Appendix G – Proposed Permit Modifications

Section 4 of the Report of Waste Discharge (ROWD) identified three areas of the Permit where Permittees have identified key revisions that would allow the Permit to better support implementation and assessment of the Water Quality Improvement Plans. These include a revised annual reporting structure, an option for watershed specific monitoring programs, an option to develop an Integrated Plan, and a few significant programmatic changes; these are the key "asks" within the ROWD. In addition, Section 5 of the ROWD provides suggestions for TMDL revisions. All requested modifications to Permit language are included herein. Rationale provided within this appendix are meant to supplement the rationale provided within Sections 4 and 5.

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Recommended Permit Modifications Related to: Reporting (ROWD Section 4.1)

Note: Given the numerous locations and complexity of reporting requirements that are prescribed within the Permit, this section highlights the key modifications requested to support the proposed improvements to the reporting structure. However, it is recognized that additional discussion with the Regional Water Board may be warranted.

PROVISION B. WATER QUALITY IMPROVEMENT PLANS

B.5.b

The water quality improvement goals, strategies and schedules, included in the Water Quality Improvement Plan pursuant to Provisions B.3, must be re-evaluated and adapted as new information becomes available to result in more effective and efficient measures to address the highest priority water quality conditions identified pursuant to Provision B.2.c. Re-evaluation of and modifications to the water quality improvement goals ***must be provided in the Report of Waste Discharge~~,~~; modifications*** *to strategies and schedules ~~must~~ may be provided in the Water Quality Improvement Plan Annual Report* ***but must be provided in the Mid-Term Report and in the Report of Waste Discharge****, and must consider the following:*

Rationale: Permittees should have the ability to assess and modify goals at any time during the Permit term, but should not be required to assess and report every year. Evaluation of goals on a short-term basis is unnecessary, burdensome, and should only be performed once per permit term unless new information (e.g., a new TMDL) is available that necessitates modifications to goals. Evaluation and modifications to strategies should also occur on longer-term scales and should be included in the Mid-Term and ROWD reports (as proposed). This provides enough time to implement the strategies for some time, assess them, and make relevant modifications.

PROVISION D. MONITORING AND ASSESSMENT PROGRAM REQUIREMENTS

[NOTE: ADDITIONAL RATIONALE PROVIDED IN APPENDIX D]

D.1.e.(2)(c)

Sediment Quality Monitoring. *The Copermittees ~~must~~* ***may*** *incorporate a Sediment Monitoring Report as part of the Water Quality Improvement Plan Annual Report****, but must incorporate the Plan into the Report of Waste Discharge, in*** *accordance with the schedule contained in the Sediment Monitoring Plan, unless otherwise directed in writing by the San Diego Water Board Executive Officer. The Sediment Monitoring Report must contain the following information: (i) Analysis: An evaluation, interpretation and tabulation of the water and sediment monitoring data, including interpretations and conclusions as to whether applicable receiving water limitations in this Order have been attained at each sample station; (ii) Sample Location Map: The locations, type, and number of samples must be identified and shown on a site map; and (iii) California Environmental Data Exchange Network: A statement certifying that the monitoring data and results have been uploaded into the California Environmental Data Exchange Network (CEDEN).*

Rationale: Sediment Quality Monitoring and Reporting is performed on a longer-term schedule in accordance with the State's Sediment Quality Objectives policy. Reporting only once per Permit term is appropriate and supports the longer-term assessment of conditions consistent with the intent of the ROWD and the proposed revised reporting structure.

Recommended Permit Modifications Related to: Reporting (ROWD Section 4.1)

D.2.b.(2)(b)(iv)

> ***Dry Weather MS4 Outfall Discharge Monitoring.*** *Each Copermittee* ~~*must*~~ ***may*** *document removal or re-prioritization of the highest priority persistent flow MS4 outfall monitoring stations identified under Provision D.2.b.(2)(a) in the Water Quality Improvement Plan Annual Report* ***or Mid-Term Report, but must include the reprioritization in the Report of Waste Discharge.*** *Persistent flow MS4 outfall monitoring stations that have been removed must be replaced with the next highest prioritized major MS4 outfall in the Watershed Management Area within its jurisdiction, unless there are no remaining qualifying major MS4 outfalls within the Copermittee's jurisdiction in the Watershed Management Area.*

Rationale: As Permittees implement the dry weather monitoring program and resolve investigations, prioritization of outfalls may change; however, this is a longer-term process and will not likely result in changes to prioritized outfalls on an annual basis. The provision should be modified to require reporting with the ROWD, consistent with intent of the proposed revised reporting structure, but should acknowledge and allow Permittees to report at other frequencies as appropriate.

D.4.b.(1)(a)(ii)

> ~~***Non-Storm Water Dischargers Reduction Assessments. Based on the data collected pursuant to Provisions D.2.b, the assessments required under Provision D.4.b.(1)(c) must be included in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3).***~~

Rationale: Revise Frequency of Assessment and Reporting - Many of the assessments do not produce information on an annual basis that would support programs and strategy implementation. Instead, it is recommended that these assessments be performed at frequencies as noted in the modified text to be consistent with the proposed revised reporting structure, see D.4.b.(1)(a)(iii).

D.4.b.(1)(a)(iii)

> *Based on the data collected pursuant to Provisions D.2.b, the assessments required under Provision D.4.b.(1)(c)* ***may be included in the Mid-Term Reports, but*** *must be included in the Report of Waste Discharge required pursuant to Provision F.5.b.*

Rationale: Revise Frequency of Assessment and Reporting - Many of the assessments required under D.4.b.(1)(c) do not produce information on an annual basis that would support programs and strategy implementation. Instead, it is recommended that these assessments are performed at frequencies as noted in the modified text to be consistent with the proposed revised reporting structure.

D.4.b.(2)(a)

> ~~***(ii) Based on the data collected pursuant to Provisions D.2.c, the assessments required under Provision D.4.b.(2)(c) must be included in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3).***~~
>
> *(iii) Based on the data collected pursuant to Provision D.2.c, the assessment required under Provisions D.4.b.(2)(c)-(d)* ***may be included in the Mid-Term Reports, but*** *must be included in the Report of Waste Discharge, required pursuant to Provision F.5.b.*

Recommended Permit Modifications Related to: Reporting (ROWD Section 4.1)

Rationale: Revise Frequency of Assessment and Reporting - Many of the assessments required under D.4.b.(2) do not produce information on an annual basis that would support programs and strategy implementation. Instead, it is recommended that these assessments be performed at frequencies as noted in the modified text to be consistent with the proposed revised reporting structure.

D.4.b.(2)(b)

(i) The Copermittees must analyze the monitoring data collected pursuant to Provision D.2.a.(3), and utilize a watershed model or other method, to calculate or estimate the following for ~~***each monitoring year***~~ ***the Permit term. Results must be included in the Report of Waste Discharge required pursuant to Provision F.5.b.***

[a] The average storm water runoff coefficient for each land use type within the Watershed Management Area;

[b] The volume of storm water and pollutant loads discharged from each of the Copermittee's monitored MS4 outfalls in its jurisdiction to receiving waters within the Watershed Management Area for each storm event with measurable rainfall greater than 0.1 inch;

[c] The ~~***total flow***~~ *volume and pollutant loadings discharged from the Copermittee's* ***monitored outfalls within their*** *jurisdiction within the Watershed Management Area over the course of the wet season*~~***, extrapolated from the data produced from the monitored MS4 outfalls***~~*; and*

[d] The percent contribution of storm water volumes and pollutant loads discharged from each land use type within each hydrologic subarea with a ***monitored*** *major MS4 outfall to receiving waters or within each* ***monitored*** *major MS4 outfall to receiving waters in the Copermittee's jurisdiction within the Watershed Management Area for each storm event with measurable rainfall greater than 0.1 inch.*

Rationale: Revise Focus and Frequency of Assessment and Reporting - As currently required, the assessments introduce significant sources of error in the estimates when extrapolating concentration and flow data from monitored outfalls to all major outfalls. Limiting the estimates to the monitored outfalls will reduce the amount of error and better focus the results to the management decisions (e.g., strategies/modifications) within the watershed. Reducing the frequency of the assessments to once per Permit term is also proposed to improve the estimates since more data would be used as the basis for the calculation. Improvements in the calculation, coupled with a longer term examination of the results over time, will provide better support to management decisions. The calculations, as proposed, could potentially provide information to fulfill assessment requirements in Provision D.4.b.(2)(c)(iii), which look explicitly at the effectiveness of implementation actions and are required to be performed as part of the ROWD. Modifying the frequency of these assessments and reporting aligns well with the proposed revised reporting structure. The recommended modifications would support focused, prioritized efforts within the watersheds, rather than a broad, less actionable approach.

Recommended Permit Modifications Related to: Reporting (ROWD Section 4.1)

D.4.c

The Copermittees must ***~~annually~~*** *evaluate the results and findings from the special studies developed and implemented pursuant to Provision D.3, and assess their relevance to the Copermittees' efforts to characterize receiving water conditions, understand sources of pollutants and/or stressors, and control and reduce the discharges of pollutants from the MS4 outfalls to receiving waters in the Watershed Management Area. The Copermittees must report the results of the special studies assessments applicable to the Watershed Management Area, and identify any necessary modifications or updates to the Water Quality Improvement Plan based on the results in the* ***~~Water Quality Improvement Plan Annual~~*** ***in Mid-Term*** *Reports* ***or in the Report of Waste Discharge, as appropriate~~ ~~required pursuant to Provision F.53.b.(3)~~****.*

Rationale: Revise Frequency of Reporting - Special studies are generally implemented on longer term time scales where annual reporting is inappropriate. Consistent with the intent of the proposed revised reporting structure, results of special studies should be reported in Mid-Term or ROWD reports, as appropriate.

PROVISION F. REPORTING

See Section 4.1 of the ROWD for related information on the following proposed permit changes related to Provision F.

F.2.a.(3)

Each Copermittee must submit updates to its jurisdictional runoff management program, with the supporting rationale for the modifications, either in the ***~~Water Quality Improvement Plan Annual~~ Mid-Term*** *Report required pursuant to Provision F.3.b.(3), or as part of the Report of Waste Discharge required pursuant to Provision F.5.b*

Rationale: Revised Frequency of Reporting - While Permittees would report out on implementation of strategies each year, the proposed revised reporting structure provides for a focus on assessment and revisions to strategies in both the Mid-Term Report and in the ROWD. Recommended revisions to F.2.a(3) would provide consistency with the proposed revised reporting structure.

F.3.b.(3)

The Copermittees for each Watershed Management Area must submit a Water Quality Improvement Plan Annual Report for each reporting period no later than January 31 of the following year. The annual reporting period consists of two different periods: 1) July 1 to June 30 of the following year for the jurisdictional runoff management programs, 2) October 1 to September 30 of the following year for the monitoring and assessment programs. ***Annual Reports must be submitted for the time period that covers the first, third, and fifth years of the Order (as determined from the effective date of the Order).*** *The Water Quality Improvement Plan Annual Reports must be made available on the Regional Clearinghouse required pursuant to Provision F.4. Each Annual Report must include the following:*

Rationale: Revised Frequency of Reporting - The Permittees are requesting that the Annual Reports be submitted during years 1, 3, and 5 of the permit term. Mid-term reports, which would

be more robust would be submitted during year 2 of the permit term and the ROWD submitted during year 4 of the permit term.

~~***(b) The progress of the special studies required pursuant to Provision D.3, and the findings, interpretations and conclusions of a special study, or each phase of a special study, upon its completion;***~~

Rationale: Revise Frequency of Reporting - Special studies are generally implemented on longer term time scales and annual reporting may be inappropriate. Consistent with the intent of the proposed revised reporting structure, results of special studies should be reported in Mid-Term or ROWD reports, as appropriate. This is articulated in proposed revisions to Provision D.4.c (above).

~~***(c) The findings, interpretations and conclusions from the assessments required pursuant to Provision D.4;***~~

Rationale: Revise Frequency of Assessment and Reporting - As noted above, assessments required under Provision D.4 do not generally provide meaningful information to support the implementation of strategies and programs when performed on an annual basis. Consistent with the proposed, revised reporting structure, these assessments should be performed on a longer-term scale and reported in the ROWD.

~~***(d)(i) The progress toward achieving the interim and final numeric goals for the highest water quality priorities for the Watershed Management Area;***~~

Rationale: Revise Frequency of Assessment and Reporting - Meaningful demonstration of progress to goals may be measurable on a Permit term basis, but is not likely to yield useful information on an annual basis. It is recommended that this assessment be included within the ROWD requirements under Provision F.5, consistent with the proposed revised reporting structure.

~~***(d)(v) Previous modifications or updates incorporated into the Water Quality Improvement Plan and/or each Copermittee's jurisdictional runoff management program document and implemented by the Copermittees in the Watershed Management Area; and***~~

~~**(d)(vi) Proposed modifications or updates to the Water Quality Improvement Plan and/or each Copermittee's jurisdictional runoff management program document;**~~

Rationale: Revise Frequency of Assessment and Reporting - In general, Permittees do not adjust program implementation and strategies year to year unless unusual circumstances necessitate. Consistent with the proposed revised reporting structure, it is recommended that modifications and updates to the Water Quality Improvement Plan and JRMP be included with the Mid-Term Report and with the ROWD, not on an annual basis.

(PROPOSED NEW PROVISION)

(g) Additional requirements described in 40 CFR 122.42 (c) (Attachment B, Standard Permit Provisions and General Provisions).

Rationale: Revised Frequency of Reporting - The Permittees are requesting that the Annual Reports be submitted during years 1, 3, and 5 of the permit term. This language is proposed to ensure that all of the components of Section 1.o of Attachment B are included within the Annual Reports.

Recommended Permit Modifications Related to: Reporting (ROWD Section 4.1)

(PROPOSED NEW PROVISION)

(h) Each Annual Report may include the following, as applicable:

(i) Progress and/or findings from special studies that are being implemented.

(ii) Progress and/or findings from TMDLs that are being implemented pursuant to Attachment E.

(iii) Progress toward achieving annual milestones pursuant to Provision B.3.c.

(iv) Progress toward achieving the interim and /or final numeric goals for the highest water quality priorities for the Watershed Management Area.

(v) Proposed modifications to the Water Quality Improvement Plan, Jurisdictional Runoff Management program documents, or assessments.

Rationale: Revise Frequency of Assessment and Reporting - This language recognizes that the Annual Reports may include information as it relates to special studies, TMDLs, compliance options, goals, assessments, and/or modifications as applicable that reporting year, however it would not be required.

(PROPOSED NEW PROVISION)

F.3.b.4

Water Quality Improvement Plan Mid-Term Report: The Copermittees for each Watershed Management Area must submit a Water Quality Improvement Plan Mid Term Report for the reporting period that covers the second year of the Order (as determined from the effective date of the Order). The Water Quality Improvement Plan Mid Term Report must be made available on the Regional Clearinghouse required pursuant to Provision F.4.

Rationale: Revised Frequency of Reporting - The Permittees are requesting that the Annual Reports be submitted during years 1, 3, and 5 of the permit term. Mid-term reports, which would be more robust would be submitted during year 2 of the permit term and the ROWD submitted during year 4 of the permit term.

(a) Each Mid-Term Report must include the following:

(i) All information required in the Annual Reports pursuant to F.3.b.3

(ii) Exceedance evaluations for the receiving water and MS4 outfall discharge monitoring data collected pursuant to Provisions D.1 and D.2, summarized and presented in tabular and graphical form

(iii) Findings, interpretations and conclusions from the program/strategy assessments

(b) Each Mid Term Report may include the following, as applicable:

(i)Progress and/or findings from special studies that are being implemented.

(ii) Progress and/or findings from TMDLs that are being implemented pursuant to Attachment E.

(iii) Progress toward achieving annual milestones pursuant to Provision B.3.c.

(iv) Progress toward achieving the interim and /or final numeric goals for the highest water quality priorities for the Watershed Management Area.

(v) Proposed modifications to the Water Quality Improvement Plan, Jurisdictional Runoff Management program documents, or assessments.

Recommended Permit Modifications Related to: Reporting (ROWD Section 4.1)

Rationale: Revise Frequency of Assessment and Reporting - This language is consistent with the Annual Reports, however it recognizes that the Mid Term Reports should be more robust. In addition, the Mid Term Report may include information as it relates to special studies, TMDLs, compliance options, goals, assessments, and/or modifications as applicable that reporting year, however it would not be required.

Recommended Permit Modifications Related to: Monitoring and Assessment Programs (ROWD Section 4.2)

PROVISION D. MONITORING AND ASSESSMENT PROGRAM REQUIREMENTS

[NOTE: ADDITIONAL RATIONALE PROVIDED IN APPENDIX D]

D.3. Special Studies

a. *Within the term of this Order, the Copermittees must initiate the following special studies:*

*(1) At least ~~two~~ **one** special ~~studies~~ **study** in each Watershed Management Area to address pollutant and/or stressor data gaps and/or develop information necessary to more effectively address the pollutants and/or stressors that cause or contribute to highest priority water quality condition**(**s**), priority water quality condition(s), or other significant water quality related study question(s)** identified in the Water Quality Improvement Plan.*

~~(2) At least one special study for the San Diego Region to address pollutant and/or stressor data gaps and/or develop information necessary to more effectively address the pollutants and/or stressors that are impacting receiving waters on a regional basis in the San Diego Region.~~

~~(3) One of the two special studies in each Watershed Management Area required pursuant to Provision D.3.a.(1) may be replaced by a special study implemented pursuant to Provision D.3.a.(2).~~

b. *The special ~~studies~~ **study** must, at a minimum, be in conformance with the following criteria:*

*(1) The special ~~studies~~ **study** must be related to the highest priority water quality condition**(**s**), priority water quality condition(s), or other significant water quality related study question(s)** identified by the Copermittees in the Watershed Management Area ~~and/or for the entire San Diego Region~~;*

*(2) The special ~~studies~~ **study** developed pursuant to Provision D.3.a.(1) must:*

(a) Be implemented within the applicable Watershed Management Area, and

(b) Require some form of participation by all the Copermittees within the Watershed Management Area;

~~(3) The special studies developed pursuant to Provision D.3.a.(2) must:~~

~~(a) Be implemented within the San Diego Region, and~~

~~(b) Require some form of participation by all Copermittees covered under the requirements of this Order.~~

*(**~~4~~3**) The Copermittees are encouraged to partner with environmental groups or third parties knowledgeable of watershed conditions to complete the required special studies.*

c. ***The special*** *~~Special studies~~ **study** developed to identify sources of pollutants and/or stressors should be pollutant and/or stressor specific and based on historical monitoring data and monitoring performed pursuant to Provisions D.1 and D.2. **The development** ~~Development~~ of **a** source identification special ~~studies~~ **study** should include the following:*

(1) A compilation of known information on the specific pollutant and/or stressor, including data on potential sources and movement of the pollutant and/or stressor within the watershed. Data generated by the Copermittees and others, as well as information available from a literature research on the pollutant and/or stressor should be compiled and analyzed as appropriate.

(2) An identification of data gaps, based on the compiled information generated on the specific pollutant and/or stressor identified in Provision D.3.c.(1). ***The source*** *~~Source~~ identification special ~~studies~~* ***study*** *should be developed to fill identified data gaps.*

(3) A monitoring plan that will collect and provide data the Copermittees can utilize to do the following:

(a) Quantify the relative loading or impact of a pollutant and/or stressor from a particular source or pollutant generating activity;

(b) Improve understanding of the fate of a pollutant and/or stressor in the environment;

(c) Develop an inventory of known and suspected sources of a pollutant and/or stressor in the Watershed Management Area; and/or

(d) Prioritize known and suspected sources of a pollutant and/or stressor based on relative magnitude in discharges, geographical distribution (i.e., regional or localized), frequency of occurrence in discharges, human health risk, and controllability.

d. ***The special*** *~~Special studies~~* ***study*** *initiated prior to the effective date of this Order that meet****s*** *the requirements of Provision D.3.b and* ***is*** *~~are~~ implemented during the term of this Order as part of the Water Quality Improvement Plan may be utilized to fulfill the special study requirements of Provision D.3.a. Special studies completed before the effective date of this Order cannot be utilized to fulfill the special study requirements of Provision D.3.a.*

e. *The Copermittees must submit the monitoring plans for the special ~~studies~~* ***study*** *in* ***updates to*** *the Water Quality Improvement Plans required pursuant to Provision F.~~1~~****2.c****.*

f. *The Copermittees are encouraged to share the results of the special ~~studies~~* ***study*** *regionally among the Copermittees to provide information useful in improving and adapting the management of non-storm water and storm water runoff through the implementation of the Water Quality Improvement Plans.*

Rationale: See ROWD Section 4.2.2.

D.4.a.(2)

(b) Identify the most critical beneficial uses ***(e.g., the highest priority water quality condition)*** *that must be protected to ensure overall health of the receiving water*

(c) Determine whether or not those critical beneficial uses ***(e.g., the highest priority water quality condition(s))*** *are being protected*

(d) Identify short-term and/or long-term improvements or degradation of those critical beneficial uses ***(e.g., the highest priority water quality condition(s))***

Recommended Permit Modifications Related to: Monitoring and Assessment Programs (ROWD Section 4.2)

Rationale: Revise to Provide Consistency and Clarification - Critical beneficial use is a term used only in this section of the Permit and is not defined elsewhere. Proposed modification is to link the terminology with Provision B for consistency and to clarify of the intent of "critical beneficial use".

D.4.b.(1)(c)

(iv) Each Copermittee must analyze the data collected pursuant to Provision D.2.b, and utilize a model or other method, to calculate or estimate the non-storm water volumes and pollutant loads ~~***collectively***~~ *discharged from* ~~***all***~~ *the* ***monitored*** *major MS4s outfalls in its jurisdiction identified as having persistent dry weather flows during the monitoring year. These calculations or estimates must be updated* ~~***annually***~~ ***once per permit term****.*

Rationale: Revise Focus of Assessment and Frequency - Assessments using dry weather loading estimations may be useful to managers to demonstrate reductions in non-stormwater volumes and pollutant loads over time. These assessments should provide information to support further evaluations required under D.4.b.(1)(c)(v), which look explicitly at the effectiveness of implementation actions. However, as currently required, the assessments introduce significant sources of error in the estimates when extrapolating concentration and flow data from monitored outfalls to all major outfalls. The MS4 storm water assessments (Permit Provisions D.4.b(2)(b)(i)[a-d]) require a number of assumptions that introduce potential errors due to data variability, making it difficult to discern trends in stormwater volume and pollutant load reduction over time as strategies are implemented. These potential errors are derived primarily from the assumptions necessary to extrapolate watershed-wide estimates of discharge volumes and pollutant loads from the available monitoring data. With the significant amount of error, the annual estimates do not effectively support evaluations required under (v) or management decisions. Limiting the estimates to the monitored outfalls will reduce the amount of error and better focus the results to the management decisions (e.g., strategies/modifications) within the watershed. Reducing the frequency to once per term would also improve the estimates since more data could be used as the basis for the calculation. Improvements in the calculation, coupled with a longer-term examination of the results over time, will provide better support to management decisions. Performing this type of assessment once per Permit Term could be useful in the evaluation and modification of strategies and Permit provisions. The recommended modifications would support focused, prioritized efforts within the watersheds, rather than a broad, less actionable approach.

[a] Each Copermittee must calculate or estimate the annual non-storm water volumes and pollutant loads ~~***collectively***~~ *discharged from the Copermittee's* ***monitored*** *major MS4 outfalls to receiving waters within the Copermittee's jurisdiction*~~***,***~~ *with a* ***qualitative evaluation of*** ~~***n estimate of the percent contribution from***~~ *each known source* ***contributing to non-storm water flows at*** ~~***for***~~ *each* ***monitored*** *MS4 outfall;*

Rationale: Revise Focus of Assessment and Requirement to Quantify - Estimating non-stormwater volumes and pollutant loads across the watershed on an annual basis relies on a number of assumptions that increases error and reduces the validity and usefulness of the estimates. Conducting assessments on estimates with this level of error is not useful to managers and is unreliable in determining the percent contribution from known sources for each MS4 outfall. Rather than performing extensive calculations fraught with error, it is more useful and cost effective to provide qualitative estimates of the contribution for specific sources within drainage areas that are monitored. For example, the Permittees could attempt to identify the predominant

sources of non-stormwater flow within the drainage area, as well as a list of potential secondary sources, rather than performing inaccurate, and potentially misleading calculations. The recommended modifications would support focused, prioritized efforts within the watersheds, rather than a broad approach.

[b] Each Copermittee must annually identify ***~~and quantify (i.e. volume and pollutant loads)~~*** *sources of non-storm water not subject to the Copermittee's legal authority that are discharged from the Copermittee's major MS4 outfalls to downstream receiving waters.*

Rationale: Remove Requirement to Quantify - Quantification of non-stormwater flows from specific sources from watershed level data relies on many assumptions leading to significant errors within the volume and pollutant load estimates. Identification of these sources is, in and of itself, enough information to affect management decisions, and quantification of these contributions does not provide further benefit.

(PROPOSED NEW PROVISION – Adjust current D.5 to new D.6)

D.5. ***Optional Watershed Specific Monitoring and Assessment Program***

As an alternative to implementation of Provisions D.1 – D.4, WMAs may, in coordination with an accepted Water Quality Improvement Plan, implement a watershed specific monitoring and assessment program designed to achieve the monitoring and assessment objectives of the WMA. The alternative monitoring and assessment program shall consider the requirements set forth in Provisions D.1 – D.4 of this Order and be consistent with USEPA, SWAMP, and Regional Board Monitoring guidance documents as articulated in USEPA's Guidance Document for the Data Quality Objectives Process (USEPA 2000), the SWAMP Assessment Framework (State Water Board 2010), and A Framework for Monitoring and Assessment in the San Diego Region (Regional Water Board 2012). Watershed specific monitoring and assessment plans would be implemented after acceptance by the Executive Officer of the Monitoring and Assessment Plan as part of an update to the Water Quality Improvement Plan.

Rationale: Provided in ROWD Section 4.2.1

Recommended Permit Modifications Related to: Land Development (ROWD Section 4.4)

FACT SHEET – IN OR NEAR PAGE F-101 [rationale provided in ROWD Section 4.4.3]

Pursuant to E.3.b.(3)(b), the permittees may allow an applicant to apply green streets performance standard to alleys, private streets, and streets/roads within larger Priority Development Projects. Additionally, if a Priority Development Project includes off-site improvements with the right of way (e.g., a turn lane in a public street associated with development of the adjacent private parcel), the green streets performance standard could be applied to the portion within the right of way and the standard structural BMP requirements (Provision E.3.c) would apply to the portion comprised of non-right of way land uses. If this approach is allowed by the permittee, the "whole of the project" should still be considered in determining whether the project is a Priority Development Project. For example, if an applicant proposed 4,000 sq-ft of added or replaced impervious surface associated with redevelopment of an existing parcel and 2,000 sq-ft of added or replaced impervious surface associated with an alley, street, road, etc., then the sum of these (6,000 sq-ft) would be used to determine that the redevelopment project is a Priority Development Project. It would not be appropriate for each portion to be considered separately such that each would be below the PDP Priority Development Project threshold. In this example, the whole of the project should be processed as a Priority Development Project, but with the respective performance standards applied to the respective portions of the project.

FACT SHEET [rationale provided in ROWD Section 4.4.6]

For the purpose of determining priority development project applicability, the Copermittee may allow the project applicant to exclude the surface area of water features such as reservoirs, decorative ponds, or swimming pools that meets all of the following conditions:

- ***The water feature does not have a design discharge, such an overflow or drain, that is routed to the MS4, and***
- ***The water feature has adequate freeboard to store at least a 10-year storm event without potential overflow to the MS4, and***
- ***Both of the criteria above are confirmed via building and/or plumbing permit plan review and inspections, and***
- ***The Copermittee prescribes any additional source control BMPs to minimize pollutant generation associated with these features per provision E.3.a.(2)(f).***

PROVISION E. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAMS

E.3.b.(1)(c) [rationale provided in ROWD Section 4.4.1]

(c) New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site) ***consisting of*** ~~***, and support***~~ *one or more of the following uses:*

E.3.b.(3)(b) [rationale provided in ROWD Section 4.4.3]

*Each Copermittee has the discretion to exempt the following projects****, or portions of projects,*** *from* ~~***being defined as***~~ ***the*** *Priority Development Project requirements of this Order:*

E.3.b.(3) [rationale provided in ROWD Section 4.4.4]

E.3.b.(3) Priority Development Project Exemptions

Each Copermittee has the discretion to exempt the following projects from being defined as Priority Development Projects:

(PROPOSED NEW PROVISION)

(c) Structural BMP retrofit projects constructed for the primary purpose of treating runoff from existing developed areas that meet the following criteria:

i. Conform to the BMP design and operations and maintenance standards of the Copermittee's BMP Design Manual,

ii. The effective retrofit capacity of the BMP for mitigating existing runoff is reduced by an amount equivalent to the design capture volume from the impervious surface added as part of the retrofit project,

iii. An operations and maintenance plan will be implemented for the project,

iv. The Copermittee requires adequate documentation to substantiate that the above criteria are met.

E.3.b.(3) [rationale provided in ROWD Section 4.4.5]

E.3.b.(3) Priority Development Project Exemptions

Each Copermittee has the discretion to exempt the following projects from being defined as Priority Development Projects:

(PROPOSED NEW PROVISION)

(d) Channel rehabilitation projects that meet the following criteria:

i. Project design minimizes impervious cover and uses permeable surfaces where feasible, AND

ii. Project incorporates applicable source control and site design BMPs per Provision E.3.a.(2) and (3).

(PROPOSED NEW PROVISION)

E.3.b.(4) Project Classification for Phased Projects [rationale provided in ROWD Section 4.4.11]

(a) Where a project comprising a common plan of development will be constructed in phases, the overall common plan of development shall be considered in determining whether individual proposed projects within the common plan of development are classified as PDPs.

(b) Where a project was originally planned as part of a common plan of development and meets the following criteria, then each new development project within the original common plan of development Permittee may allow the project to be considered as a separate, standalone development project for determining PDP applicability:

(i) The project does not meet the provisions of E.3.e.(1)(a), therefore it is not allowed to comply with the structural BMP requirements of the previous MS4 Permits, AND

(ii) The project was originally a portion of a common plan of development, but was not built during the period of active development OR is a parcel within a common plan of development that is now being redeveloped, AND

(iii) The project is defined based on the largest scale yet to be permitted such that the project is inclusive of any common infrastructure, such as streets, that remain to be built to support the project, AND

(iv) The original common plan of development previously constructed the applicable structural BMPs and stormwater infrastructure necessary to meet all applicable structural BMP requirements for the subject project (i.e., there are no structural BMPs conditioned to be built within the subject project).

(c) In the case that the project, as defined per E.3.b.(4)(b) is determined to be a PDP, the Permittee may allow the applicant to account for the stormwater management BMPs previously installed as part of the common plan of development as part of meeting the BMP requirements of Provision E.3.

E.3.c.(1)(a), footnote 28 or appropriate section of the Fact Sheet [rationale provided in ROWD Section 4.4.10]

Sizing BMPs to capture the design capture volume is intended to result in BMP designs that capture and manage approximately 80 percent of long term stormwater runoff volume. A BMP design that is demonstrated to capture and manage 80 percent of long term stormwater runoff volume is considered to be equivalent to the design capture volume.

E.3.c.(1)(b) [rationale provided in ROWD Section 4.4.8]

A Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of complying with the storm water pollutant control BMP performance requirements of Provision E.3.c.(1)(a). The Priority Development Project must mitigate for the portion of the pollutant load in the design capture volume not retained onsite if Provision E.3.c.(3) is utilized. If a Priority Development Project is allowed to utilize alternative compliance, flow-thru treatment control BMPs must be implemented to treat the portion of the ***pollutant load in the*** *design capture volume that is not reliably retained onsite. Flow-thru treatment control BMPs must be sized and designed in accordance with Provisions E.3.c.(1)(a)(ii)[a]-[c].* ***or a prorated portion of these sizing standards designed to provide removal of the pollutant load in the portion of the design capture volume that is not retained on-site or otherwise removed prior to discharge to receiving waters. The Copermittee may waive the requirement for onsite flow-thru treatment control BMPs for any Priority Development Project that participates in an alternative compliance program and the Copermittee determines that participation in an alternative compliance program will result in a greater overall water quality benefit for the Watershed Management Area than fully complying with performance requirements of Provision E.3.c.(1), AND:***

a) Alternative compliance project(s) providing the greater overall water quality benefit are located prior to discharge to Waters of the U.S. At the discretion of the Copermittee the Priority Development Project may still be required to provide pretreatment prior to runoff leaving the site; OR

b) For a linear Priority Development Project, such as roads, the Copermittee determines that onsite flow-thru treatment control BMPs are infeasible.

E.3.e.(1)(d) [rationale provided in ROWD Section 4.4.9]

Each Copermittee must require and confirm that prior to ***permanent*** *occupancy and/or* ***permanent*** *intended use of any portion of the Priority Development Project, each structural BMP* ***that serves the completed portion*** *is inspected to verify that it has been constructed and*

is operating in compliance with all of its specifications, plans, permits, ordinances, and the requirements of this Order.

ATTACHMENT C. DEFINITIONS [rationale provided in ROWD Section 4.4.2]

Redevelopment *- The creation and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure. Replacement of impervious surfaces includes any activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include routine maintenance activities, such as trenching and resurfacing associated with utility work; pavement grinding; resurfacing existing roadways, sidewalks, pedestrian ramps, or bike lanes on existing roads;* ***retrofit and/or repairs to incorporate Americans with Disabilities Act requirements*** *and routine replacement of damaged pavement, such as pothole repair.*

4. Total Maximum Daily Loads for Dissolved Copper, Lead, and Zinc in Chollas Creek [rationale provided in ROWD Section 5.1]

Table 4-1. Final Receiving Water Limitations Expressed as Concentrations in Chollas Creek

Constituent	Exposure Duration	RWL (µg/L)	Avg. Period
Dissolved Copper	Acute	$(0.96) \times e^{[0.94422 \times \ln(\text{hardness}) - 1.700]} \times \text{WER}^*$	1 Hour
	Chronic	$(0.96) \times e^{[0.8545 \times \ln(\text{hardness}) - 1.702]} \times \text{WER}^*$	4 Days
Dissolved Lead	Acute	$[1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 1.460]} \times \text{WER}^*$	1 Hour
	Chronic	$[1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 4.705]} \times \text{WER}^*$	4 Days
Dissolved Zinc	Acute	$(0.978) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	1 Hour
	Chronic	$(0.986) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	4 Days

Notes:

* ~~*The Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.*~~ *The Water-Effects Ratios (WERs) for all constituents during dry weather (chronic) is 1.0. The WERs for copper and zinc during wet weather (acute) are 6.998 and 1.711, respectively.*

Table 4-2. Final Effluent Limitations ~~as~~ Expressed as Concentrations in MS4 Discharges to Chollas Creek

Constituent	Exposure Duration	RWL (µg/L)	Avg. Period
Dissolved Copper	Acute	$90\% (0.96) \times e^{[0.94422 \times \ln(\text{hardness}) - 1.700]} \times \text{WER}^*$	1 Hour
	Chronic	$90\% (0.96) \times e^{[0.8545 \times \ln(\text{hardness}) - 1.702]} \times \text{WER}^*$	4 Days
Dissolved Lead	Acute	$90\% [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 1.460]} \times \text{WER}^*$	1 Hour
	Chronic	$90\% [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 4.705]} \times \text{WER}^*$	4 Days
Dissolved Zinc	Acute	$90\% (0.978) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	1 Hour
	Chronic	$90\% (0.986) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	4 Days

Notes:

* ~~*The Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.*~~ *The Water-Effects Ratios (WERs) for all constituents during dry weather (chronic) is 1.0. The WERs for copper and zinc during wet weather (acute) are 6.998 and 1.711, respectively.*

Table 4-3. Interim Water Quality-Based Effluent Limits Expresses as Concentrations in MS4 Discharges to Chollas Creek

Interim Compliance Date	Constituent	Exposure Duration	RWL (µg/L)	Avg. Period
October 22, 2018	Dissolved Copper	Acute	$1.2 \times 90\% (0.96) \times e^{[0.94422 \times \ln(\text{hardness}) - 1.700]} \times \text{WER}^*$	1 Hour
		Chronic	$1.2 \times 90\% (0.96) \times e^{[0.8545 \times \ln(\text{hardness}) - 1.702]} \times \text{WER}^*$	4 Days
	Dissolved Lead	Acute	$1.2 \times 90\% [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 1.460]} \times \text{WER}^*$	1 Hour
		Chronic	$1.2 \times 90\% [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 4.705]} \times \text{WER}^*$	4 Days
	Dissolved Zinc	Acute	$1.2 \times 90\% (0.978) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	1 Hour
		Chronic	$1.2 \times 90\% (0.986) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	4 Days

Notes:

* ~~The Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.~~ The Water-Effects Ratios (WERs) for all constituents during dry weather (chronic) is 1.0. The WERs for copper and zinc during wet weather (acute) are 6.998 and 1.711, respectively.

5. Total Maximum Daily Loads for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay *and* Revised Total Maximum Daily Loads for Indicator Bacteria, Project 1 – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) [rationale provided in ROWD Section 5.2]

FINDINGS

(PROPOSED NEW FINDINGS)

43. ***TMDL for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay (Attachment E.5) and Revised TMDLs for Indicator Bacteria, Project I - Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)(Attachment E.6). As part of the 2014 Triennial Review, the Regional Water Board identified an Evaluation of Contact Water Recreation (REC-1) Water Quality Objectives and Methods for Quantifying Exceedances (Issue 3), as a Triennial Review Priority. As part of this project Regional Water Board staff are evaluating options for incorporating new scientific information developed through a collaborative effort with Responsible Copermittees to support more effective implementation of the TMDL for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay (Attachment E.5) and Revised TMDLs for Indicator Bacteria, Project I - Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)(Attachment E.6).***

Concurrent with the 2014 Triennial Review of Contact Water Quality Recreation, USEPA has promulgated revised criteria for recreational water quality that focus on the risk to human health from pathogens rather than meeting a specific indicator bacteria concentration used a surrogate for measuring the risk. The revised criteria and recent scientific research indicate that the potential human health risks from human versus nonhuman fecal sources can vary and that a human contamination source has the highest likelihood of causing illness in water contact recreators. Additionally, a study was conducted that evaluated human health risks from water contact recreational activities and provided information on the presence of the human marker HF183 in San Diego and Orange Counties (Surfer Health Study). Based on this information, the Regional Water Board finds that implementing strategies that focus on human

sources of bacteria are more effective at protecting the recreation beneficial use. This Order modifies the requirements for the above referenced TMDLs in Attachment E to reflect this new focus on human health risk rather than reducing the surrogate indicator bacteria concentrations and loads. Specific modifications include:

a. ***Incorporating receiving water limitations and effluent limitations based on the USEPA 2012 criteria and Statewide Bacteria Provisions. A significant body of scientific information has been published indicating that enterococcus and E. coli are more appropriate indicators of adverse health effects in recreational waters than total coliform or fecal coliform. As a result, the total and fecal coliform permit provisions have been removed as they are not needed to protect the recreational beneficial uses.***

b. ***Incorporating a revised compliance schedule for the TMDL. The receiving water limitations and effluent limitations, while consistent with the latest science, USEPA 2012 criteria and draft Statewide Bacteria Provisions, are more stringent than those included in the TMDLs. The revised limitations are based on an illness rate of 32 excess illnesses per 1000 recreators as compared to the 36 excess illnesses per 1000 that is equivalent to the illness rate that is the basis for the TMDL wasteload allocations. The Regional Water Board finds it is appropriate to include more stringent requirements that are designed to achieve the same outcomes as wasteload allocations, but a corresponding longer compliance schedule is needed to attain the more stringent requirements. The revised receiving water and effluent limitations are more stringent than the requirements in the Copermittees' previous MS4 permits and are designed to implement new water quality objectives that were adopted by the State Water Board in 2018. The water quality objectives that the revised receiving water and effluent limitations are designed to implement therefore meet the definition of "newly interpreted water quality objectives" under the State Water Board's Policy for Implementation of Compliance Schedules in National Pollutant Discharge Elimination System Permits, State Water Board Resolution No. 2008-0025 (the "Compliance Schedule Policy"). Accordingly, the San Diego Water Board has legal authority to adopt a compliance schedule for a Copermittee that satisfies the application requirements listed in Paragraph 4 of the Compliance Schedule Policy. This Order allows a Copermittee to request additional time to come into compliance with effluent limitations that implement a "newly interpreted water quality objective" to include a proposed compliance schedule in its Water Quality Improvement Plan or an Integrated Plan, including a justification satisfying the criteria listed in Provision II.B.3.d. Regional Water Board acceptance of a Water Quality Improvement Plan or Integrated Plan operates as approval and adoption of any compliance schedules contained therein.***

c. ***Incorporating new methods of demonstrating compliance with receiving water and effluent limitations using the human marker HF183 and results of the Surfer Health Study. The new methods for demonstrating compliance support implementation of actions that are more effective at targeting human sources of fecal contamination to better protect recreation beneficial uses.***

d. ***Developing a revised monitoring program to align with the additional methods of demonstrating compliance and better inform implementation actions.***

These modified permit provisions are consistent with the assumptions and requirements of the TMDL wasteload allocations as required by 40 C.F.R. § 122.44(d)(1)(vii)(B)).

44. ***Collaborative Process for TMDL for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay (Attachment E.5) and Revised TMDLs for Indicator Bacteria, Project I - Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek) (Attachment E.6). The Revised TMDLs for Indicator Bacteria, Project I – Twenty Beaches and Creeks included an acknowledgement that as the implementation of these TMDLs progress, revisions to the Basin Plan may be necessary. The Revised TMDLs included a provision that the San Diego Water Board would initiate a Basin Plan amendment project to revise the requirements and/or provisions for implementing these TMDLs within 5 years from the effective date of the Basin Plan amendment if conditions were met: (1) sufficient data were collected to justify the change, (2) a report is submitted to the San Diego Water Board documenting the findings of the collected data and (3) a request is submitted to the San Diego Water Board with specific proposed revisions to the Basin Plan. The Copermittees have submitted the requested information to support initiation of consideration of modifications to the Basin Plan Amendment. A Memorandum of Understanding (MOU) was entered into between the Regional Water Board, the County of San Diego, the County of Orange, and the City of San Diego that committed these parties to collaborating on potential changes to the TMDL resulting from the submitted information. The MOU anticipates a collaborative process but also indicates that if parties cannot come to agreement on whether TMDL changes are warranted based on the results of special studies and the Cost-Benefit Analysis, Copermittee recommendations will be brought to the Regional Water Board in a public meeting or workshop for consideration. Based on a good faith effort to date to meet with Copermittees and to support a transparent process through the 2014 Triennial Review process, the Regional Board finds that the modifications to Attachment E.5 and Attachment E.6 included in this Order and additional scheduled updates to the Basin Plan through a Basin Plan Amendment satisfy the requirements of the aforementioned MOU. However, in accordance with a provision in the MOU, if the Copermittees and San Diego Water Board do not agree on the proposal for modifications to the TMDLs, the Copermittees may request an agenda item to address the Regional Water Board in a public meeting or workshop to present an alternative proposal to the recommendations provided by the San Diego Water Board.***

PROVISION B WATER QUALITY IMPROVEMENT PLANS

(PROPOSED NEW PROVISION)

B.3.d. TMDL Compliance Schedules

A Copermittee requiring additional time to meet an applicable receiving water or effluent limitation in Attachment E that implements a "new, revised, or newly interpreted" water quality objective, as that term is defined in the Compliance Schedule Policy, [1] may propose a compliance schedule as part of its Water Quality Improvement Plan or an Integrated Plan developed in accordance with USEPA guidance. San Diego Water Board acceptance of a Water Quality Improvement Plan or Integrated Plan operates as approval and adoption of any compliance schedules contained therein. The Copermittee's proposed compliance schedule shall include a justification satisfying the following criteria:

[1] State Water Board Resolution No. 2008-0025, p. 3 (April 15, 2008).

a. Diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and the results of those efforts;

b. Source control efforts are currently underway or completed, including compliance with any pollution prevention programs that have been established;

c. A proposed schedule for additional source control measures or waste treatment;

d. Data demonstrating current treatment facility performance to compare against existing permit effluent limits, as necessary to determine which is the more stringent interim permit effluent limit to apply if a schedule of compliance is granted.

e. The highest discharge quality that can reasonably be achieved until final compliance is attained; and

f. The proposed compliance schedule is as short as possible, given the type of facilities being constructed or programs being implemented, and industry experience with the time typically required to construct similar facilities or implement similar programs.

ATTACHMENT E SPECIFIC PROVISIONS FOR TOTAL MAXIMUM DAILY LOADS

6. Revised Total Maximum Daily Loads for Indicator Bacteria for Beaches and Creeks in the San Diego Region

(TO REPLACE EXISTING SECTION)

a. ***APPLICABILITY***

(1) TMDL Basin Plan Amendment: Resolution No. R9-2010-0001

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	***February 10, 2010***
State Water Board Approval Date:	***December 14, 2010***
Office of Administrative Law Approval Date:	***April 4, 2011***
US EPA Approval Date:	***June 22, 2011***

(3) TMDL Effective Date: April 4, 2011

(4) Watershed Management Areas: See Table 6.0a and 6.0b

(5) Water Bodies: See Table 6.0a and 6.0b

(6) Responsible Copermittees: See Table 6.0a and 6.0b.

Table 6.0a
Applicability of Revised Total Maximum Daily Loads for Indicator Bacteria for Beaches and Creeks in the San Diego Region –Listed Waterbodies

(INCLUDE APPROPRIATE WATERBODY TABLE IN PERMIT)

Delisted waterbodies are attaining the TMDL and responsible parties listed in Table 6.0b are only subject to Provision 6.d.(1) Tier 1: Receiving Water Compliance Monitoring.

Table 6.0b
Applicability of Revised Total Maximum Daily Loads for Indicator Bacteria for Beaches and Creeks in the San Diego Region –Delisted Waterbodies

(INCLUDE APPROPRIATE WATERBODY TABLE IN PERMIT)

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The TMDL compliance requirements for the water bodies listed in Table 6.0a consist of the following:

(1) Final TMDL Compliance Dates

The Responsible Copermittees for MS4 discharges to the water bodies listed in Table 6.0a must be in compliance with the final TMDL compliance requirements according to the following compliance dates:

Table 6.1

Compliance Dates to Achieve Final TMDL Compliance Requirements ***per 6.b.(5)***

Constituent	Dry Weather TMDL Compliance Date *	Wet Weather TMDL Compliance Date*
Enterococci (beaches) *E. coli* (creeks)	10 years from permit effective date	20 years from permit effective date

**If the applicable, accepted Water Quality Improvement Plan includes a compliance schedule that meets the requirements in Provision II.3.B.d, the accepted Water Quality Improvement Plan compliance schedule will become the final TMDL compliance date. If an accepted Integrated Plan includes a compliance schedule that meets the requirements in Provision II.3.B.d, the accepted integrated plan compliance schedule will become the final TMDL compliance date. The Water Quality Improvement Plan or Integrated Plan compliance date may achieve a longer compliance schedule.*

(a) Upon the effective date of a new Bacteria TMDL Basin Plan Amendment, the revised targets, allocations, and compliance deadlines automatically supersede the receiving water limitations, effluent limitations, and compliance dates, respectively, in this Order. This Order will be modified to incorporate any other necessary modified provisions that result from future reconsideration of the TMDL, including the program of implementation, within six months of the effective date of the revised TMDL.

(2) Final Receiving Water Limitations

(a) Discharges from the MS4s must not cause or contribute to the exceedance of the receiving water limitations (RWL) of 32 excess illnesses per 1000 recreators interpreted as surrogate enterococcus concentrations in Table 6.2 by the compliance dates under Provision 6.b.(1), as determined by the Final TMDL Compliance Determination procedures in Provision 6.b.(4):

Table 6.2 *Final Receiving Water Limitations of 32 Excess Illnesses per 1000 Recreators Expressed as Enterococcus Concentrations and Allowable Exceedance Frequencies*

TMDL Monitoring Location Type	Indicator Bacteria [f]	RWL Component	Dry Weather [d] RWL (organisms per 100 mL)	Dry Weather [d] Allowable Exceedance Frequency	Wet Weather [e] RWL (organisms per 100 mL)	Wet Weather [e] Allowable Exceedance Frequency
Beaches (marine) [a, b, c, h]	Enterococci	Statistical Threshold Value [f]	110	0%	110	22%
		Geometric Mean [g]	30	0%	N/A	N/A

a – For sites where a site-specific RWL has not been approved, the RWLs in this table serve as the default RWLs. Otherwise, the site-specific RWL applies per 6.b.(2)(b).
b – RWLs are suspended during temporary beneficial use suspensions, as applicable. In addition, if a waterbody is designated as LREC-1 in the future, RWLs would be based on bacteria WQOs that may be identified at the time of designation, as needed per 6.b.(2)(b).
c – The TMDLs include an Allowable Exceedance Frequency which specifies the percentage of samples collected annually at each approved Bacteria TMDL monitoring location that may exceed the RWL.
d – Dry weather is defined as days that do not meet the wet weather definition.
e – Wet weather is defined as days with greater than 0.1 inch of rainfall observed plus the following three days at the designated rainfall gage(s) for the approved TMDL monitoring location.
f – All wet weather samples collected each year are compared against the STV to determine TMDL compliance. Dry weather sample concentrations are compared against the STV only when the geometric mean cannot be calculated for each season.
g – Based on all dry weather samples collected within each season (winter and summer). A minimum of 5 samples is required for geometric mean calculation. If 5 samples are not available within each season, then sample concentrations are compared against the STV.
h – Attainment of RWLs shall be assessed in accordance with the procedures provided in Provision 6.b.(4).
N/A – Not applicable, the geometric mean applies to samples collected during dry weather only.

(b) The receiving water limitations listed in Table 6.2 are coupled with implementation provisions that determine the conditions under which the receiving water limitations are applicable. The following implementation provisions shall be considered when determining whether or not receiving water limitations are being attained within a waterbody when approved for use in the waterbody.

- ***Reference system and antidegradation approach (RSAA),***
- ***Natural sources exclusion approach (NSEA), and***
- ***Temporary suspension of REC-1 beneficial uses in creeks during exceptionally high and/or low flow conditions.***

(3) Final Water Quality Based Effluent Limitations

(a) Discharges from the MS4s that do not exceed the following concentration-based effluent limitations, listed in Table 6.3, or equivalent load-based effluent limitations established in an accepted Water Quality Improvement Plan by the compliance dates under Provision 6.b.(1) shall not cause or contribute to exceedances of the receiving water limitations under Provision 6.b.(2)):

Table 6.3
Final Effluent Limitations Expressed as Bacteria Densities and Allowable Exceedance Frequencies in MS4 Discharges to the Water Body

MS4 Discharge Location Type	Indicator Bacteria [f]	Component	Dry Weather [d] Effluent Limitation (organisms per 100 mL)	Dry Weather [d] Allowable Exceedance Frequency	Wet Weather [e] Effluent Limitation (organisms per 100 mL)	Wet Weather [e] Allowable Exceedance Frequency
Beaches (marine) [a, b, c, h]	Enterococci	Statistical Threshold Value [f]	110	0%	110	22%
		Geometric Mean [g]	30	0%	N/A	N/A

a – For sites where a site-specific target has not been approved, the effluent limitations in this table serve as the default Effluent limitations. Otherwise, the site-specific target shall be applied as the WQBEL.
b – Effluent limitations are suspended during temporary beneficial use suspensions, as applicable. In addition, if a waterbody is designated as LREC-1 in the future, effluent limitations would be established equal to the numeric targets based on bacteria WQOs that may be identified at the time of designation, as needed.
c – The TMDLs include an Allowable Exceedance Frequency which specifies the percentage of samples collected annually at each approved Bacteria TMDL monitoring location that may exceed the WQBEL.
d – Dry weather is defined as days that do not meet the wet weather definition.
e – Wet weather is defined as days with greater than 0.1 inch of rainfall observed plus the following three days at the designated rainfall gage(s) for the approved TMDL monitoring location.
f– All wet weather samples collected each year are compared against the STV to determine TMDL compliance. Dry weather sample concentrations are compared against the STV only when the geometric mean cannot be calculated for each season.
g– Based on all dry weather samples collected within each season (winter and summer). A minimum of 5 samples is required for geometric mean calculation. If 5 samples are not available within each season, then sample concentrations are compared against the STV.
h – Attainment of effluent limitations shall be assessed in accordance with the procedures provided in Provision 6.b(4)
N/A – Not applicable, the geometric mean applies to samples collected during dry weather only.

(4) Best Management Practices

(a) The Responsible Copermittee must implement BMPs outlined in an accepted Water Quality Improvement Plans and JRMPs to achieve the receiving water limitations under Provision 6.b.(2) and/or the effluent limitations under Provision 6.b.(3) for the segments or areas of the water bodies listed in Table 6.0a.

(b) The Responsible Copermittees should coordinate any BMPs implemented to address this TMDL with Caltrans, owners/operators of small MS4s, collection system agencies, wastewater agencies, and agricultural dischargers as applicable and feasible.

(4) Final TMDL Compliance Determination

(a) TMDL compliance can be determined through any one of three compliance pathways, which are assessed using monitoring data, as shown in Figure 6.1. Compliance with the receiving water limitations and effluent limitations may be demonstrated through the following options, which incorporate the three compliance pathways:

(i) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(ii) Receiving water limitations are being attained in the receiving water at the compliance monitoring locations based on the assessment procedure in Provision 6.b.(4)(b); OR

(iii) Water quality based effluent limitations are being attained at the Responsible Copermittee's MS4 outfalls based on the assessment procedure in Provision 6.b.(4)(c); OR

(iv) The Responsible Copermittees can demonstrate that exceedances of the receiving water limitations at the compliance monitoring locations are due to loads from non-human sources, natural sources, other NPDES discharges, or other non-MS4 sources; OR

(v) The Responsible Copermittees develop and implement the Water Quality Improvement Plan that includes the elements described below:

- ***Strategies to address identified human sources to the MS4 (human source reduction program) or an approved load reduction strategy as outlined in Provision 6.b.(4)(c).***
- ***Monitoring plan or reference to a regional monitoring plan that contains all elements required in Provision 6.d.***
- ***Adaptive management program that specifies methods for modifying or adding strategies to address any human sources of bacteria contributing to receiving water exceedances.***

(b) Compliance with the final receiving water limitations, on or after the final TMDL compliance dates, may be demonstrated through an assessment of available monitoring data using any of the three compliance pathways shown in Figure 6.1. Each pathway requires collection of different types of monitoring data, listed below. Because any of the pathways can be used for compliance, there is no requirement to collect all types of data. However, if the necessary data for a given pathway are not collected, that pathway cannot be used for compliance purposes until the required data are available.

- ***Pathway 1: Enterococcus data, OR***
- ***Pathway 2: Enterococcus data and the human-specific microbial source tracking marker (HF183[2]) data, OR***
- ***Pathway 3: Epidemiological study or QMRA to demonstrate that the risk to human health is less than 32 illnesses/1000 people, consistent with the USEPA 2012 criteria[3];***

(i) The methods below shall be used to compare monitoring data to the enterococcus and HF183 thresholds to assess compliance with the receiving water limitations under Pathway 1 or 2.

Dry Weather

[2] An equivalent human marker to HF183 may be used as molecular source tracking science develops and evolves.
[3] USEPA, 2012. Recreational Water Quality Criteria. U.S. Environmental Protection Agency, Office of Water. Washington D.C. (EPA 820-F-12-058, 2012).

During dry weather, seasonal geometric means for enterococcus concentrations shall be calculated for comparison to the geometric mean receiving water limitations on an annual basis. The summer season dry weather geometric mean shall be calculated using all dry weather samples collected during the period from May 1st through September 30th. Winter season dry weather geometric means shall be calculated from additional dry weather samples collected between October 1st and April 30th. A minimum of five samples collected during the season are necessary to calculate the geometric mean. If an insufficient number of samples are collected for calculating a geometric mean, then samples shall be compared to the STV. The waterbody shall be considered to be attaining receiving water limitations if less than 10% of the samples exceed the STV. The STV shall not be used for the assessment if sufficient samples are available to calculate a geometric mean, as discussed in Section 3.

Under Pathway 1, if the receiving water limitations are met based on the assessment for both dry weather seasons, the waterbody is considered to be attaining receiving water limitations for the year. If receiving water limitations are not met during a season, the waterbody is not attaining receiving water limitations for that season during dry weather.

Under Pathway 2, in addition to the enterococcus assessment, for the samples exceeding the enterococcus receiving water limitation, the dry weather HF183 results shall be considered. If less than 20% of the paired HF183 samples contain detected values, the waterbody is considered to be attaining receiving water limitations. If a new threshold is established by USEPA or San Diego Regional Water Board, it will supersede this value.

Wet Weather

Each year, all samples collected during wet weather shall be compared to the STV receiving water limitation for assessment of attainment during wet weather conditions.

Under Pathway 1, the waterbody shall be considered in attainment for the year if less than 22% (AEF) of samples collected during wet weather for the year exceed the STV receiving water limitation.

Under Pathway 2, the waterbody shall be considered in attainment for the year if less than 10% of paired enterococcus and HF183 samples exceed both the STV and HF183 threshold (2,655 copies/100 ml), respectively.

(ii) For pathway 3, compliance with receiving water limitations requires demonstration through a study accepted by the Regional Board Executive Officer that the risk level is below 32 excess illnesses per 1000 recreators and implementation of a human source reduction program to address identified human sources to the MS4. If the study being used to demonstrate compliance was not conducted in the waterbody, compliance with the receiving water

limitations requires demonstration, through a sanitary survey, that sources in the waterbody are similar to the waterbody in which the study was completed.

(c) Compliance with the final water quality based effluent limitations, on or after the final TMDL compliance dates, may be demonstrated through the following methods:

(i) an assessment of available monitoring data using the calculation procedures in Provision 6.b.(4).(b) for comparison to the concentration-based effluent limitations, OR

(ii) an assessment of available monitoring data to calculate load reductions for comparison to load-based effluent limitations in an approved Water Quality Improvement Plan, OR

(iii) implementation of an approved Load Reduction Strategy. The Load Reduction Strategy approach shall use either an outfall-based or downstream-based strategy, as described in the TMDL.

Recommended Permit Modifications Related to:
Total Maximum Daily Loads (ROWD Section 5)

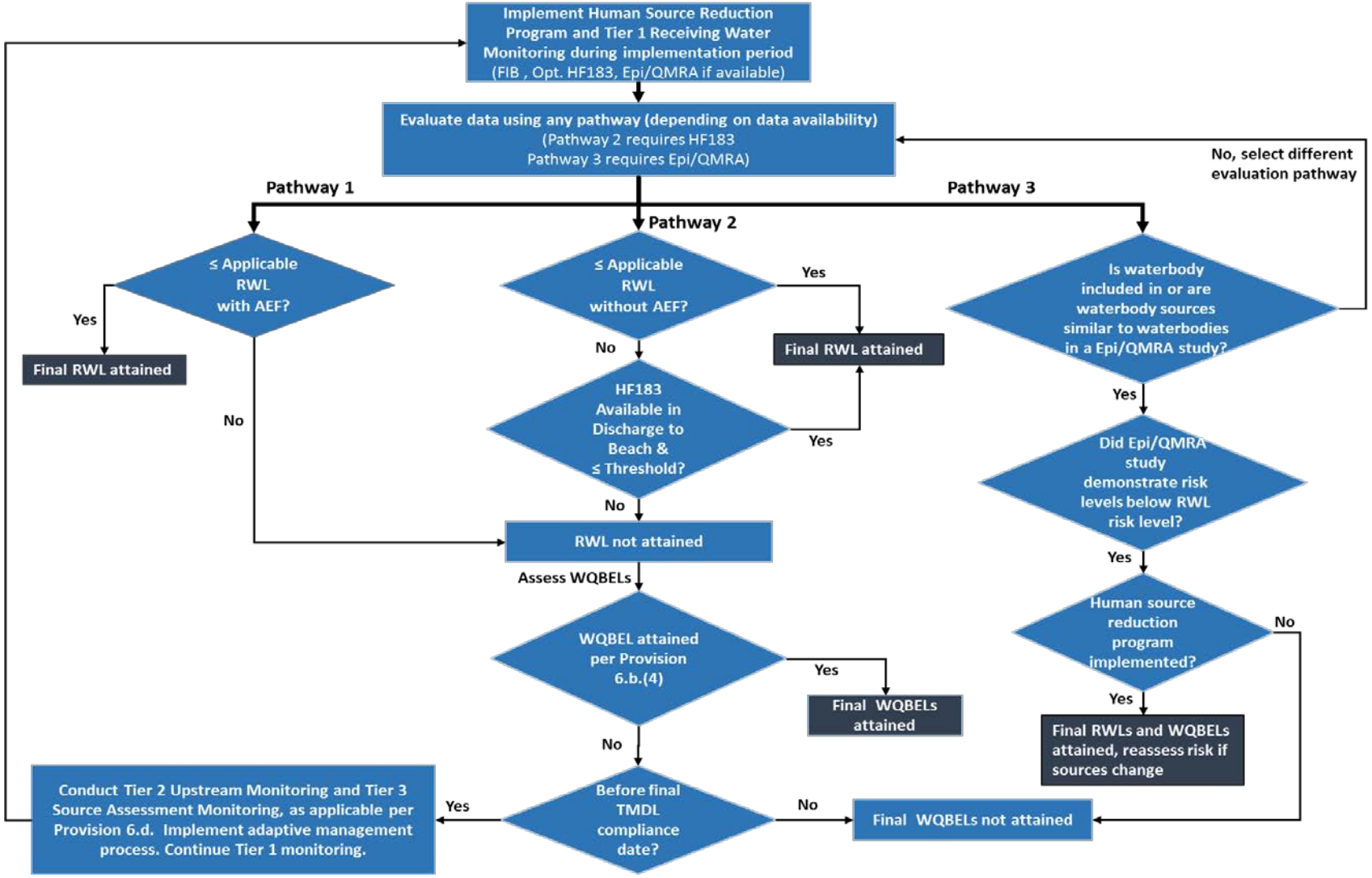

Figure 6. 1. Compliance Pathways

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d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

Responsible Copermittees shall prepare a monitoring and assessment plan that includes all of the elements outlined in this Provision and submit the plan for approval by the Executive Officer. The plan can be prepared as part of the applicable Water Quality Improvement Plan or as a regional plan that includes other responsible parties to the TMDL.

(1) Tier 1: Receiving Water Compliance Monitoring

The Tier 1 monitoring section of the plan shall include the following elements.

(a) Parameters Monitored

Monitoring shall be conducted for enterococcus at designated compliance monitoring locations for all compliance pathways. If compliance Pathway 2 is being considered, HF183 monitoring shall be added at designated discharge monitoring locations.

Dischargers shall have two options for analyzing the collected HF183 samples:

1) Sample and process for enterococcus and HF183 concurrently.

2) Sample and process for enterococcus only, store and archive samples for HF183 analysis and process only if deemed necessary (when enterococcus exceedances are observed at the beach).

(b) Monitoring Locations

Compliance monitoring shall be conducted at the beach downstream of the outfall or creek discharge. For unique cases where creeks do not have a REC-1 beach downstream (e.g. Chollas Creek), monitoring shall be conducted at either a location in the ocean (or bay) at a location outside the mixing zone for the creek discharge or in the creek above the tidal prism depending on the site conditions.

Receiving water compliance monitoring locations for enterococcus shall be defined to be representative of human health risk, and thus shall be chosen at high recreational use locations, as appropriate. Beach segments identified in Table 6.0a and 6.0b may be combined and one representative monitoring location determined if all segments are part of the same beach and one location can adequately represent the expected average exposure conditions for the other beach segments.

Under compliance Pathway 2, representative discharges corresponding to the enterococcus compliance monitoring location shall be monitored for HF183 concurrently with compliance monitoring for enterococcus to determine if enterococcus exceedances are attributable to human sources. HF183 should be collected at a discharge location rather than at the enterococcus receiving water compliance monitoring location, as levels of the human marker can fluctuate near the limit of detection in saltwater receiving waters. The HF183 monitoring location may be co-located if the receiving water is a freshwater waterbody.

(c) Monitoring Schedule

At least one wet weather monitoring event shall be conducted during the wet season (October 1 through April 30). Sampling should occur within 24 hours of the end of each storm event. Wet weather is defined as days with at least 0.1 inches of rainfall and the 72-hour period following the storm event. Dry weather, therefore, is defined as days with less than 0.1 inches of rainfall on each of the previous three days. Dry weather monitoring should occur at least on a monthly basis.

For waterbodies not listed on the 303(d) list for recreational use in Table 6.0b, Responsible Copermittees may continue the current monitoring frequency in an accepted Water Quality Improvement Plan or propose alternative monitoring procedures to demonstrate that the water bodies continue to remain in compliance with water quality standards under wet weather and dry weather conditions.

(2) Tier 2: Upstream Assessment Monitoring

The monitoring plan shall include procedures for Tier 2 upstream assessment monitoring and triggers for initiating Tier 2 monitoring under Pathways 1 and 2 if both receiving water limitations and effluent limitations are not being attained in a waterbody in accordance with Specific Provision 6.b.(4). If human sources of bacteria have already been identified and responsible parties are currently in the process of abating those sources, additional receiving water limitation exceedances shall not trigger further Tier 2 or Tier 3 monitoring until after the sources have been abated.

(a) Parameters Monitored

Tier 2 monitoring shall utilize HF183 or another marker shown to be reliable for identifying human fecal contamination in discharges or creeks discharging near the beach compliance monitoring location to detect locations of human sources that may be impacting beach water quality.

(b) Monitoring Locations

Tier 2 assessment monitoring location selection should consider locations isolating contributions from sub-drainage areas, particularly areas with known potential human sources of bacteria, such as onsite wastewater treatment systems (OWTS) and homeless encampments.

(c) Monitoring Schedule

The monitoring plan shall include a phased schedule for Tier 2 assessments that accounts for required follow-up Tier 3 source identification monitoring and implementation of the required actions to address identified sources. The assessment schedule shall result in all waterbodies that require Tier 2 assessments being assessed within five years. The prioritization schedule should include all waterbodies in Table 6.0a that have exceedances of receiving water limitations at the time of development of the monitoring plan, but the need for

Tier 2 monitoring shall be determined after two years of receiving water monitoring based on the assessment in Figure 6.1. In developing the assessment schedule, the following factors should be considered:

- ***Enterococcus and HF183 exceedance frequency and exceedance magnitude;***
- ***Risk to human health;***
- ***Presence of known human sources; and***
- ***Implementation actions planned for the waterbody, including the potential to address human sources of bacteria through multi-pollutant control measures.***

The monitoring plan shall include a method for using the Tier 2 assessment monitoring results to determine if repeat assessment monitoring events or additional phases of assessment monitoring at additional locations are required to progress to Tier 3 monitoring.

(3) Tier 3: Source Identification Monitoring and Assessment

The monitoring plan shall include procedures for conducting source identification monitoring either in conjunction with or following the Tier 2 monitoring. The procedures for Tier 3 monitoring shall include the following.

(a) Parameters Monitored

The plan should include a list of parameters that may be monitored during Tier 3 monitoring.

(b) An approach to identifying sources.

Approaches should consider the following:

- ***Inspections, targeted monitoring, or other appropriate data collection methods focused probable high risk sources within the watershed:***
  - ***Reported sanitary sewer leaks and overflows***
  - ***Homeless population data***
  - ***Locations with OWTS***
  - ***Recreational areas***
  - ***Areas of known sanitary sewer infrastructure issues***
- ***Additional monitoring within the storm drain or sanitary systems***
- ***Coordination with existing inspection programs***
- ***Coordination with sanitation agencies on leak detection and maintenance efforts***

(c) Monitoring Schedule

Source identification monitoring may be conducted following assessment monitoring or concurrently. However, source identification field efforts for wet weather sources may not necessarily need to be conducted during wet weather.

The proposed monitoring schedule shall identify the triggers for conducting Tier 3 monitoring and the proposed schedule, relative to the Tier 2 monitoring results, for conducting the assessments.

After sources are identified, dischargers responsible for the identified sources shall conduct implementation actions. If identified sources are found to be the responsibility of the other responsible parties, the Copermittees shall notify the applicable responsible parties but shall not be required to implement source abatement actions. Monitoring of the effectiveness of implementation actions conducted by Copermittees shall primarily be based on the Tier 1 receiving water compliance monitoring. However, additional Tier 2 or Tier 3 monitoring may also be conducted as applicable to demonstrate that the source has been addressed if the compliance locations are still exceeding receiving water limitations and effluent limitations are not attained.

6. **Total Maximum Daily Loads for Sediment in Los Penasquitos Lagoon** [rationale provided in Section 5.4]

   d.(2) Lagoon Monitoring

   The Responsible Copermittees must monitor Los Peñasquitos Lagoon ***once per Permit term in the fall*** ~~***each Fall***~~ *for changes in the extent of the vegetation types as set forth below:*

7. **Alternative Process for Achieving Water Quality Objectives for Biostimulatory Substances in Loma Alta Slough** [rationale provided in Section 5.5]

(PROPOSED NEW PROVISION)

a. ***Resolution No. R9-2014-0020 - Resolution of Commitment to an Alternative Process for Achieving Water Quality Objectives for Biostimulatory Substances in Loma Alta Slough will serve as the regulatory approach to address the eutrophic conditions in Loma Alta Slough.***

b. ***The Responsible Copermittees will continue to implement the management actions and long-term monitoring plan consistent with the June 2016 Carlsbad WMA Water Quality Improvement Plan.***

c. ***Interim and final compliance shall be evaluated based on the interim and final goals within the Water Quality Improvement Plan, which may be modified through the adaptive management process with justification.***

d. ***Compliance with the prohibitions and requirements of the Regional MS4 Permit will result in the desired environmental outcome and attainment of beneficial uses for Loma Alta Slough by 2023.***