of this Order while the Copermittee prepares and implements the above report.

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Section B.2

The following categories of non-storm water discharges are not prohibited unless a Copermittee or the Regional Board identifies the discharge category as a source of pollutants to waters of the U.S. Where the Copermittee(s) have identified a category as a source, the category shall be addressed as an illicit discharge and prohibited through ordinance, order or similar means. The Regional Board may identify types of discharges that either require prohibition or other controls. For such a discharge category, the Copermittee, under direction of the Regional Board, must either prohibit the discharge category or develop and implement appropriate control measures to prevent the discharge of pollutants to the MS4 and report to the Regional Board pursuant to Section K.1 and K.3 of this Order.

- ~~b.e.~~ _____ Diverted stream flows;
- ~~c.f.~~ Rising ground waters;
- ~~d.g.~~ _____ Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to MS4s;
- ~~e.h.~~ _____ Uncontaminated pumped ground water⁶;
- ~~f.i.~~ Foundation drains⁶;
- ~~g.j.~~ Springs;
- ~~h.k.~~ _____ Water from crawl space pumps⁶;
- ~~i.l.~~ Footing drains⁶;
- ~~j.m.~~ _____ Air conditioning condensation;
- ~~k.n.~~ _____ Flows from riparian habitats and wetlands;
- ~~l.o.~~ Water line flushing^{7, 8};
- ~~m.p.~~ _____ Discharges from potable water sources not subject to NPDES Permit No. CAG679001, other than water main breaks;
- ~~m.~~
- ~~n.g.~~ _____ Individual residential car washing;
- ~~o.r.~~ _____ Dechlorinated swimming pool discharges⁹; and
- ~~p.~~ Saline swimming pool discharges directly to a saline water body.

Section B.3 (new language)

3. Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require BMPs and need not be prohibited. As part of the Jurisdictional Runoff Management Plan (JRMP), each Copermittee must develop and implement a program to address ~~reduce~~ pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) identified by the Copermittee to be significant sources of pollutants to waters of the United States.
 - a. Building fire suppression system maintenance discharges (e.g. sprinkler line flushing) contain waste. Therefore, such discharges are to be prohibited by the Copermittees as illicit discharges through ordinance, order or similar means.

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C. NON-STORM WATER DRY WEATHER NUMERIC EFFLUENT LIMITS

Section C.1 (new language)

Section C of this Order incorporates numeric limits to assure non-storm water dry weather discharges from the Orange County MS4 into receiving waters are not causing, threatening to cause or contributing to a condition of pollution or

⁶ Requires enrollment under Order R9-2008-0002. Discharge into the MS4 requires authorization from the owner and operator of the MS4 system.

⁷ This exemption does not include fire suppression sprinkler system maintenance and testing discharges. Those discharges may be regulated under Section B.3.

⁸ Requires enrollment under Order R9-2002-0020.

⁹ Including saline swimming pool discharges directly to a saline water body.

nuisance and to protect designated Beneficial Uses. Compliance with numeric limits does not constitute compliance with CWA requirements which require non-storm water discharges into the MS4 to be effectively prohibited unless specifically exempted or covered under a separate NPDES permit. Compliance with NELs provides an assessment of the effectiveness of the prohibition of non-storm water discharges and of the appropriateness of exempted non-storm water discharges. Compliance with Section C of this permit requires that exceedances of NELs result in one of the following outcomes:

- a. Copermittees investigate the source of the exceedance and determine that it is natural (non-anthropogenically influenced) in origin and conveyance. The findings are to be conveyed to the Regional Board for review and acceptance.
- b. Copermittees investigate the source of the exceedance and determine that the source is an illicit discharge or connection. The Copermittees are to remove the discharge to the MS4 and report the findings, including any enforcement action(s) taken, to the Regional Board. Those seeking to continue such a discharge must become subject to a separate NPDES permit.
- c. Copermittees investigate the source of the exceedance and determine that the source is an exempted non-storm water discharge. The Copermittees shall investigate the appropriateness of the discharge continuing to be exempt and report the findings to the Regional Board.

Section C.3 (new language)

Each Copermittee shall implement all measures to comply (as described in C.1) with the numeric limits in Section C of this Order. It is not the intent of this Permit to regulate natural sources and conveyances of constituents listed in Table 3. To be relieved of the requirements to meet NELs and to continue monitoring a station, the Copermittee must demonstrate that the likely and expected cause of the NEL exceedance is not anthropogenic in nature.

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Section C.4 (new language)

Monitoring of effluent will occur end-of-pipe prior to discharge into the receiving waters, with a focus on ~~at~~ Major Outfalls, as defined in 40 CFR 122.26(b)(5) and (b)(6) and Attachment E of this Order. The Copermittees shall develop their monitoring plans to sample a representative percentage of major outfalls and identified stations within each hydrologic subarea. At a minimum outfalls that exceed NELs shall be monitored in the subsequent year. Any station that does not exceed an NEL for 3 years may be replaced with a different station.

Section C.5 (updated language)

Each Copermittee shall monitor for and attain the non-storm water dry weather numeric limits, which are incorporated into this Order as ~~Basin Plan Water Quality Objectives, California Toxic Rule and/or USEPA Criteria~~ as follows:

Section C.5.a (new language)

Discharges to inland surface waters: Non-storm water discharges from the MS4 to inland surface water shall not contain pollutants in excess of the following effluent limitations:

Table 3.a.1: General Constituents

Parameter	Units	AMEL	MDEL	Instantaneous Maximum	Basis
Fecal Coliform	MPN/ 100 ml	200 ^A 400 ^B	-		BPO
Enterococci	MPN/ 100 ml	33	-	104 ^C	BPO/OP
Turbidity	NTU	-	20		BPO
pH	Units	Within limit of 6.5 to 8.5 at all times			BPO
Dissolved Oxygen	mg/L	Not less than 5.0 in WARM waters and not less than 6.0 in COLD waters			BPO
Total Nitrogen	mg/L	-	1.0	See MDEL	BPO
Total Phosphorus	mg/L	-	0.1	See MDEL	BPO
Methylene Blue Active Substances	mg/L	-	0.5	See MDEL	BPO
Total Dissolved Solids	mg/L	-	1,000 ^D 500 ^E	See MDEL	BPO
Sulfate	mg/L	-	500 ^D 250 ^E	See MDEL	BPO
Chlorides	mg/L	-	400 ^D 250 ^E	See MDEL	BPO

A – Based on a minimum of not less than five samples for any 30-day period

B – During any 30 day period

C – This Value has been set to Ocean Plan Criteria for Designated Beach Areas

D – Laguna Hydrologic Area

E – Mission Viejo, San Clemente and San Mateo Hydrologic Areas

BPO – Basin Plan Objective

OP – Ocean Plan

Table 3.a.2: Priority Pollutants

Parameter	Units	Freshwater (CTR)		Saltwater (CTR)	
		AMEL	MDEL	AMEL	MDEL
Cadmium	ug/L	*	*	16	8
Copper	ug/L	*	*	5.8	2.9
Chromium III	ug/L	*	*	-	-
Chromium VI (hexavalent)	ug/L	16	8.1	83	41
Lead	ug/L	*	*	14	2.9
Nickel	ug/L	*	*	14	6.8
Silver	ug/L	*	*	2.2	1.1
Zinc	ug/L	*	*	95	47

CTR – California Toxic Rule

* - Effluent limits developed on a case-by-case basis (see below)

The Effluent Limits for Cadmium, Copper, Chromium (III), Lead, Nickel, Silver and Zinc will be developed on a case-by-case basis because the freshwater

criteria are based on site-specific water quality data (receiving water hardness). For these priority pollutants, the following equations (40 CFR 131.38.b.2) will be required:

$$\begin{aligned} \text{Cadmium (Total Recoverable)} &= \exp(0.7852[\ln(\text{hardness})] - 2.715) \\ \text{Chromium III (Total Recoverable)} &= \exp(0.8190[\ln(\text{hardness})] + .6848) \\ \text{Copper (Total Recoverable)} &= \exp(0.8545[\ln(\text{hardness})] - 1.702) \\ \text{Lead (Total Recoverable)} &= \exp(1.273[\ln(\text{hardness})] - 4.705) \\ \text{Nickel (Total Recoverable)} &= \exp(.8460[\ln(\text{hardness})] + 0.0584) \\ \text{Silver (Total Recoverable)} &= \exp(1.72[\ln(\text{hardness})] - 6.52) \\ \text{Zinc (Total Recoverable)} &= \exp(0.8473[\ln(\text{hardness})] + 0.884) \end{aligned}$$

Section C.5.b (new language)

Discharges to bays and harbors: Non-storm water discharges from the MS4 to Dana Point Harbor shall not contain pollutants in excess of the following effluent limitations:

Table 3.b: General Constituents

Parameter	Units	AMEL	MDEL	Instantaneous Maximum	Basis
Total Coliform	MPN/100 ml	1,000	-	10,000	BPO
Fecal Coliform	MPN/100 ml	200 ^A , 400 ^B	-		BPO
Enterococci	MPN/100 ml	35	-	104 ^C	BPO
Turbidity	NTU	75	-	225	OP
pH	Units	Within limit of 6.0 to 9.0 at all times			OP
Priority Pollutants	ug/L	See limitations in Table 3.a.2			

A – Based on a minimum of not less than five samples for any 30-day period

B – During any 30 day period

C – Designated Beach Areas

OP – California Ocean Plan 2005

BPO – Basin Plan Objective

Section C.5.c (new language)

Discharges to the surf zone incorporate an initial dilution factor of three. More appropriate initial dilution factors may be developed by the Regional Board and/or Copermittees for Regional Board review and adopted into this Order.

Discharges to the surf zone: Non-storm water discharges from the MS4 to the surf zone (3:1 dilution factor) shall not contain pollutants in excess of the following effluent limitations:

Table 3.c.1: General Constituents

Parameter	Units	AMEL	MDEL	Instantaneous Maximum	Basis
Total Coliform	MPN/100 ml	1,000	-	10,000 1,000 ^A	OP
Fecal Coliform	MPN/100 ml	200 ^B	-	400	OP
Enterococci	MPN/100 ml	35	-	104 ^C	OP

Turbidity	NTU	75	-	225	OP
pH	Units	Within limit of 6.0 to 9.0 at all times			OP

A – Total coliform density shall not exceed 1,000 per 100 ml when the ratio of fecal/total coliform exceeds 0.1

B – During any 30 day period

C – Designated Beach Areas

OP – California Ocean Plan 2005

Table 3.c.2: Priority Pollutants

Parameter	Units	AMEL	MDEL	Instantaneous Maximum	Basis
Cadmium	ug/L	-	16	40	OP
Chromium VI (hexavalent)	ug/L	-	32	80	OP
Copper	ug/L	-	42	114	OP
Lead	ug/L	-	32	80	OP
Nickel	ug/L	-	80	200	OP
Silver	ug/L	-	10.7	27.5	OP
Zinc	ug/L	-	296	776	OP

Table 3. Non-storm Water Dry Weather Numeric Limits

Constituents	Hydrological Area	BPO/CTR/USEPA
Total Dissolved Solids	Group 1*	1000
Total Dissolved Solids	Group 2**	500
Turbidity (NTU)	Group 1+2	20
pH	Group 1+2	Between 6.5-8.5
Iron	Group 1+2	0.3 mg/L
Dissolved Oxygen WARM	Group 1+2	5.0 mg/L
Dissolved Oxygen COLD	Group 1+2	6.0 mg/L
Total Phosphorus	Group 1+2	0.1 mg/L
Nitrite + Nitrate	Group 1+2	10 mg/L
Methylene Blue Active Substances (MBAS)	Group 1+2	0.5 mg/L
Arsenic, Dissolved	Group 1+2	0.05 mg/L
Cadmium, Dissolved	Group 1+2	0.005 mg/L
Chromium, Dissolved	Group 1+2	0.05 mg/L
Copper, Dissolved	Group 1+2	0.009 mg/L
Lead, Dissolved	Group 1+2	0.0025 mg/L
Nickel, Dissolved	Group 1+2	0.1 mg/L
Selenium	Group 1+2	0.05 mg/L
Zinc, Dissolved	Group 1+2	120 ug/L
E. coli Single Sample	Group 1+2	235/100
E. coli Geometric Mean	Group 1+2	126/100
Fecal Coliform REC 1 Single Sample	Group 1+2	400/100
Fecal Coliform REC 1 Geometric Mean	Group 1+2	200/100
Fecal Coliform REC 2 Single Sample	Group 1+2	4000/100
Fecal Coliform REC 2 Geometric Mean	Group 1+2	2000/100
Sulfate	Group 1*	500

Constituents	Hydrological Area	BPO/CTR/USEPA
Sulfate	Group 2**	250
Chlorides (Cl)	Group 1*	400
Chlorides (Cl)	Group 2**	250

* Group 1: Laguna Hydrologic Area

**Group 2: Mission Viejo, San Clemente, San Mateo Canyon and San Onofre Hydrologic Areas

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D. MUNICIPAL ACTION LEVELS

Section D.1 (new language)

Beginning Year 3 after Order adoption date, a running average of twenty percent or greater number of exceedances of any discharge of storm water from the MS4 to waters of the United States that exceed the Municipal Action Levels (MALs) for the pollutants listed in Table 4 (below) will require each Copermitee to affirmatively augment and implement all necessary storm water controls and measures to reduce the discharge of the associated class of pollutants(s) in the affected watershed to the MEP. Exceedances after Year 3 of the MAL(s) shall create a presumption that the Copermitee(s) have not complied to the MEP and have failed to implement adequate storm water control measures and BMPs to comply with the MEP requirement. The Copermitee shall utilize the exceedance information as a high priority consideration when adjusting and executing annual work plans, as required by this Permit. Failure to appropriately consider and react to MAL exceedances in an iterative manner creates a presumption that the Copermitee(s) have not complied to the MEP.

Updates to Table 4

Updated Table 4 includes MALs based upon data from the USEPA Climate Zone 6 (arid west) regional subset of nationwide Phase I MS4 data.

Table 4: Municipal Action Levels (new action levels)

Pollutant	Action Level
pH	6.5-9.0
Turbidity (NTU)	135
Total Dissolved Solids (mg/L)	500*, 1000**
COD (mg/L)	220
Nitrate & Nitrite total (mg/L)	1.4
P total (mg/L)	1.0
Cd total (µg/L)	1.6
Cr total (µg/L)	29
Cu total (µg/L)	86
Pb total (µg/L)	100
Ni total (µg/L)	26
Zn total (µg/L)	1500
Hg total (µg/L)	1.4

*Group 2: Mission Viejo, San Clemente, San Mateo Canyon and San Onofre Hydrologic Areas

**Group 1: Laguna Hydrologic Area

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Section D.2 (new language)

The end-of-pipe assessment points for the determination of MAL compliance are all major outfalls, as defined in 40 CFR 122.26(b)(5) and (b)(6). The Copermittees shall develop their monitoring plans to sample a representative percent of the outfalls within each hydrologic subarea. At a minimum, outfalls that exceed MALs shall be monitored in the subsequent year. Any station that does not exceed an MAL for 3 years may be replaced with a different station. MAL samples must be 24 hour time weighted composites.

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Section D.3 (new language)

The absence of MAL exceedances does not give rise to a presumption that the Copermittee(s) is in compliance with MEP criteria. The absence of MAL exceedances does not relieve the Copermittees from implementing all other required elements of this Permit.

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Section D.4 (new section)

It is not the intent of this Permit to regulate natural sources and conveyances of constituents listed in Table 4. To be relieved of the requirements to prioritize pollutant/watershed combinations for BMP updates and to continue monitoring a station, the Copermittee must demonstrate that the likely and expected cause of the MAL exceedance is not anthropogenic in nature.

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Section D.5 (new section)

The MALs will be reviewed and updated at the end of every permit cycle. The data collected pursuant to D.2 above can be used to create MALs based upon local data. It is the goal of the MALs, through the iterative and MEP process, to have outfall storm water discharges meet all applicable water quality objectives.

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Section E.2. (New language)

2. Each Copermittee must submit within 365 days of adoption of this Order, a statement certified by its chief legal counsel that the Copermittee has taken the necessary steps to obtain and maintain full legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order except the requirements for low impact development and hydromodification in section F.1. Each Copermittee must submit as part of its updated SSMP, another statement certified by its chief legal counsel that the Copermittee has taken the necessary steps to obtain and maintain full legal authority to implement and enforce the low impact development and hydromodification requirements in section F.1. These statements must include:

F.1. Development Planning Component

F.1.c.(8) (new language)

Alternative Performance Criteria for Watershed-Based Projects

(8) Where a development project, greater than 100 acres in total project size or smaller than 100 acres in size yet part of a larger common plan of development that is over 100 acres, has been prepared using watershed and/or sub-watershed based water quality, hydrologic, and fluvial geomorphologic planning principles that implement regional LID BMPs in accordance with the sizing and location criteria of this Order and acceptable to the Regional Board, such standards shall govern review of Projects with respect to Section F.1 of this Order and shall be deemed to satisfy this Order's requirements for LID/site design, buffer zone, infiltration and groundwater protection standards, source control, treatment control, and hydromodification control standards. Regional BMPs may be used provided that the BMPs capture and retain the volume of runoff produced from the 24-hour 85th percentile storm event as defined in section F.1.d.(6)(a)(i) and that such controls are located upstream of receiving waters. Any volume that is not retained by the LID BMPs, up to the design capture volume, must be treated using LID biofiltration. Any volume up to and including the design capture volume, not retained by LID BMPs, nor treated by LID biofiltration, must be treated using conventional treatment control BMPs in accordance with Section F.1.d.(6) below and participation in the LID substitution program in Section F.1.d.(8).

F.1.c.(6) (modified language)

(6) Infiltration and Groundwater Protection

To protect groundwater quality, each Copermittee must apply restrictions to the use of treatment control BMPs that are designed to primarily function as centralized infiltration devices (such as large infiltration trenches and infiltration basins). Such restrictions must be designed so that the use of such infiltration treatment control BMPs must not cause or contribute to an exceedance of groundwater quality objectives. At a minimum, each treatment control BMP designed to primarily function as a centralized infiltration device must meet the restrictions below, unless it is demonstrated that a restriction is not necessary to protect groundwater quality. The Copermittees may collectively or individually develop alternative restrictions on the use of treatment control BMPs which are designed to primarily function as centralized infiltration devices. Alternative restrictions developed by the Copermittees can partially or wholly replace the restrictions listed below. The restrictions are not intended to be applied to small infiltration systems dispersed throughout a development project.

- (a) ~~Urban runoff~~ must undergo pretreatment such as sedimentation or filtration prior to infiltration;
- (b) All dry weather flows containing significant pollutant loads must be diverted from infiltration devices and treated through other BMPs;
- (c) Pollution prevention and source control BMPs must be implemented at a level appropriate to protect groundwater quality at sites where infiltration treatment control BMPs are to be used;
- (d) Infiltration treatment control BMPs must be adequately maintained so that they remove storm water pollutants to the MEP;
- (e) The vertical distance from the base of any infiltration treatment control BMP to the seasonal high groundwater mark must be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained;
- (f) The soil through which infiltration is to occur must have physical and chemical characteristics (such as appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of ~~urban runoff~~ for the protection of groundwater beneficial uses;
- (g) Infiltration treatment control BMPs must not be used for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries¹⁰; and other high threat to water quality land uses and activities as designated by each Copermittee unless first treated or filtered to remove pollutants prior to infiltration and a comprehensive site-specific evaluation has been conducted; and
- (h) Infiltration treatment control BMPs must be located a minimum of 100 feet horizontally from any water supply wells.

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F.1.d. Standard Storm Water Mitigation Plans (SSMPs)

The footnote is updated to refer to section F.1.(a) through (h).

Within two years of adoption of this Order, ~~Each the Copermittees~~ must submit implement an updated model local SUSMP, to the Regional Board's Executive Officer for a 30 day public review and comment period. The Regional Board's Executive Officer has the discretion to determine the necessity of a public hearing. Within 180 days of determination that the Model SSMP is in compliance

¹⁰ ~~Except with regard to treated nursery runoff or clean storm water runoff~~

with the Permit's provisions, each Copermittee must update their own local SSMP, and amended ordinances consistent with the model SSMP, and shall submit both (local SSMP and amended ordinances) to the Regional Board. The model SSMP must meet the requirements of section F.1.d of this Order and within twelve months of adoption of this Order, which meets the requirements of section D.1.d of this Order

- (1) reduces Priority Development Project discharges of storm water pollutants from the MS4 to the MEP,
- (2) prevents Priority Development Project runoff discharges from the MS4 from causing or contributing to a violation of water quality standards, and
- (3) manages increases in runoff discharge rates and durations from Priority Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.
- (4) implements the hydromodification requirements in section F.1.h.

(1) Definition of Priority Development Project (PDP):

Priority Development Projects are:

(a) All new Development Projects that fall under the project categories or locations listed in section ~~D~~F.1.d.(2), and

(b) Those redevelopment projects that create, add, or replace at least 5,000 square feet of impervious surfaces on an already developed site and the existing development and/or the redevelopment project falls under the project categories or locations listed in section ~~D~~F.1.d.(2). Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in section ~~D~~F.1.d.(6) applies only to the addition or replacement, and not to the entire development. Where redevelopment results in an increase of more than fifty percent of the impervious surfaces of a previously existing development, the numeric sizing criteria applies to the entire development.

(c) One acre threshold: In addition to the Priority Development Project Categories identified in section ~~D~~F.1.d.(2), Priority Development Projects must also include all other pollutant-generating Development Projects that result in the disturbance of one acre or more of land within three years of adoption of this Order.⁵ As an alternative to this one-acre threshold, the Copermittees may collectively identify a different threshold, provided the Copermittees' threshold is at least as inclusive of Development Projects as the one-acre threshold.

(2) Priority Development Project Categories

Where a new Development Project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SUSMP requirements.

~~(a) New development projects that create 10,000 square feet or more of impervious surface (collectively over the entire project site) including commercial, industrial, residential, mixed-use, and public projects. This category includes development projects on public or private land which fall under the planning and building authority of the Copermittees. Housing subdivisions of 10 or more dwelling units. This category includes single family homes, multi family homes, condominiums, and apartments.~~

~~(b) Commercial developments greater than one acre. This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than one acre. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multiapartment buildings; car wash facilities; mini malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities.~~

~~(c) Developments of heavy industry greater than one acre. This category includes, but is not limited to, manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.).~~

~~(d)~~ (b) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

~~(e)~~ (c) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet must meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirement F.1.d.(6) and hydromodification requirement D.F.1.h.

~~(f)~~ (d) All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.

(ge) Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10 percent or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.

(fh) Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban-runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.

(gi) Street, roads, highways, and freeways. This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

(hj) Retail Gasoline Outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

Section F.1.d.(4)

(4) Low Impact Development Site Design BMP Requirements

Each Copermittee must require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas, limit loss of existing infiltration capacity, and protect areas that provide important water quality benefits necessary to maintain riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss.

(a) The following LID ~~sustainability measures~~ BMPs must be implemented:

- (i) Each Copermittee must require LID ~~storm water practices~~ BMPs or make a finding of infeasibility for each Priority Development Project in accordance with the LID substitution program in Section F.1.d.(8):-
- (ii) Each Copermittee must incorporate formalized consideration, such as thorough checklists, ordinances, and/or other means, of LID ~~storm water practices~~ BMPs into the plan review process for Priority Development Projects:-

- (iii) The review of each Priority Development Project must include an assessment of potential collection of storm water for beneficial use; ~~on-site or off-site prior to discharging from the MS4.~~
- (iv) The review of each Priority Development Project must include an assessment of techniques to infiltrate, filter, store, evaporate, or detain runoff close to the source of runoff;
- (v) The review of each Priority Development Project must include an assessment of alternatives to conventional storm water conveyance and management systems; and
- (vi) Within ~~365 days~~ 2 years after adoption of this Order, each Copermittee must review its local codes and ordinances and identify barriers therein to implementation of LID ~~storm water practices~~ BMPs. Following the identification of these barriers to LID implementation, where feasible the Copermittee must take appropriate actions to remove barriers, while protecting public safety, directly under Copermittee control by the end of the permit cycle.

1.(b) The following LID BMPs must be implemented at all Priority Development Projects as required below:

- (i) Maintain or restore natural storage reservoirs and drainage corridors (including depressions, areas of permeable soils, swales, and ephemeral and intermittent streams) ~~in drainage networks in preference to pipes, culverts, and engineered ditches.~~
- (ii) Projects with landscaped or other pervious areas shall, where feasible, drain a ~~portion of~~ runoff from impervious areas (rooftops, parking lots, sidewalks, walkways, patios, etc) into pervious areas prior to discharge to the MS4. The amount of runoff from impervious areas that is to drain to pervious areas shall correspond with the total capacity of the project's pervious areas to infiltrate or treat runoff, taking into consideration the pervious areas' geologic and soil conditions, slope, and other pertinent factors.
- (iii) Projects with landscaped or other pervious areas shall, where feasible, properly design and construct the pervious areas to effectively receive and infiltrate or treat runoff from impervious areas, prior to discharge to the MS4. Soil compaction for these areas shall be minimized. The amount of the impervious areas that are to drain to pervious areas must be based upon the total size, soil conditions, slope, and other

pertinent factors.

- (iv) Projects with low traffic areas and appropriate soil conditions shall construct walkways, trails, overflow parking lots, alleys, or other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.

(c) LID BMPs sizing criteria:

- (i) LID BMPs shall be sized and designed to ensure onsite retention, without runoff, of the volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the County of Orange's 85th Percentile Precipitation Map¹¹ ("design capture volume");
- (ii) If onsite retention LID BMPs are technically infeasible, LID biofiltration BMPs may treat any volume that is not retained onsite by the LID BMPs, may be implemented up to the design capture volume. The LID biofiltration BMPs must be designed for an appropriate surface loading rate to prevent erosion, scour and channeling within the BMP. Due to the flow through design of biofiltration BMPs, the total volume of the BMP, including pore spaces and prefilter detention volume is allowed to be no less than 0.75 times the design storm volume;
- (iii) If it is shown to be technically infeasible to treat the remaining volume up to and including the design capture volume using LID BMPs (retention or biofiltration), the project may implement conventional treatment control BMPs in accordance with Section F.1.d.(6) below and must participate in the LID substitution program in Section F.1.d.(8).

- (d) All LID BMPs shall be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, and flies.

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Section F.1.d.(8) LID Substitution program (New language)

The Copermitees ~~may~~ must develop, collectively or individually, a LID site design BMP-substitution program for incorporation into local SSMPs, which would allow a Priority Development Project to substitute implementation of a ~~high level of site design required LID BMPs in section F.1.d.(4) with~~ for implementation of some or all treatment control BMPs, mitigation, and/or payment into the in-lieu funding program. The Copermitees shall submit the LID substitution program as part of their updated model SSMP. At a minimum, the program must meet the requirements below:

¹¹ The isopluvial map is available from the County of Orange. The map can also be found as Figure A-1 Exhibit 7.II In the Model WQMP (September 2003), page 105 of 157 at http://www.ocwatersheds.com/Stormwater/PDFs/2003_DAMP_Section_7_New_Development_Significant_Redevelopment.pdf.

(a) Prior to implementation, the LID substitution program must clearly exhibit that it will achieve equal or better runoff quality from each Priority Development Project which participates in the program not allow PDPs to result in a net impact to beneficial uses from pollutant loadings over and above the impact caused by projects meeting LID requirements;

(b) For each Priority Development Project participating, the program must require all applicable source control BMPs listed in section F.1.d.(5) to be implemented;

(c) For each Priority Development Project participating, the program must require that runoff originating from exposed impervious parking areas, work areas, storage areas, staging areas, trash areas, and other similar areas where pollutants are generated and/or collected, must be routed through pervious areas prior to entering the MS4;

(b) For each Priority Development Project participating, the program must require that all Low Impact Development site design BMPs listed in section F.1.d(4) be implemented. For each PDP participating, a technical feasibility analysis must be included demonstrating that it is technically infeasible to implement LID BMPs. The Copermittee(s) must develop criteria for the technical feasibility analysis including a cost benefit analysis, examination of LID BMPs considered and alternatives chosen. Each PDP participating must demonstrate that LID BMPs were implemented as much as feasible given the site's unique conditions. Analysis must be made of the pollutant loading for each project participating in the LID substitution program. The estimated impacts from not implementing the required LID BMPs in section F.1.d.(4) must be fully mitigated.

Technical infeasibility may result from conditions including, but not limited to:

- (i) Locations that cannot meet the infiltration and groundwater protection requirements in section F.1.c.(6). Where infiltration is technically infeasible, the project must still examine the feasibility of other onsite retention LID BMPs.
- (ii) Smart growth and infill or redevelopment locations where the density and/or nature of the project would create significant difficulty for compliance with the onsite volume retention requirements; and
- (iii) Other site, geologic, soil or implementation constraints identified in the Copermittees updated SSMP document.

~~(d) The program must only apply to Priority Development Projects and Priority Development Project categories with a relatively low potential to generate high levels of pollutants. The program must not apply to automotive repair shops or streets, roads, highways, or freeways that have high levels of average daily traffic;~~

~~(e) The program must develop and utilize specific design criteria for each site design BMP to be utilized by the program;~~

~~(g)(c) The LID substitution program must include mechanisms to verify that each Priority Development Project participating in the program is in compliance with all applicable SSMP requirements; and~~

~~(h)(d) The LID substitution program must develop and implement a review process which verifies that each LID site design the BMPs to be implemented meet the designated design criteria. The review process must also verify that each Priority Development Project participating in the program is in compliance with all applicable SSMP requirements.~~

(e) Each PDP that participates in the LID substitution program must mitigate for the pollutant loads expected to be discharged due to not implementing the LID BMPs in section F.1.d.(4). Mitigation projects must be implemented within the same hydrologic subarea as the PDP. Mitigation projects outside of the hydrologic subarea but within the same hydrologic unit may be approved provided that the project proponent demonstrates that mitigation projects within the same hydrologic subarea are infeasible and that the mitigation project will address similar beneficial use impacts as expected from the PDPs pollutant load types and amount. Offsite mitigation projects may include green streets projects, existing development retrofit projects, retrofit incentive programs, regional BMPs and stream restoration. Project applicants seeking to utilize these alternative compliance provisions may propose other offsite mitigation projects, which the Copermitttees may approve if they meet the requirements of this subpart.

(f) Each PDP that participates in the LID substitution program may contribute to a storm water mitigation fund developed by the Copermitttee(s) to be used for water quality improvement projects which may serve in lieu of the PDP's required mitigation in section F.1.d.(8)(e). The LID substitution program shall, at a minimum, identify:

1-(i) The entity or entities that will manage the storm water mitigation fund (i.e., assume full responsibility);

(i) The range and types of acceptable projects for which storm water mitigation funds may be expended;

- (ii) The entity or entities that will assume full responsibility for each water quality improvement project, including its successful completion; and
- (iii) How the dollar amount of storm water mitigation fund contributions will be determined.

(g) Each Copermittee must notify the Regional Board in their annual report of each PDP choosing to participate in the LID substitution program. The annual report must include the following information:

- (i) Name of the developer of the participating PDP;
- (ii) Site location;
- (iii) Reason for LID substitution including feasibility analysis;
- (iv) Description of BMPs implemented;
- (v) Total amount deposited, if any, into the storm water mitigation fund described in section F.1.d.(8)(j);
- ~~(vii)~~(vi) Water quality improvement project(s) proposed to be funded; and
- (vii) Timeframe for implementation of water quality improvement projects.

F.1.f. TREATMENT CONTROL BMP MAINTENANCE TRACKING

(1) Each Copermittee must maintain a watershed-based database to track and inventory approved ~~treatment control~~ post-construction BMPs and ~~treatment control~~ BMP maintenance within its jurisdiction. At a minimum, the database must include information on ~~treatment control~~ BMP type, location, watershed, date of construction, party responsible for maintenance, maintenance certifications or verifications, inspections, inspection findings, and corrective actions, including whether the site was referred to the Vector Control District.

(2) Each Copermittee must verify that approved ~~treatment control~~ BMPs are operating effectively and have been adequately maintained by implementing the following measures:

(a) An annual inventory of all approved ~~treatment control~~ BMPs within the Copermittee's jurisdiction. The inventory must also include all ~~treatment control~~ BMPs approved for Priority Development Projects since July 2001;

(b) The designation of high priority ~~treatment control~~ BMPs. High-priority designation must include consideration of ~~treatment control~~ BMP size, recommended maintenance frequency, likelihood of operational and maintenance issues, location, receiving water quality, and other pertinent factors;

(c) Verify implementation, operation, and maintenance of ~~treatment~~ BMPs by inspection, self-certification, surveys, or other equally effective approaches with the following conditions:

(i) The implementation, operation, and maintenance of at least 90 percent of approved final project public and private SSMPs (a.k.a. WQMPs) must be verified annually;

(ii) Operation and maintenance verifications must be required prior to each rainy season;

(iii) All (100 percent) projects with ~~treatment control~~ BMPs that are high priority must be inspected annually prior to each rainy season;

(iv) All (100 percent) public agency projects with ~~treatment control~~ BMPs must be inspected annually;

(v) At least 25 percent of projects with drainage insert treatment control BMPs must be inspected annually;

(vi) At least 20 percent of the total number of projects with approved ~~treatment control~~ BMPs must be inspected annually;

(vii) Appropriate follow-up measures (including re-inspections, enforcement, maintenance, etc.) must be conducted to ensure the treatment BMPs continue to reduce storm water pollutants to the MEP;

(viii) All inspections must verify effective operation and maintenance of the treatment control BMPs, as well as compliance with all ordinances, permits, and this Order; and

(ix) Inspections must note observations of vector conditions, such as mosquitoes. Where conditions are identified as contributing to mosquito production, the Copermittee must notify the Orange County Vector Control District.

Section F.1.h Hydromodification—Limitations on Increases of Runoff Discharge Rates and Durations¹² (updated language)

¹²Updated SSMP and hydromodification requirements shall apply to all priority projects or phases of priority projects which have not yet begun grading or construction activities at the time any updated SSMP or hydromodification requirement commences. If a Copermittee determines that lawful prior approval of a project exists, whereby application of an updated SSMP or hydromodification requirement to the project is legally infeasible, the updated SSMP or hydromodification requirement need not apply to the project. The Copermittees shall utilize the SSMP and hydromodification update periods to ensure that projects undergoing approval

Each Copermittee shall collaborate with the other Copermittees to develop and implement a Hydromodification Management Plan (HMP) to manage increases in runoff discharge rates and durations from all Priority Development Projects.

The HMP shall be incorporated into the local SSMP and implemented by each Copermittee so that estimated post-project runoff discharge rates and durations shall not exceed pre-development discharge rates and durations. Where the proposed project is located on an already developed site, the pre-project discharge rate and duration shall be that of the pre-developed, naturally occurring condition. The HMP shall be submitted to the Executive Officer within 2 years of permit adoption. The HMP will be made available for public review and comment and the Executive Officer will determine the need for a formal public hearing.

(1) The HMP must:

- (a) Identify a method for assessing susceptibility of channel segments which receive runoff discharges from Priority Development Projects. The geomorphic stability within the channel shall be assessed. A performance standard shall be created that ensures that the geomorphic stability within the channel not be compromised as a result of receiving runoff discharges from Priority Development Projects.
- (b) Utilize continuous simulation of the entire rainfall record (or other analytical method proposed by the Copermittees and deemed acceptable by the Regional Board) to identify a range of runoff flows¹³ for which Priority Development Project post-project runoff flow rates and durations shall not exceed pre-development (naturally occurring) runoff flow rates and durations by more than 10 percent, where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses. The lower boundary of the range of runoff flows identified shall correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks. The identified range of runoff flows may be different for specific watersheds, channels, or channel reaches. In the case of an artificially hardened (concrete lined, rip rap, etc.) channel, the lower boundary of the range of runoff flows identified shall correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks of a comparable soft-bottomed channel.

processes include application of the updated SSMP and hydromodification requirements in their plans

¹³The identified range of runoff flows to be controlled should be expressed in terms of peak flow rates of rainfall events, such as "10% of the pre-development 2-year runoff event up to the pre-project 10-year runoff event."

- (c) Require Priority Development Projects to implement hydrologic control measures so that Priority Development Projects' post-project runoff flow rates and durations (1) do not exceed pre-project (naturally occurring) runoff flow rates and durations by more than 10 percent for the range of runoff flows identified under section F.1.h.(1)(b), where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, and (2) do not result in channel conditions which do not meet the channel standard developed under section F.1.h.(1)(a) for channel segments downstream of Priority Development Project discharge points.
 - (d) Include other performance criteria (numeric or otherwise) for Priority Development Projects as necessary to prevent runoff from the projects from increasing erosion of channel beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.
 - (e) Include a review of pertinent literature.
 - (f) Identify areas within the San Juan Hydrologic Unit where historic hydromodification has resulted in a negative impact to benthic macroinvertebrate and benthic periphyton by identifying areas with low or very low Index of Biotic Integrity (IBI) scores.
 - (g) Include a protocol to evaluate potential hydrograph change impacts to downstream watercourses from Priority Development Projects. This protocol must include the use of the IBI score as a metric for assessing impacts and improvements to downstream watercourses.
 - (h) Include a description of how the Copermittees will incorporate the HMP requirements into their local approval processes.
 - (i) Include criteria on selection and design of management practices and measures (such as detention, retention, and infiltration) to control flow rates and durations and address potential hydromodification impacts.
 - (j) Include technical information supporting any standards and criteria proposed.
 - (k) Include a description of inspections and maintenance to be conducted for management practices and measures to control flow rates and durations and address potential hydromodification impacts.
 - (l) Include a description of pre- and post-project monitoring and other program evaluations, including IBI score, to be conducted to assess the effectiveness of implementation of the HMP.
 - (m) Include mechanisms for assessing and addressing cumulative impacts within a watershed on channel morphology.
 - (n) Include information on evaluation of channel form and condition, including slope, discharge, vegetation, underlying geology, and other information, as appropriate.
- (2) If the Copermittees determine that it is infeasible to evaluate the shear stress that initiates channel bed movement or that erodes the toe of channel banks of a hardened channel as though it were soft-bottomed per

F.1.h.(1)(b), then they may provide justification for the finding of infeasibility for Regional Board review. Upon receiving a finding of adequacy from the Regional Board regarding the justification, the Copermitees may use the hardened channel as the channel standard. Subsequently, the Copermitees must also conduct a feasibility study to remove concrete in the impacted channel reach as a means towards stream restoration. The study must include an analysis of the maximum flows that could be tolerated by a stable soft-bottomed creek bed and bank, and an analysis of the flow reductions required per sub-watershed to achieve a stable soft-bottomed creek bed and bank.

- (3) In addition to the hydrologic control measures that must be implemented per section F.1.h.(1)(c), the HMP must include a suite of management measures to be used on Priority Development Projects to protect and restore downstream beneficial uses and prevent or further prevent adverse physical changes to downstream channels. The measures must be based on a prioritized consideration of the following elements in this order:
- (a) hydrologic control measures;
 - (b) on-site management controls;
 - (c) regional controls located upstream of receiving waters; and
 - (d) in-stream controls.

Where stream channels are adjacent to, or are to be modified as part of a Priority Development Project, management measures must include buffer zones and setbacks. Under no circumstances will in-stream controls include the use of non-naturally occurring hardscape materials such as concrete, riprap, gabions, etc.

The suite of management measures shall also include stream restoration as a viable option to achieve the channel standard in section F.1.h(1)(a).

- (4) Section F.1.h. does not apply to Priority Development Projects where the project discharges storm water runoff into underground storm drains discharging directly to bays or the ocean.

(5) HMP Reporting and Implementation

- (a) Within 2 years of adoption of the Order, the Copermitees shall submit to the Regional Board a draft HMP that has been reviewed by the public, including the analysis that identifies the appropriate limiting range of flow rates per section F.1.h(1)(b).
- (b) Within 180 days of receiving Regional Board comments on the draft HMP, the Copermitees shall submit a final HMP that addressed the Regional Board's comments.

- (c) Within 90 days of receiving a finding of adequacy from the Executive Officer, each Copermitttee shall incorporate and implement the HMP for all Priority Development Projects.
- (d) Prior to approval of the HMP by the Regional Board, the early implementation measures likely to be included in the HMP shall be encouraged by the Copermitttees.

(6) Interim Hydromodification Criteria

Within one year of adoption of this Order, each Copermitttee must ensure that all Priority Development Projects are implementing the following criteria by comparing the pre-development (naturally occurring) and post-project flow rates and durations using a continuous simulation hydrologic model such as USEPA's Hydrograph Simulation Program—Fortran (HSPF):

- (a) For flow rates from 10 percent of the 2-year storm event to the 5 year storm event, the post-project peak flows shall not exceed pre-development (naturally occurring) peak flows.
- (b) For flow rates from the 5 year storm event to the 10 year storm event, the post-project peak flows may exceed pre-development (naturally occurring) flows by up to 10 percent for a 1-year frequency interval.

The interim hydromodification criteria do not apply to Priority Development Projects where the project discharges storm water runoff into underground storm drains discharging directly to bays or the ocean.

Within one year of adoption of this Order, each Copermitttee must submit a signed, certification statement to the Regional Board verifying implementation of the interim hydromodification criteria.

- (7) No part of section F.1.h shall alleviate the Copermitttees responsibilities for implementing Low Impact Development BMPs as required under section F.1.d. (4).

Page 46 (updated language)

F.2 Construction Component

Provision F.2.c.2 - "Prior to permit issuance, the project proponent's runoff management plan ~~erosion and sediment control plan~~ (or equivalent construction BMP plan) must be required to comply, and reviewed to verify compliance, with the local grading ordinance, other applicable local ordinances, and this Order.

Provision F.2.d.(1)(a) –~~General Site Management~~ Measures

Provision F.2.d.(1)(a)(ii) - "Development and implementation of a runoff management plan~~storm water management plan;~~"

Page 48 (updated language)

Provision F.2.d.(1)(c)(i)[i] – Known effects of ~~ATS~~advanced treatment system chemicals; and

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Section F.2.g.(2) (new language)

Provision F.2.g.(2) Each Copermittee shall annually notify the Regional Board, prior to the commencement of the wet season, of all construction sites with suspected potential violations. Information can be provided as part of the JRMP. Information provided shall include, but not be limited to, the following:

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Section F.3.a(4) (new language)

- (a) no change
- (b) no change
- (c) Each Copermittee must evaluate its existing flood control devices, identify devices causing or contributing to a condition of pollution, identify measures to reduce or eliminate the structure's effect on pollution, and evaluate the feasibility of retrofitting the structural flood control device. The inventory and evaluation must be completed by and submitted to the Regional Board in the 2nd year JRMP Annual Report. May 1, 2010 and submitted to the Regional Board with the Fall 2010 annual report.

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Section F.3.b.(3) (new language)

(3)BMP Implementation for Mobile Businesses

- (a) Each Copermittee must develop and implement a program to reduce the discharge of storm water pollutants from mobile businesses to the MEP and to prohibit non-storm water discharges pursuant to Section B of this Order. Each Copermittee must keep, as part of their commercial source inventory, a listing of mobile businesses known to operate within its jurisdiction. The program must include:
 - (i) Development and implementation of minimum standards and BMPs to be required for each of the various types of mobile businesses;
 - (ii) Development and implementation of an enforcement strategy which specifically addresses the unique characteristics of mobile businesses;

- (iii) Notification of those mobile businesses known to operate within the Copermittee's jurisdiction of the minimum standards and BMP requirements and local ordinances;
- (iv) Development and implementation of an outreach and education strategy; and
- (v) Inspection of mobile businesses as needed to implement the program.

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Section F.3.b(4)(b) (new language)

(b) Each Copermittee shall annually notify the Regional Board, prior to the commencement of the wet season, of all Industrial Sites and Industrial Facilities subject to the General Industrial Permit or other individual NPDES permit with suspected potential violations. Information can be provided as part of the JRMP. Information provided shall include, but not be limited to, the following:

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Section F.3.d. Retrofitting Existing Development (modified language)

Each Copermittee must implement a retrofitting program which meets the requirements of this section. The goal of the retrofitting program is to solve/address chronic flooding problems, reduces impacts from hydromodification, incorporates LID, supports stream restoration, systematically reduces downstream channel erosion, reduces the discharges of storm water pollutants from the MS4 to the MEP, and prevents discharges from the MS4 from causing or contributing to a violation of water quality standards.

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Section F.3.d.(3) (modified language)

~~Based on the results of the evaluation and rankings, each Copermittee must require select, qualified~~ Each Copermittee must consider the results of the evaluation in prioritizing work plans for the following year. Highly feasible projects expected to substantially benefit water quality should be given a high priority existing developments to implement source control and treatment control BMPs. Where feasible, the retrofit projects should be designed in accordance with the SSMP requirements within sections ~~DF.1.d.(3) through DF.1.d.(8)~~. In addition, the Copermittee shall encourage retrofit projects to implement where feasible the Hydromodification requirements in section ~~DF.1.h~~.

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Section F.3.d.(4) (modified language)

When requiring retrofitting on existing development, the Copermittees will cooperate with private landowners to encourage retrofitting projects. The Copermittee may consider the following practices in cooperating and encouraging private landowners to retrofit their existing development:

- (a) Demonstration retrofit projects;
- (b) Retrofits on public land and easements addressing flows and pollutants coming from private property;
- (c) Education and outreach;
- (d) Subsidies for retrofit projects;
- (e) Requiring retrofit projects as mitigation or ordinance compliance;
- (f) Public and private partnerships; and
- (g) Fees for existing discharges to the MS4.

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Section F.4.b (modified language)

Each Copermittee must maintain an updated map of its entire MS4 and the corresponding drainage areas within its jurisdiction. The use of a GIS is highly recommended.

Section F.4.e.2 (modified language)

(b) Field screen data: Within two business days of receiving dry weather field screening results that exceed action levels, the Copermittees must either initiate ~~conduct~~ an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. This documentation shall be included in the Annual Report.

(c) Analytical data: Within two business days of receiving analytical laboratory results that exceed action levels, the Copermittees must either initiate ~~conduct~~ an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. This documentation shall be included in the Annual Report.

Section F.4.e.2 (modified language)

(1) Each Copermittee must implement management measures and procedures to prevent, respond to, contain and clean up all sewage (see below) and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems). Spill response teams must prevent entry of spills into the MS4 and contamination of surface water, ground water and soil. Each Copermittee must coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies so that maximum water quality protection is available at all times.

(2) Each Copermittee must develop and implement a mechanism

whereby it is notified of all sewage spills from private laterals and failing septic systems into its MS4. Each Copermitttee must implement management measures and procedures to prevent, respond to, and coordinate a response to contain and clean up sewage from any such notification.

~~G. WATERSHED RUNOFF MANAGEMENT PROGRAM~~

~~2. Update the Watershed Runoff Management Program~~

~~Each Copermitttee must participate in implementing and updating a Watershed Runoff Management Program (Watershed RMP), as described in this Section, with other Copermitttees in the Watershed Management Area(s) (WMA) in Table 5 to coordinate management efforts for the highest priority watershed water quality problems. Each Copermitttee must implement all requirements of this section no later than 365 days after adoption of this Order, unless otherwise specified. Prior to 365 days after adoption of this Order, each Copermitttee must collaborate with the other Copermitttees within its Watershed Management Area(s) to at a minimum implement its Watershed RMP document, as the document was developed and amended to comply with the requirements of Order No. 2002-01. At a minimum, each updated Watershed RMP must include the elements described below:~~

~~Table 5. Watershed Management Areas and Watershed Copermitttees~~

WATERSHED MANAGEMENT AREA	RESPONSIBLE WATERSHED COPERMITTEE (S)	HYDROLOGIC AREA (HA) OR HYDROLOGIC SUBAREA (HSA)	MAJOR RECEIVING WATER BODIES
Aliso Creek	Aliso Viejo County of Orange Laguna Beach Laguna Hills Laguna Niguel Laguna Woods Lake Forest Mission Viejo Orange County Flood Control District	Aliso HSA	Aliso Creek, Pacific Ocean

WATERSHED MANAGEMENT AREA	RESPONSIBLE WATERSHED COPERMITTEE (S)	HYDROLOGIC AREA (HA) OR HYDROLOGIC SUBAREA (HSA)	MAJOR RECEIVING WATER BODIES
San Juan Creek	County of Orange Dana Point Laguna Hills Laguna Niguel Mission Viejo Orange County Flood Control District San Juan Capistrano Rancho Santa Margarita	Mission Viejo HA	San Juan Creek, Trabuco Creek, Oso Creek, Canada Gobernadora, Bell Canyon, Verdugo Canyon, Pacific Ocean

Note: The designated Lead Watershed Copermittee for each watershed is bolded.

a. LEAD WATERSHED COPERMITTEE IDENTIFICATION

Watershed Copermittees may identify the Lead Watershed Copermittee for their WMA. In the event that a Lead Watershed Copermittee is not selected and identified by the Watershed Copermittees, by default the Copermittee identified in Table 3 as the Lead Watershed Copermittee for that WMA must be responsible for implementing the requirements of the Lead Watershed Copermittee in that WMA. The Lead Watershed Copermittees must serve as liaisons between the Copermittees and Regional Board, where appropriate.

b. WATERSHED MAP

Watershed Copermittees must develop and periodically update a map of the WMA to facilitate planning, assessment, and collaborative decision-making. As determined appropriate, the map must include features such as receiving waters (including the Pacific Ocean); Environmentally Sensitive Areas; land uses, MS4s; major highways; jurisdictional boundaries; and inventoried commercial, industrial, and municipal sites. The Copermittees must submit the GIS layers containing the watershed map to the Regional Board with their updated JRMP within 365 days of adoption of this Order.

c. ANNUAL WATERSHED WATER QUALITY ASSESSMENT

(1) Assess Conditions: Watershed Copermittees must annually assess the water quality of receiving waters in their WMA and use the information to set priorities and to effectively update BMP implementation. This assessment must use applicable water quality data, reports, and

analyses generated in accordance with the requirements of this Order and the Receiving Waters and Runoff Monitoring and Reporting Program, as well as applicable information available from Copermittees and other public and private organizations.

~~(2) Identify Problems and Select Priority Pollutant(s): The assessment and analysis must annually identify the WMA's water quality problems that are partially or fully attributable to MS4 discharges. Identified water quality problems must include CWA section 303(d) listings, persistent violations of water quality standards, toxicity, degraded biological conditions, hydromodification, violations of permit prohibitions, impacts to beneficial uses, and other pertinent conditions. From the list of water quality problems, the high priority water quality problems of the WMA must be identified. High priority problems selected must include those water quality problems that most significantly exceed or affect water quality standards (water quality objectives, beneficial uses, and the State Policy for maintaining high quality waters¹⁴).~~

~~(3) Identify Sources of Pollutants: The annual assessments must include identification of the likely sources of the WMA's high priority water quality problems that have caused or contributed to exceedances of water quality objectives, or that if unaddressed, may result in exceedances of water quality objectives. The Annual Assessment must include, but is not limited to, focused water quality and sediment quality monitoring, watershed modeling of ambient constituents, flows, and pollutants. The Annual Assessments shall identify sources or source areas, linkages, waste loadings within the watersheds, and where necessary (i.e. exceedances of water quality objectives), waste load allocations needed to return to compliance with water quality objectives.~~

d. WATERSHED STRATEGY: EVALUATION AND SELECTION OF MANAGEMENT OPTIONS

~~Watershed Copermittees must develop a collective watershed strategy to abate the sources and reduce the discharges causing the high priority water quality problems of the WMA based on their assessment in section G.1.c. The strategy must guide Watershed Copermittee selection and implementation of Watershed RMP Activities, so that the Watershed Activities selected and implemented are appropriate for each Watershed Copermittee's contribution to the WMA's high priority water quality problems.~~

~~(1) Evaluation of Management Options: Watershed Copermittees within a~~

¹⁴ State Water Resources Control Board, Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*.

WMA must evaluate management options in response to each annual watershed water quality assessment. Copermittees must identify actions necessary to reduce priority pollutant discharges from the MS4, including actions to resolve key uncertainties and to verify assumptions.

(2) Selection of Management Options / Watershed Activities List: Each Watershed Copermittee within a WMA must select management practices to implement in response to the annual evaluation of management options. Each Copermittee must establish an implementation schedule for the selected management options.

e. BMP IMPLEMENTATION AND ASSESSMENT

The Watershed Copermittees must implement and assess Watershed Activities that improve the high priority water quality problems in the WMA. Water Quality Activities are structural or non-structural measures.

(1) BMP Implementation: Each Watershed Copermittee must implement Watershed Activities pursuant to established schedules in the Watershed RMP. During each reporting period, no less than two Watershed Water Quality Activities must be put into effect that can be reasonably expected to provide quantifiable benefits to discharge or receiving water quality within each WMA as part of the iterative process for reducing storm water pollutants to the MEP and/or eliminating non-storm water runoff and pollutants (Additional Alise Creek provisions are in Section E.5 below.) Watershed Activities may be implemented individually or collectively, and may be implemented at the watershed or jurisdictional level. Results from Watershed Activities shall be used in the design and implementation of future Watershed Activities as part of the iterative process. Watershed Activities do not include projects that are otherwise required by the Regional Board such as for JRMP or other NPDES permit requirements. The one exception is retrofitting sites, which can be considered a watershed activity.

(2) BMP Assessment: Watershed Copermittees must annually assess the success of each implemented BMP through monitoring, surveillance, and other effective means. The assessments must include consideration of the individual practice, expectations of the activity, adjacent receiving waters, and the WMA.

(3) BMP Summaries: For structural and nonstructural management practices implemented, the Watershed Copermittees must develop annual summaries that contain a description of the practice, capital and maintenance costs, expectations for effectiveness, date

implemented, and any observed results.

f. INFORMATION EXCHANGE

~~(1) Copermittee Collaboration and Meetings: Watershed Copermittees must collaborate to develop and implement the Watershed Runoff Management Programs. Watershed Copermittee collaboration must include frequent regularly scheduled meetings.~~

~~(2) Public Participation: Watershed Copermittees must implement a watershed-specific public participation mechanism within each watershed. The mechanism must encourage participation from other organizations within the watershed (such as water/sewer districts, Orange County Vector Control District, Caltrans, non-governmental organizations, etc.).~~

~~(3) The Lead Watershed Copermittee must make publicly available the management option evaluations, watershed activities list, and implemented BMP summaries.~~

g. WATERSHED RMP REVIEW AND UPDATES

~~Each Watershed RMP must be reviewed annually to identify needed modifications and improvements based on the BMP evaluations and assessments of water quality data, BMPs, and other pertinent information. Individual Watershed Copermittees must also review and modify their jurisdictional activities and JRMPs as necessary so that they are consistent with the Watershed RMP findings.~~

h. WATERSHED-BASED LAND USE PLANNING

~~The Watershed Copermittees must develop, implement, and modify, as necessary, a program for encouraging collaborative, watershed-based, land use planning in their jurisdictional planning departments.~~

2. Reporting

~~Each Copermittee must contribute to the development of an annual watershed RMP report to be submitted to the Regional Board annually by the Lead Watershed Copermittee. The annual watershed RMP report must contain the following information:~~

- ~~a. Annual water quality assessment with identification of highest priorities;~~
- ~~b. Updated watershed strategy;~~
- ~~c. Record of watershed meetings and collaborative progress;~~
- ~~d. Evaluation of BMPs considered to implement the watershed strategy;~~

- ~~e. Updated watershed RMP activities list, including the status and timeframe on all selected activities;~~
- ~~f. Estimated pollutant reductions from proposed and implemented Watershed Activities;~~
- ~~g. BMP assessments of implemented watershed RMP activities;~~
- ~~h. Summaries of implemented BMPs; how the BMPs addressed the identified high priority water quality problems; and the measured pollutant reduction;~~
- ~~i. Summary of progress toward abating sources and reducing pollutant discharges causing the identified high priority water quality problems in the WMA;~~
- ~~j. Summary of progress toward achieving short-term and long-term goals; and~~
- ~~k. Detailed schedules for adding and/or modifying BMPs to address the identified high priority problems.~~

3. Work Plan

~~The Watershed Copermittees must develop, implement, and update annually, a Watershed Water Quality Work Plan that ranks each watershed's highest priority issues. The Watershed Water Quality Work plan shall identify planned watershed assessment, BMP evaluation, BMP selection, and BMP implementation efforts for each watershed planning area for the full 5-year Permit cycle. The goal of the work plan to is to demonstrate a responsive and adaptive approach for the judicious and effective use of available resources to attack the highest priority problems on a watershed basis.~~

G. WATERSHED RUNOFF MANAGEMENT PROGRAM

1. Lead Watershed Permittee Identification

Watershed CoPermittees shall identify the Lead Watershed Permittee for their WMA. The Lead Watershed Permittees shall serve as liaisons between the Permittees and Regional Board, where appropriate.

2. Watershed Water Quality Workplan (Watershed Workplan)

The Watershed Workplan shall describe the Copermittee's development and implementation of a collective watershed water quality strategy to assess and prioritize the receiving water quality problems within the watershed, identify and model sources of the highest priority water quality problem(s), develop a watershed wide BMP implementation strategy to abate highest priority water quality problems, and a monitoring strategy to evaluate BMP effectiveness and changing water quality prioritization in the WMA.

The work plan shall, at a minimum:

- a. Characterize the receiving water quality in the WMA.

Characterization shall include use of regularly collected water

quality data, reports, monitoring and analysis generated in accordance with the requirements of the Receiving Waters Monitoring and Reporting Program, as well as applicable information available from other public and private organizations.

- b. Identify the highest priority water quality problem(s) in the WMA's receiving waters. Identified water quality problem(s) shall, at a minimum, give consideration to; TMDLs, receiving waters listed on the CWA section 303(d) list, waters with persistent violations of water quality standards, toxicity, or impacts to beneficial uses, and other pertinent conditions. Identify sources of the highest water quality problem(s) within the watershed through monitoring and modeling.
- c. Identify the sources of the highest water quality problem(s) within the WMA. Efforts to determine such sources shall include, but not be limited to: use of information from the construction, industrial/commercial, municipal, and residential source identification programs required within the Jurisdictional Runoff Program (JRMP) of this Order; specific actions to model pollutant transport to receiving waters for the sake of identifying the source(s) point(s) of origin; water quality monitoring data collected as part of the Receiving Water Monitoring and Reporting Program required by this Order, and additional focused water quality monitoring to identify specific sources within the watershed. .
- d. Develop a watershed BMP implementation strategy to abate the identified highest priority water quality problem(s). The BMP implementation strategy shall include a schedule for implementation of the BMP projects to abate specific receiving water quality problems. BMPs not contributing to measured pollutant reductions or improvements to water quality shall be removed and replaced with alternative BMPs. Identified watershed water quality problems may be the result of jurisdictional discharges that will need to be addressed with BMPs applied in a specific jurisdiction in order to generate a benefit to the watershed.
- e. Develop a strategy to model and monitor improvements in receiving water quality directly resulting from implementation of the BMPs described in the Watershed Workplan. The modeling and monitoring strategy shall generate the necessary data to report on the measured pollutant reduction that results from proper BMP implementation. Monitoring shall, at a minimum, be conducted in the receiving water to access changes in pollutant concentrations and progression towards attainment of receiving water quality objectives.

- f. Establish a schedule for development and implementation of the Watershed Workplan. The schedule shall include planned actions and watershed review meetings through the remaining portion of this Permit cycle. Annual watershed workplan review meetings must be open to the public, and appropriately publically noticed such that interested parties may come and provide comments to the watershed program.
3. Watershed Workplan Implementation – Watershed Copermittee’s shall begin implementing the Watershed Workplan within 30-days of approval by the Regional Board Executive Officer.
4. Copermittee Collaboration - Watershed Copermittees shall collaborate to develop and implement the Watershed Work Plan. Watershed Copermittee collaboration shall include frequent regularly scheduled meetings.
5. Public Participation - Watershed Copermittees shall implement a watershed-specific public participation mechanism within each watershed. A required component of the watershed-specific public participation shall be a minimum 30-day public review of the Watershed Workplan required by Directive E.3. Opportunity for the public to review and comment on the Watershed Workplan must occur before the workplan is implemented.
6. Watershed Workplan Review and Updates - Watershed Copermittees shall review and update the Watershed Workplan annually to identify needed changes to the prioritized water quality problem(s) listed in the workplan. All updates to the Watershed Workplan shall be presented during an Annual Watershed Review Meeting. Annual Watershed Review Meetings shall be conducted by the Watershed Copermittees, open to the public and adequately noticed, and occur once every calendar year. Individual Watershed Copermittees shall also review and modify their jurisdictional programs and JRMP Annual Reports, as necessary, so that they are consistent with the updated Watershed Workplan.

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Section I. Total Maximum Daily Loads (updated language)

~~This section will incorporate The WLA of fully approved and adopted TMDLs are incorporated WLAs as numeric limits~~ Water Quality Based Effluent Limits (WQBELs) on a pollutant by pollutant, watershed by watershed basis.

~~Reduction schedules and monitoring requirements for each pollutant be inserted into this Order as individual Cleanup and Abatement Orders (CAOs), adopted by the Regional Board. CAOs for adopted TMDLs with compliance dates beyond the length of this permit will be incorporated into this Order as developed by the~~

Regional Board. Early TMDL requirements, including monitoring, may be required and inserted into this Order pursuant to Finding E.12

1. Baby Beach Bacterial Indicator TMDL Water Quality Based Effluent Limits

- a. The Copermittees in the Baby Beach watershed shall implement BMPs capable of achieving the interim and final Bacterial Indicator Waste Load Allocations (WLAs) in discharges to Baby Beach as described in Table #.

Table #: TMDL Wasteload Reduction Milestones

<u>Action</u>	<u>Date</u>
Meet 50% wasteload reductions	3 years after effective date for dry weather
	7 years after effective date for wet weather
Meet 100% wasteload reductions	5 years after effective date for dry weather
	10 years after effective date for wet weather

- b. The Copermittees shall conduct necessary monitoring, as described in Attachment A to Resolution No. R9-2008-0027, and submit annual progress reports as part of their yearly reports.
- c. The following WLAs (Table #) are to be met in Baby Beach receiving water by the end of the year 2019:

Table #: Final Bacterial Indicator Waste Load Allocations for Baby Beach

<u>Bacterial Indicator</u>	<u>Waste Load Allocation</u>	
	<u>Dry Weather (Billion MPN / Day)</u>	<u>Wet Weather (Billion MPN / 30 Days)</u>
<u>Total Coliform</u>	<u>0.86</u>	<u>3,254</u>
<u>Fecal Coliform</u>	<u>0.17</u>	<u>112</u>
<u>Enterococcus</u>	<u>0.03</u>	<u>114</u>

MPN: Most Probable Number

- d. The Copermittees must meet the following Numeric Targets (Table #) for discharges to Baby Beach receiving waters in order to meet the underlying assumptions of the TMDL. The Numeric Targets are to be met once 100 percent of the WLA reductions have been achieved (see Table # above).

Table #: Final Bacterial Indicator Numeric Targets for Baby Beach

Bacterial Indicator	30-day geo mean (MPN / 100mL)	Single Sample Max (MPN / 100mL)
	Dry Weather only	Dry and Wet Weather
Total Coliform	1,000	10,000
Fecal Coliform	200	400
<i>Enterococcus</i>	35	104

MPN: Most Probable Number

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Section J (New Language)

Section J.1.a(1)

Objective for 303(d) Waterbodies: Reduce storm water pollutant loadings.

Section J.1.a(2)

Objective for Environmentally-Sensitive Areas: Prevent storm water MS4 discharges from causing or contributing to conditions of pollution, nuisance, or contamination.

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Section K (New Language)

K. REPORTING

The Copermittees may propose alternate reporting criteria and schedules, as part of their updated JRMP, for the Executive Officer’s acceptance. The Copermittees shall submit the updated JRMP within 365 days after adoption of this Order.

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Section K.1.b.(1) (new language)

~~a. WATERSHED RUNOFF MANAGEMENT PLANS~~

~~(4) Copermittees: The written account of the program conducted by each watershed group of Copermittees is referred to as the Watershed Runoff Management Plan. The Copermittees within each watershed are be responsible for updating and revising each Watershed Runoff Management Plan, as specified in Table 5 above. Each Watershed Runoff Management Plan must be updated and revised to describe all activities the watershed Copermittees will undertake to implement the Watershed Runoff Management Plan requirements of section E of this Order.~~

~~(5) Lead Watershed Copermittee: Each Lead Watershed Copermittee is responsible for producing its respective Watershed Runoff Management Plan, as well as for coordination and meetings amongst all member watershed Copermittees. Each Lead Watershed~~

~~Copermittee is further responsible for the submittal of the Watershed Runoff Management Plan to the Principal Copermittee by the date specified by the Principal Copermittee.~~

~~(6) Principal Copermittee: The Principal Copermittee must assemble and submit updated Watershed Runoff Management Plans to the Regional Board on January 31, 2010 in the form of the WRMP annual report.~~

(a) WATERSHED WORKPLANS

(1) Copermittees - The written account of the program conducted by each watershed group of Copermittees is referred to as the Watershed Workplan. Copermittees within each watershed shall be responsible for updating and revising each Watershed Workplan. Each Watershed Workplan shall be updated and revised to describe any changes in water quality problems or priorities in the WMAs, and any necessary change to actions Copermittees will take to implement jurisdictional or watershed BMPs to address those identified changes.

(2) Lead Watershed Permittee - Each Lead Watershed Permittee shall be responsible for coordinating the production of the Watershed Workplan, as well as coordinating Annual Watershed Review Meetings and public participation/public noticing in accordance with the requirements of this Order. The Lead Watershed Permittee shall submit the Watershed Workplan to the Principal Permittee.

(3) Principal Permittee – The Principal Permittee shall assemble and submit the Watershed Workplan to the Regional Board no later than, 365 days after adoption of this Amendment

(4) Each Watershed Workplan shall, at a minimum, include:

(a) Identification of the Lead Watershed Permittee for the watershed.

(b) An updated watershed map.

(c) Identification and description of all applicable water quality data, reports, analyses, and other information to be used to assess receiving water quality.

(d) Assessment and analysis of the watershed's water quality data, reports, analyses, and other information, used during identification and prioritization of the watershed's water quality problems.

(e) A prioritized list of water quality problems within the WMA.

- (f) Identification of the likely sources, pollutant discharges, and/or other factors causing the high priority water quality problems within the WMA.
- (g) A description of the strategy to be used to guide Copermittee implementation of BMPs either jurisdictionally or on a watershed-wide basis to abate the highest water quality problems
- (h) A list of criteria used used to evaluate BMP effectiveness and how it was applied.
- (i) A map of implemented and projected implementation of future BMPs.
- (j) A description of the cohesive watershed-wide strategy of educational efforts focused on the identified highest priority water quality problems and pollutants.
- (k) A description of the public participation mechanisms to be used and the parties anticipated to be involved during the development and implementation of the Watershed Workplan.
- (l) A description of Copermittee collaboration to accomplish development of the Watershed Workplan, including a schedule for Watershed meetings.
- (m) A description of how TMDLs were considered during prioritization of watershed water quality problems
- (n) A description of the strategy to model and monitor improvement in receiving water quality directly resulting from implementation of the BMPs described in the Watershed Workplan.
- (o) A scheduled annual Watershed Workplan Review Meeting once every calendar year. This meeting shall be open to the public.

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Section K.3.a.(3)(c) (Revised language)

The completed Reporting Checklist Requirement found in Attachment D, and

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Section K.3.a.(4) (new language)

- (4) Each JRMP Annual Report must also include the following information regarding non-storm water discharges (see Section B.2. of this Order):
 - (a) Identification of non-storm water discharge categories identified as a source of pollutants to waters of the U.S;
 - (b) A description of ordinances, orders or similar means to prohibit ~~whether non-storm water discharge categories identified under section B.2 above will be prohibited or required to implement appropriate control measures to prevent the discharge of pollutants;~~
 - (c) Identification of any control measures to be required and

implemented for non-storm water discharge categories identified as
needing said controls by the Regional Board under section (a)
above; and

- (d) A description of a program to address~~reduce~~ pollutants from non-emergency fire fighting flows identified by the Copermitttee to be significant sources of pollutants.

TENTATIVE

ATTACHMENT A: BASIN PLAN PROHIBITIONS (updated language)

California Water Code Section 13243 provides that a Regional Board, in a water quality control plan, may specify certain conditions or areas where the discharge of waste or certain types of waste is not permitted. The following discharge prohibitions are applicable to any person, as defined by Section 13050(c) of the California Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the San Diego Region.

- ~~16. The discharge of untreated sewage from vessels to San Diego Bay is prohibited.~~
- ~~17. The discharge of treated sewage from vessels to portions of San Diego Bay that are less than 30 feet deep at mean lower low water (MLLW) is prohibited.~~
- ~~18. The discharge of treated sewage from vessels, which do not have a properly functioning US Coast Guard certified Type I or Type II marine sanitation device, to portions of San Diego Bay that are greater than 30 feet deep at mean lower low water (MLLW) is prohibited.~~

ATTACHMENT C

ACRONYMS AND ABBREVIATIONS (new language)

AMEL	<u>Average Monthly Effluent Limitation</u>
DNQ	<u>Detected, but not Quantified</u>
MDEL	<u>Maximum Daily Effluent Limitation</u>
ML	<u>Minimum Level</u>

DEFINITIONS (new language)

Average Monthly Effluent Limitation – the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Daily Discharge – Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day or any 24 hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g. concentration).

The Daily Discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day, or other 24 hour period other than a day), or by the arithmetic mean of analytical results from one or more grab samples taken over the course of a day.

Detected, but not Quantified – those sample results less than the reporting level, but greater than or equal to the laboratory's Method Detection Limit (MDL).

Dilution Credit – the amount of dilution granted to a discharger in the calculation of a WQBEL, based on the allowance of a specific mixing zone. It is calculated from the dilution ratio, or determined through conducting of a mixing zone study, or modeling of the discharge and receiving water.

Effluent Limitations – Any restriction imposed on quantities, discharge rates, and concentrations of pollutants, which are discharged from point sources into waters of the State. The limitations are designed to ensure that the discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect beneficial uses. Effluent limits are typically numeric (e.g., 10 mg/l), but can also be narrative (e.g., no toxics in toxic amounts). Municipal Action Levels are not effluent limitations.

Enclosed Bays – Enclosed bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or

outermost bay works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays do not include inland surface waters or ocean waters.

Estuaries – waters, including coastal lagoons, located at the mouth of streams that serve as areas of mixing fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and ocean water. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters – all surface waters of the State that do not include the ocean, enclosed bays, or estuaries. Inland surface waters consist of freshwater and do not have any measureable salinity.

Minimum Level – the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method sample weights, volumes and processing steps have been followed.

Ocean Waters – the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Board’s California Ocean Plan.

Runoff - All flows in a storm water conveyance system ~~that~~ and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water ~~illicit discharges (including~~ dry weather flows).

**ATTACHMENT E. MONITORING AND REPORTING PROGRAM
(new language)**

RECEIVING WATERS AND MS4 RUNOFF DISCHARGE MONITORING AND REPORTING PROGRAM NO. R9-2009-002

A. Receiving Waters Monitoring Program

1.d.(2) (new language)

Grab samples must be analyzed for temperature, pH, specific conductance, biochemical oxygen demand, oil and grease, total coliform, fecal coliform, ~~and enterococcus~~, and for total petroleum hydrocarbons whenever a sheen is observed.

2. Urban Stream Bioassessment (BA) Monitoring

Permittees must conduct Urban Stream Bioassessment Monitoring using a triad of indicators to assess the condition of biological communities in freshwater, urban receiving waters.

- a. Locations: At a minimum, the program shall consist of station identification, sampling, monitoring, and analysis of data for six bioassessment stations in order to determine the biological and physical integrity of urban streams within the County of Orange. At least one urban bioassessment station shall be located within each watershed management area. In addition to the urban stream bioassessment stations, three reference bioassessment stations shall be identified, sampled, monitored, and analyzed. Locations of reference stations must be identified according to protocols outlined in "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams," by Ode, et al. 2005.¹⁵

¹⁵ Ode, et al. 2005. "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams." Environmental Management. Vol. 35, No. 1, pp. 1-13.

b. Frequency: Bioassessment stations which have year round flow conditions must be monitored in May/–or–June (to represent the influence of wet weather on the communities) and/or September/–or–October (to represent the influence of dry weather flows on the communities). Copermittees shall determine when the annual sampling for stations with year round flow will occur in accordance with the purposes of sampling, as outlined in Section I of Attachment E. Those stations that do not have year round flow shall continue to be monitored twice per year. The timing of monitoring of bioassessment stations must coincide with dry weather monitoring of mass loading stations and Inland Aquatic Habitat stations.

(1) Alternative Frequency Plan / Special Studies: Upon approval of the Regional Board Executive Officer, the Permittees may omit one of the annual bioassessment events and direct the saved resources toward specified special studies, such as a study addressing–of the effects of physical habitat modification on the WARM, WILD, and/or COLD beneficial uses of inland receiving waters. Each special study must be able to produce a final report

3. FOLLOW-UP ANALYSIS AND ACTIONS

When results from the required monitoring indicate runoff-induced degradation at a mass loading station, bioassessment, or ~~Inland Aquatic Habitat station (section II.A.6 below)~~ dry weather discharge station, Copermittees within the watershed must evaluate the extent and causes of runoff pollution in receiving waters and prioritize and implement management actions to eliminate or reduce sources. Toxicity Identification Evaluations (TIEs) must be conducted to determine the cause of toxicity as outlined in Table 3 below. Other follow-up activities, which must be conducted by the Copermittees, are also identified in Table 3. Once the cause of toxicity has been identified by a TIE, the Copermittees must perform source identification projects as needed and implement the measures necessary to reduce or eliminate the pollutant discharges and abate the sources causing the toxicity.

5. REGIONAL MONITORING PROGRAMS COASTAL STORM DRAIN MONITORING

a. Regional Bacteria Monitoring

The Copermittees shall participate in the development and implementation of monitoring for the collaborative regional bacteria monitoring program. It is expected that the regional monitoring will allow for a more effective and efficient bacteria monitoring program.

The regional monitoring plan must be submitted to the Executive Officer for review and approval. Documentation of participation and monitoring shall be included in the annual report.

b. Regional Monitoring Programs

The Regional Board recognizes the importance and advantages of participation by Copermittees in Regional Monitoring Programs. The Copermittees must collaborate to develop and implement a coastal storm drain monitoring program to identify sections of the coastline that most consistently exceed water quality objectives for recreational uses as a result of MS4 discharges and then develop source identification and elimination activities. The monitoring program must include:

- a. ~~An updated identification of all MS4 discharge points to coastal waters within one year of issuance of this Order.~~
- b. ~~Diverted drains: Sampling of MS4 discharges from a subset of coastal storm drains whose flows are diverted to the sanitary sewer during dry weather. A minimum of two storm events must be sampled at each monitoring location.~~
- c. ~~Priority coastal storm drains: The Copermittees must continue existing coastal storm drain monitoring and must conduct followup investigations at sites in Table 4.~~

Table 4: Minimum Coastal Storm Drain Monitoring Stations

Continue Baseline Monitoring	Conduct Special Investigations
1.LINDAL (Linda Lane)	1.ACM1 (Aliso Creek Mouth)
2.MAINBC (Main Beach)	2.PEARL (Pearl Street)
3.MARIPO (Mariposa)	4.POCHE (Poche Beach)
5.BLULGN (Blue Lagoon)	6.SCM1 (Salt Creek Mouth)
7.CSBMP1 (Capistrano Beach)	8.SJC1 (San Juan Creek)
9.Others as determined by Copermittees	10.DSB-5 (North Creek, Doheny Beach)

~~(1) Baseline monitoring stations: Copermittees must continue to conduct weekly sampling of flowing coastal storm drains for total coliform, fecal coliform, and enterococcus¹⁶. Where flowing coastal storm drains are discharging to coastal waters, paired samples from the storm drain discharge and coastal water (25 yards down current of the discharge) must be collected. If flowing coastal storm drains are not discharging to coastal waters, only the storm drain discharge needs to be sampled. Storm drains whose flows are being diverted to the sanitary sewer for treatment do not need to be sampled unless the diversion is inoperable during the sampling week. If the direction of the current or effluent plume cannot readily be distinguished, then samples must be collected from the surfzone 25 yards upcoast and downcoast of the MS4 outfall. Additional sites must be added if determined by a Copermittee or the Regional Board to likely be contributing to persistent exceedances of water quality objectives along the coast.~~

~~(2) Special investigation stations: Copermittees must design and conduct special investigations at the identified stations to most effectively answer each of questions 1-5 of section I.B above, with an emphasis on answering question 4. At least two such investigations must be in progress during each reporting period. Each special investigation must be designed with specific benchmarks, expectations, and timelines for results. All special investigations must be concluded by June 30, 2011.~~

~~(3) Investigations of sources of bacterial contamination must occur immediately if evidence of abnormally high flows, sewage releases, restaurant discharges, and/or similar evidence is observed during sampling.~~

~~(4) Exceedances of public health standards for bacterial indicators must be reported to the County Department of Environmental Health as soon as possible.~~

5. HIGH PRIORITY INLAND AQUATIC HABITATS:

¹⁶ Coastal storm drains where sampler safety, habitat impacts from sampling, or inaccessibility are issues need not be sampled. Such coastal storm drains shall be added to the Copermittee's dry weather field screening and analytical monitoring program where feasible.

- ~~a. The Copermittees must collaborate to develop and implement a Inland Aquatic Habitat monitoring program for areas supporting high priority aquatic and riparian species, including threatened and endangered species. The design of the program must be consistent with the questions in Section I.B of this Monitoring Program. The monitoring program must include:~~
- ~~(1) Identification of storm drains that discharge into receiving waters that support threatened or endangered species;~~
 - ~~(2) Monitoring of ambient water quality conditions within those receiving waters for constituents likely to affect the threatened and endangered species;~~
 - ~~(3) Monitoring of wet weather storm drain discharges into the outfalls;~~
 - ~~(4) Assessment of the monitoring results to determine the relative contribution, if any, of storm drain discharges to factors affecting those species; and~~
 - ~~(5) Follow-up studies and source identification as necessary.~~
- ~~b. The Inland Aquatic Habitat monitoring program must be implemented by the beginning of the rainy season 2010.~~

B. Wet Weather MS4 Runoff Discharge Monitoring

Each Copermittee must collaborate with the other Copermittees to develop, conduct, and report on a year-round watershed based Wet Weather MS4 Runoff Discharge Monitoring Program. The monitoring program design, implementation, analysis, assessment, and reporting must be conducted on a watershed basis for each of the hydrologic units. The monitoring program must be designed to meet the goals and answer the questions listed in section I above. The monitoring program must include the following components;

1. MS4 OUTFALL MONITORING

The Copermittees must collaborate to develop and implement a monitoring program to characterize pollutant discharges from MS4 outfalls in each watershed during wet weather. The program must include rationale and criteria for selection of outfalls to be monitored. The program must, at a minimum, include collection of samples for those pollutants causing or contributing to violations of water quality standards within the watershed. This monitoring program must be implemented within each watershed and must begin no later than the 2009-2010 monitoring year.

- a. The program must comply with Section D of the Order for Municipal Action Levels (MALs). Samples must be collected during the first 24 hours of the storm water discharge or for the entire storm water discharge if it is less

than 24 hours.

1. Grab samples may be utilized only for pH, indicator bacteria, DO, temperature and hardness.
2. All other constituents must be sampled using 24 hour composite samples or for the entire storm water discharge if the storm event is less than 24 hours.

b. Sampling to compare MS4 outfall discharges with total metal MALs must include a measurement of receiving water hardness at each outfall. If a total metal concentration exceeds a MAL, that concentration must be compared to the California Toxic Rule criteria and the USEPA 1 hour maximum concentration for the detected level of receiving water hardness associated with that sample. If it is determined that the sample's total metal concentration for that specific pollutant exceeds the MAL but does not exceed the applicable 1 hour criteria for the measured level of hardness, then the MAL shall be considered not exceeded for that measurement.

a.C. Dry Weather Non-Storm Water Effluent Limits

Each Permittee must collaborate with the other Permittees to conduct, and report on a year-round watershed based Dry Weather MS4 Runoff Discharge Monitoring Program. The monitoring program implementation, analysis, assessment, and reporting must be conducted on a watershed basis for each of the hydrologic units. The monitoring program must be designed to assess compliance with numeric effluent limits in section C of this Order, adopted dry weather Total Maximum Daily Loads Waste Load Allocations and assessment of the contribution of dry weather flows to 303(d) listed impairments. The monitoring program must include the following components;

Each Permittee's program must be designed to determine levels of pollutants in effluent discharges from the MS4 into receiving waters. Each Permittee must conduct the following dry weather field screening and analytical monitoring tasks:

a. Dry Weather Effluent Analytical Monitoring Stations

- (1) Stations must be major outfalls. Other outfall points (or any other point of access such as manholes) identified by the Permittees as potential high risk sources of polluted effluent shall be sampled

(2) Each Permittee must clearly identify each dry weather effluent analytical monitoring station on its MS4 Map as either a separate GIS layer or a map overlay hereafter referred to as a Dry Weather Effluent Analytical Stations Map.

b. Develop Dry Weather Effluent Analytical Monitoring Procedures

Each Permittee must develop and/or update written procedures for dry weather effluent analytical monitoring (these procedures must be consistent with 40 CFR part 136), including field observations, monitoring, and analyses to be conducted. At a minimum, the procedures must meet the following guidelines and criteria:

- (1) Determining Sampling Frequency: Dry weather effluent analytical monitoring must be conducted at each major outfalls and identified stations. The Permittees must sample a representative number of major outfalls and identified stations. The sampling must be done to assess compliance with dry weather non-storm water numeric effluent limits pursuant to section C of this Order. at least once between May 1st and September 30th of each year and at least once between October 1st and April 30th. All M monitoring conducted must between October 1st and April 30th must be preceded by a minimum of 72 hours of dry weather.
- (2) If ponded MS4 runoff discharge is observed at a dry weather effluent analytical monitoring station, make observations and collect at least one (1) grab sample. If flow is evident, composite samples must be taken flow must be estimated and a grab sample must be taken. Record flow estimation (i.e., width of water surface, approximate depth of water, approximate flow velocity, flow rate).
- (5) Criteria must include evaluation of LC₅₀ levels for toxicity to appropriate test organisms