CALIFORNIA Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

June 6, 2016

Mr. Anthony Arevalo
Storm Water/Environmental Compliance Officer
City of Long Beach
333 W. Ocean Blvd., 9th Floor
Long Beach, CA 90802

REVIEW OF CITY OF LONG BEACH'S DRAFT INTEGRATED MONITORING PROGRAM, PURSUANT TO ATTACHMENT E, PART IV.A OF THE CITY OF LONG BEACH MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004003; ORDER NO. R4-2014-0024)

Dear Mr. Arevalo:

The Los Angeles Water Board has reviewed the draft monitoring program submitted on March 30, 2015 by the City of Long Beach (City). This monitoring program was submitted pursuant to the provisions of NPDES Permit No. CAS004003 (Order No. R4-2014-0024), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by the City of Long Beach (hereafter, City of Long Beach MS4 Permit). The City of Long Beach MS4 Permit allows the City the option to develop and implement an integrated monitoring program (IMP) that achieves the five Primary Objectives set forth in Part II.A of Attachment E and includes the elements set forth in Part II.D of Attachment E. This program must be approved by the Executive Officer of the Los Angeles Water Board.

The Los Angeles Water Board has reviewed the City's draft IMP for the non-Port area (Lower Long Beach Estuaries and Coastal San Pedro Bay Beaches) and has determined that, for the most part, the IMP for the non-Port area includes the elements set forth in Part II.D of Attachment E and will achieve the Primary Objectives set forth in Part II.A of Attachment E of the City of Long Beach MS4 Permit. However, some additions and revisions to the IMP for the non-Port area are necessary. The Los Angeles Water Board's comments on the draft IMP, including detailed information concerning necessary additions and revisions to the IMP, are found in Enclosure 1.

Please make the necessary additions and revisions to the IMP, as identified in the enclosures to this letter, and submit the revised IMP as soon as possible and no later than **July 6, 2016.** The revised IMP must be submitted to losangeles@waterboards.ca.gov with the subject line "City of Long Beach MS4 Permit – Revised City of Long Beach IMP – Non-Port area" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Erum.Razzak@waterboards.ca.gov.

Upon approval of the revised IMP by the Executive Officer, the City must prepare to commence its monitoring program within 30 days. If the necessary revisions are not made, the City must

comply with the Monitoring and Reporting Program and future revisions thereto, in Attachment E of the City of Long Beach MS4 Permit.

Until the City's IMP is approved by the Executive Officer, the monitoring requirements pursuant to Order No. 99-060 and Monitoring and Reporting Program CI 8052, and pursuant to approved TMDL monitoring plans shall remain in effect.

If you have any questions, please contact Ms. Erum Razzak of the Storm Water Permitting Unit by electronic mail at Erum.Razzak@waterboards.ca.gov or by phone at (213) 620-2095. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, by electronic mail at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

cc: Ara Maloyan, Director of Public Works, City of Long Beach
John L. Hunter, P.E., John L. Hunter and Associates, Inc.
Dylan Porter, Port of Long Beach
James Vernon, Port of Long Beach

Enclosures: Enclosure 1 – Summary of Comments and Required Revisions
Memorandum from Executive Officer to MS4 Permittees Clarifying Aquatic Toxicity Monitoring Requirements

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft IMP

City of Long Beach

Comments on Appendix 8, Section 8.2 "Lower Long Beach Estuaries and Coastal San Pedro Bay Beaches"

IMP Reference	MRP Element/ Reference (Attachment E)	Comment and Necessary Revision
General		
		The WMP acknowledges its participation in other Groups' CIMPs (Lower San Gabriel River, Lower Los Angeles River, and Los Cerritos Channel) that are part of the LA County MS4 Permit. For clarity, please provide a table that lists all the receiving water sites from these other CIMPs to which the City of Long Beach has MS4 discharges, all the constituents that will be monitored (e.g. field measurements, Table E-2 constituents, aquatic toxicity, TMDL pollutants, 303(d) listed pollutants, etc.), and which City of Long Beach monitoring requirements and constituents each of the 4 CIMPs/IMPs is addressing.
Section 1.2.3		Section 1.2.3, page 14, 1st sentence of the IMP references Dominguez Channel twice. The 2nd sentence also references Dominguez Channel. Clarify that the actual reference is to Dominguez Channel Estuary (below Vermont Avenue).
Table 2-1 & 3-4		Clarify the compliance method the City intends to use (i.e. compliance with sediment targets or compliance with SQO). If the compliance method will be direction comparison to sediment targets only, correct Table 2-1 footnote 7 of the IMP from "2.5 years" to "2 years". Likewise, correct Table 3-4 footnote 2 of the IMP from "2.5 years" to "2 years" consistent with the TMDL requirement to monitor for general sediment quality constituents and the full chemical suite as specified in SQO Part 1 once every two years. If the SQO compliance method is chosen, ensure that the revised IMP includes monitoring for all three elements of the triad sampling at the appropriate frequency. Additionally, the reference to footnote 6 in Table 2-1 is missing. Please add.
Table 3-2		In Table 3-2 of the draft IMP, please include selenium, lead and

IMP Reference	MRP Element/ Reference (Attachment E)	Comment and Necessary Revision
		zinc, which are listed as category 3 pollutants in the City's WMP. Additionally, eliminate the constituents in Table 3-2 that have footnote 4, 5 and 6. Neither the Lower San Gabriel River CIMP nor the Upper San Gabriel River CIMP lists the referenced constituents as stated.
Section 8		Under Section 8 of the IMP, Annual IMP Reports item c, please add "Municipal Action Levels (MALs)" to the list.
Appendix C		In Appendix C Table 1 of the IMP, move footnote 1 from SSC to PCBs.
Receiving Water Monitoring		
Section 1.2.4 & Table 2-1	Part II.D.1 (page E-4)	The scope (frequency & type(s)) of monitoring at station LBR1 is unclear in Section 1.2.4 & Table 2-1 of the draft IMP. Table 2-1 does not appear to list any receiving water monitoring at station LBR1 even though LBR1 is listed as a receiving water site in Table 1-1 of the draft IMP. Receiving water monitoring at this site should be included. Alternatively, provide a rationale for why receiving water monitoring at this station is not included.
Table 1-1 & 2-1		The IMP should acknowledge the final approved Colorado Lagoon TMDL Monitoring Plan dated 12/17/15. Additionally, please include the Colorado Lagoon TMDL Monitoring Plan as part of the attachments/appendix of the revised IMP. Table 1-1 of the IMP should include all the monitoring sites identified in the Colorado Lagoon TMDL Monitoring Plan. Additionally, Table 2-1 of the IMP should include Colorado Lagoon and indicate the monitoring frequency.
Section 1.2.3		Section 1.2.3 of the draft IMP states that there will be no monitoring for the two small drainages to Dominguez Channel Estuary due to the small drainage area and the similarity to the land use of the areas that will be monitored by the Bouton Creek Monitoring Station and the Termino Drain monitoring station. The Los Angeles Water Board will utilize the data from two monitoring sites indicated above to determine compliance with the Harbor Toxics TMDL.
Section 1.2.4	Part VI.A.1.b.ii (page E-11)	The revised IMP should explain how and why monitoring at the proposed receiving water sites will provide representative measurement of the effects of the City's MS4 on the receiving waters to which it discharges. As noted above, include in the revised IMP the receiving water monitoring sites in Colorado Lagoon. Also include in the revised IMP a description of the receiving water shoreline monitoring sites along the coastal San

IMP Reference	MRP Element/ Reference (Attachment E)	Comment and Necessary Revision
		Pedro Bay beaches.
Table 3-3	Part VI.C.1.d & VI.D.1.c (page E-13 to E-14)	Please make the following revisions for Table 3-3 of the IMP for Los Cerritos Channel Estuary and Alamitos Bay: • Footnote 3 should also specify that aquatic toxicity will be monitored for 1 of the 2 wet weather events during the first significant storm event of the storm year and for the month with the historically lowest flows. • Footnote 3 should specify aquatic toxicity testing at all outfall sites will be triggered by receiving water sites in Alamitos Bay and Los Cerritos Channel Estuary. • Correct table references for each category of constituents listed (e.g. Nutrients (Table 3-5) should be Nutrients (Table 3-7)). • Substitute BOD with cyanide as per information given in Section 3.1 of the IMP.
Table 3-4	Part VI.C.1.d & VI.D.1.c (page E-13 to E-14)	Please make the following revisions for Table 3-4 of the IMP for receiving water site San Gabriel River Estuary: • Add Nickel (a 303(d) listed pollutant) under metals. • Add monitoring 3 wet weather and 2 dry weather events for flow or clarify why flow will not be monitored. • Add aquatic toxicity monitoring for 2 wet and 1 dry weather event. Specify in a footnote that monitoring will occur during the first significant storm event of the year for one of the wet weather events and the month with the historically lowest flows. • With consideration that the San Gabriel River, Estuary and Tributaries Indicator Bacteria TMDL will be effective in the for the next permit cycle, the Microbiological Constituents (Table 3-6) should be monitored for 3 wet weather and quarterly dry weather events. • Correct the table references for each category of constituents listed (e.g. metals (Table 3-6) should be metals (Table 3-8)).
Table 3-4	Part VI.C.1.e (page E-13)	Add monitoring of Table E-2 constituents for the first significant storm event and critical dry weather event for the first year. If a parameter is not detected at the Method Detection Limit (MDL) for its respective test method or the result is below the lowest applicable water quality objective, and is not otherwise identified in Attachment E Part VI.C.1.d & VI.D.1.c of the City of Long Beach Permit, it need not be further analyzed. If a parameter is detected exceeding the lowest applicable water quality objective then the parameter shall be analyzed for the remainder of the Order during

IMP Reference	MRP Element/ Reference (Attachment E)	Comment and Necessary Revision
		wet weather at the receiving water monitoring station where it was detected. The same applies to dry weather.
Storm Water Outfall Based Monitoring		
	Part VIII.A.2.a (page E-19)	The draft IMP does not explain how the stormwater outfalls proposed for monitoring were chosen. Please clarify if the stormwater outfalls are chosen with at least one major outfall per HUC-12 drainage area within the City's jurisdiction or an alternative approach was used. The revised IMP should also provide justification on why the proposed outfalls best represent the land uses within the City's jurisdiction. To provide sufficient justification, the City must provide a land use map that shows the catchment area (also known as the drainage area) for each outfall and tabular data. Specifically, the table should include: • Land use breakdown (acres and percent) for the entire City • Individual breakdowns for the catchment area within the City that drains to each of the outfalls.
Table 1-1		As per the Long Beach City Beaches and Los Angeles River Estuary TMDL for Indicator Bacteria, there are 16 monitoring sites that are in the City of Long Beach's jurisdictional area. Station LARE is being monitored under the Lower Los Angeles River Group's CIMP. Therefore, the IMP should cover the remaining 15 bacteria monitoring sites. However, As per Table 1-1 of the IMP, only 5 bacteria monitoring sites are proposed. Please include the other 10 monitoring sites in Table 1-1. Alternatively, please provide a rationale for why only 5 out of the 15 monitoring sites are proposed (e.g. open beach site/no MS4 outfall).
Section 1.2.3, 1.2, & Table 1-1		According to Table 1-1 and Section 1.2 and 1.2.3 of the draft IMP, outfall monitoring at LBE3 (Belmont Pump Station to Alamitos Bay) will be discontinued because 14 years of data is available. Furthermore, the IMP states that there are dry weather diversions to the sanitary system and marked improvement in compliance with bacteria limits. The revised IMP should provide additional justification for the discontinuation of monitoring at the location (e.g. no exceedances of any WQBELs at that outfall during wet and dry weather, or other outfalls in the HUC-12 adequately characterize MS4 discharges to Alamitos Bay).
Section 2		Section 2 of the draft IMP sub-heading "City Beach Bacterial Monitoring Program" mentions the installation of diversions (summer and winter dry weather). Please provide a map with locations of the diversions and a list indicating if any of those diversions are diverting flows from any of the 15 shoreline monitoring sites.

IMP Reference	MRP Element/ Reference (Attachment E)	Comment and Necessary Revision
Section 2 & Table 2-1	Part VI.B.2.c (page E-11 to E-12)	The draft IMP proposes a bacteria indicator monitoring frequency of 2 times per week. However, the City of Long Beach MS4 Permit states for Shoreline Monitoring Stations monitored pursuant to a bacteria TMDL "Sampling for bacterial indicators (total coliform, fecal coliform (or E. coli), and enterococcus) at shoreline monitoring locations associated with an MS4 outfall and addressed by a TMDL shall be conducted 3-5 times per week at sites subject to the reference system criterion for allowable exceedance days, and weekly at sites subject to the antidegradation criterion for allowable exceedance days." Note that as per the USEPA Long Beach City Beaches and Los Angeles River Estuary TMDL for Indicator Bacteria, sites B64, B65, B10, and B66 are subject to the antidegradation criterion for winter dry weather. The revised IMP should propose a monitoring frequency consistent with the requirements listed above.
Section 2		Section 2 of the IMP under "Outfall Stormwater Monitoring" should clarify that parameters in Table E-2 identified as exceeding the lowest applicable water quality objective in the nearest downstream receiving water monitoring station will be monitored for a 3 wet weather events per year.
Section 5.1	Part VIII.B.1.b.iii (page E-19)	The revised IMP should clarify that stormwater outfalls will be monitored during wet weather conditions resulting from the first rain event of the year, and at least two additional wet weather events within the same wet weather season.
Table 6-3	Part VII.A (page E-18)	Please ensure that all the components identified in Table 6-3 of the draft IMP are submitted as per the timelines indicated.
Table 6-3	Part VII.A (page E-18)	Although Figure 1-1 and 1-2 of the draft IMP show surface water bodies, the IMP should provide a map that clearly labels each surface water body within the City's jurisdiction covered by this IMP.
Table 6-3	Part VII.A (page E-18)	Table 6-3 footnote number 2 of the IMP references shapefiles. However, no shapefiles have been submitted. Please provide the shapefiles.
Table 6-3	Part VII.A (page E-18)	Table 6-3 of the draft IMP marks the location of all dry weather diversions as complete. However, the IMP does not include a map with the locations of all dry weather diversions. Please provide the locations.
	Part VIII.C.1 (page E-20)	As per Appendix A of the IMP, autosamplers will be used. The revised IMP should clarify that samples shall be collected during the first 24 hours of the stormwater discharge or for the entire stormwater discharge if it is less than 24 hours.

IMP Reference	MRP Element/ Reference (Attachment E)	Comment and Necessary Revision
Non-Storm Water Outfall Based Monitoring		
Section 1.2.5	Part IX.B.1 (page E-21)	Section 1.2.5 of the IMP states that outfalls with significant non-stormwater flow will be identified on the basis of 3 outfall screening surveys. Please specify what the criteria are for a significant non-stormwater discharge and whether the criteria need to be met for all 3 screening surveys for the non-stormwater discharge to be considered a significant non-stormwater discharge.
Section 2	Part IX.C.1 (page E-22)	Section 2 of the IMP under sub-heading "Non-Stormwater Outfall Monitoring Program", it states that "*outfalls with significant non-tidal flow will be classified for further investigation*". The IMP should be revised to define significant non-tidal flow.
Section 6.1	Part IX.C.1 (page E-22)	Section 6.1 of the draft IMP categorizes a significant discharge with high/low flow and physical indicators, but insufficient detail is provided on the criteria/thresholds for flow or physical indicators. Add specificity to the revised IMP regarding how a significant non-stormwater discharge will be defined/determined. In particular, provide greater specificity on thresholds for field measurements, including flow and water quality data that will be used to determine whether the non-stormwater discharge is significant. Also, please define "high flow" which is referenced for "Suspect Discharge".
Section 6.1.5	Part IX.G.4-5 (page E-25)	Section 6.1.5 of the IMP states that "*if monitoring demonstrates that discharges do not exceed any WQBELs, non-stormwater action levels, or water quality standards for pollutants identified on the 303(d) list after the first year, monitoring of the pollutants meeting all receiving water limitations will no longer be necessary.*" As per the City of Long Beach MS4 Permit, the City must submit a written request to the Executive Officer to reduce or eliminate monitoring of specified pollutants based on an evaluation of the monitoring data.
Aquatic Toxicity		
Section 4.5		Section 4.5 of the IMP states that monitoring for constituents identified in the TIE "*will occur as soon as feasible following the completion of a successful TIE (i.e., the next monitoring event that is at least 45 days following the toxicity laboratory's reports transmitting the results of a successful TIE).*" Please revise this statement substituting "*45 days following the toxicity laboratory's report transmitting the results of a successful TIE)*" with "45 days following the initial sampling event" consistent with the August 07, 2015 clarification memo.
Sensitive Species	Part XII.G.3	The three-species screening process described in Part XII.G.3.

IMP Reference	MRP Element/ Reference (Attachment E)	Comment and Necessary Revision
Selection		(Page E-29) of the MRP must be followed at each of the receiving water sites to identify the most sensitive species. The Permittee suggests screening two species for sensitivity and mentions issues of practicality or logistics which limit the ability to test using other species. We suggest consulting the State Water Resources Control Board 2011 publication, "Implementation Guidance: Toxicity Testing for Stormwater" to gain insight on how to run chronic toxicity tests on marine wet weather samples.

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

TO: Los Angeles County MS4 Permittees and City of Long Beach

FROM: Samuel Unger, P.E.
Executive Officer

DATE: August 7, 2015

SUBJECT: CLARIFICATION REGARDING FOLLOW-UP MONITORING REQUIREMENTS IN RESPONSE TO OBSERVED TOXICITY IN RECEIVING WATERS PURSUANT TO THE MONITORING & REPORTING PROGRAM (ATTACHMENT E) OF THE LOS ANGELES COUNTY MS4 PERMIT (ORDER NO. R4-2012-0175)

The Los Angeles County MS4 Permit, Attachment E requires chronic aquatic toxicity monitoring in receiving waters during both wet and dry weather conditions to determine whether designated beneficial uses are fully supported. Further, Attachment E requires additional monitoring at MS4 outfalls where aquatic toxicity is present above a certain effect level in downstream receiving waters to determine whether MS4 discharges are causing or contributing to the aquatic toxicity. In this situation, outfall monitoring must either entail monitoring for specific pollutants identified in a toxicity identification evaluation (TIE) in the downstream receiving water, or for aquatic toxicity itself, where the specific pollutants could not be identified through the TIE conducted on the downstream receiving water.

In its comments on the draft Integrated Monitoring Programs (IMPs) and Coordinated Integrated Monitoring Programs (CIMPs) submitted per the Los Angeles County MS4 Permit, the Los Angeles Water Board provided clarification and recommendations to Permittees regarding aquatic toxicity monitoring, particularly pertaining to the requirement to conduct chronic toxicity tests in dry and wet weather conditions and requirements for conducting a TIE and outfall monitoring. Subsequently, on December 9, 2014, Board staff met with several Permittees regarding its comments. During this meeting it was apparent that further clarification was necessary regarding requirements for follow-up monitoring when aquatic toxicity is present in downstream receiving waters. This memo provides additional clarification and applies to all IMPs and CIMPs developed pursuant to Part VI.B of the Los Angeles County MS4 Permit and Part VII.B of the City of Long Beach MS4 Permit.

It is acknowledged, however, that this memo may not address every situation that is encountered. We encourage the Permittees to approach toxicity testing and the TIE and TRE procedures thoughtfully and thoroughly in the interest of identifying and eliminating any source(s) of toxicity in MS4 discharges as expeditiously as possible and to consult with Los Angeles Water Board staff if you need assistance or clarification.

If you have any questions regarding these clarifications, please contact Renee Purdy at Renee.Purdy@waterboards.ca.gov or Shirley Birosik at Shirley.Birosik@waterboards.ca.gov.

The memo addresses requirements for follow-up monitoring in four **receiving water** scenarios where toxicity is present:

- Toxicity is present, but not above the TIE trigger as defined in Attachment E, Part XII.I.1[1];
- Toxicity is present above the TIE trigger and the TIE identifies the constituent(s) causing the toxicity;
- Toxicity is present above the TIE trigger during wet weather, but the TIE is inconclusive; and
- Toxicity is present above the TIE trigger during dry weather, but the TIE is inconclusive.

The memo also addresses the several scenarios once **outfall** toxicity testing has been triggered. Attached to the memo are several simplified flowcharts to aid in understanding the process.

An inconclusive TIE is defined as a TIE for which the cause of toxicity cannot be attributed to a constituent or class of constituents (e.g., metals, insecticides, etc.) that can be targeted for monitoring even after conducting appropriate Phase I and Phase II TIE treatments. This outcome may result from either non-persistent toxicity such that the TIE treatments cannot be successfully completed on the toxic sample, or from the inability with available Phase I and Phase II TIE treatments to isolate the constituent or class of constituents causing the toxicity. If the TIE is inconclusive due to non-persistent toxicity, the Los Angeles Water Board expects that Permittees will proactively identify and implement actions during the subsequent upstream and/or outfall toxicity sampling event to improve the likelihood of a conclusive TIE, while also following the steps below. Where a TIE is inconclusive due to the inability to determine the constituent(s) causing the toxicity, Permittees should evaluate further steps to improve the TIE outcome including sensitive species selection, QA/QC, and the need to conduct Phases I through III of a TIE, among others.

An **inconclusive TIE** is one for which the cause of toxicity cannot be identified after the conclusion of TIE Phases I and II.

If a TIE is inconclusive:

- ✓ Check QA/QC
- ✓ Evaluate sensitive species selection
- ✓ Initiate future TIEs earlier (to address non-persistent toxicity)
- ✓ Conduct all phases of TIE

[1] Permit references correspond to the Los Angeles County MS4 Permit (Order No. R4-2012-0175)

TRIGGERS FOR ADDING TOXICITY MONITORING TO *UPSTREAM RECEIVING WATER MONITORING / OUTFALL MONITORING*:

1. If toxicity is present as determined based on a fail of the Test of Significant Toxicity (TST) t-test as specified in the Permit (Attachment E, Part XII.G.4) during wet or dry weather, but not above the TIE trigger (which is defined as when the survival or sublethal endpoint demonstrates a >=50 Percent Effect at the IWC as per Attachment E, Part XII.I.1), then:
    a. Toxicity monitoring will be added to the next existing upstream receiving water site(s) during the same condition (wet or dry weather) for which toxicity was determined to be present. Monitoring for toxicity at the next existing upstream receiving water site(s) will occur during the next monitoring event that is at least 30 days following the original toxicity sample collection. Toxicity monitoring at individual receiving water sites will continue until (1) the deactivation criterion (i.e., two consecutive samples that pass the pass/fail TST t-test during the same condition) is met at the receiving water site or (2) a TIE is triggered and conclusively identifies the constituent or class of constituents causing toxicity, in which case the process outlined in Bullet 2 below is followed. OR
    b. If there is no upstream receiving water monitoring site already established as part of the monitoring program, continue receiving water toxicity monitoring at the original site until (1) the deactivation criterion (i.e., two consecutive samples that pass the pass/fail TST t-test during the same condition) is met at the original receiving water site or (2) a TIE is triggered at the original site and conclusively identifies the constituent or class of constituents causing toxicity, in which case the process outlined in Bullet 2 below is followed. Also, conduct an evaluation similar to the TRE outlined in Attachment E, Part XII.J to identify, to the extent practicable, the source(s) of toxicity with the goal of identifying cause(s) of toxicity, paying particular attention to sources of potential constituent(s) causing toxicity (e.g., fipronil).
        i. If there is no upstream receiving water monitoring site already established as part of the monitoring program and toxicity is present during <u>dry weather</u>, actions taken as part of the non-stormwater program (e.g., source identification and elimination or treatment of unauthorized non-stormwater discharges that are a source of pollutants) should be utilized to support the TRE.
        ii. If there is no upstream receiving water monitoring site already established as part of the monitoring program and toxicity is present during <u>wet weather</u>, consider the following actions to support TRE: evaluating land uses and potential associated source(s) in the drainage area, evaluation of other permitted discharges, and evaluation of inspection activities. AND
    c. If there is no upstream receiving monitoring site already established as part of the monitoring program and more than one occurrence of a fail of the TST t-test occurs at the original receiving water site within 3 years, then evaluate opportunities to conduct toxicity monitoring at upstream receiving water sites (either newly established or sites utilized by other monitoring programs), including tributaries.

2. If toxicity is present at a level exceeding the TIE trigger and the TIE identifies the constituent or class of constituents causing toxicity, then:
    a. Do not add toxicity monitoring to upstream sites. AND
    a. During the same condition, add the identified constituent or constituents within the class of constituents[2] to the monitoring site where toxicity was identified, the upstream receiving water site(s), and upstream outfall site(s) starting with the next monitoring event that is at least 45 days following the toxicity sample collection. Monitoring for the identified constituent(s) will continue until the deactivation criterion (i.e., two consecutive samples do not exceed Receiving Water Limitations (RWLs), Water Quality Based Effluent Limitations (WQBELs), or other appropriate threshold or guideline if there is no numeric RWL or WQBEL, for the identified constituents during the same condition) is met at the individual site. Where constituent(s) are identified in the outfall(s) above the RWL(s), WQBEL(s), or other appropriate threshold or guideline commence TRE at each corresponding outfall location per Attachment E, Part XII.J.
3. If toxicity is present at a level exceeding the TIE trigger during wet weather and the TIE is inconclusive, then:
    a. Add toxicity monitoring to the next existing upstream receiving water site(s) during the next monitoring event that is at least 45 days following the original toxicity sample collection. Toxicity monitoring at individual receiving water site(s) will continue until (1) the deactivation criterion (i.e., two consecutive samples that pass the pass/fail TST t-test during the same condition) is met at the receiving water site or (2) a TIE is triggered and conclusively identifies the constituent or class of constituents causing toxicity, in which case the process outlined in Bullet 2 above is followed. AND
    b. The second inconclusive TIE in 3 years during wet weather would trigger outfall toxicity testing at upstream outfall sites (i.e., (1) outfall sites located between the receiving water site and the nearest upstream receiving water site located on the same waterbody and (2) outfall sites located on tributaries that have a confluence with the waterbody where the confluence is located between the receiving water site and the nearest upstream receiving water site located on the same waterbody) following the process outlined below in "Steps Related Outfall Toxicity Testing" during the next monitoring event that is at least 45 days following the original toxicity sample collection. OR
    c. As an alternative to the outfall monitoring described in Bullet 3.b., Permittees may propose an alternative approach any time after the first inconclusive TIE, which could include utilizing upstream receiving water sites (either newly established or sites utilized by other monitoring programs), including tributaries, additional outfall sites, and/or different outfall sites. However, the outfall monitoring approach described in Bullet 3.b. must be followed until Regional Water Board EO approval of the alternative approach.

[2] Using appropriate detection limits

4. If toxicity is present at a level exceeding the TIE trigger during dry weather and the TIE is inconclusive, then:
    a. Add toxicity monitoring to the next existing upstream receiving water site(s) during the next monitoring event that is at least 45 days following the original toxicity sample collection. Toxicity monitoring at individual receiving water site(s) will continue until (1) the deactivation criterion (i.e., two consecutive samples that pass the pass/fail TST t-test during the same condition) is met at the receiving water site or (2) a TIE is triggered and conclusively identifies the constituent or class of constituents causing toxicity, in which case the process outlined in Bullet 2 above is followed during the next monitoring event that is at least 45 days following the original toxicity sample collection. AND
    b. Add toxicity testing to upstream outfall sites (i.e., (1) outfall sites located between the receiving water site and the nearest upstream receiving water site located on the same waterbody and (2) outfall sites located on tributaries that have a confluence with the waterbody where the confluence is located between the receiving water site and the nearest upstream receiving water site located on the same waterbody) following the process outlined below in "Steps Related Outfall Toxicity Testing" during the next monitoring event that is at least 45 days following the original toxicity sample collection. OR
    c. As an alternative to the outfall monitoring described in Bullet 4.b above, Permittees may propose an alternative approach any time after the first inconclusive TIE, which could include utilizing upstream receiving water sites (either newly established or sites utilized by other monitoring programs), including tributaries, additional outfall sites, and/or different outfall sites. However, the outfall monitoring approach described in Bullet 4.b above must be followed until Regional Water Board EO approval of the alternative approach.

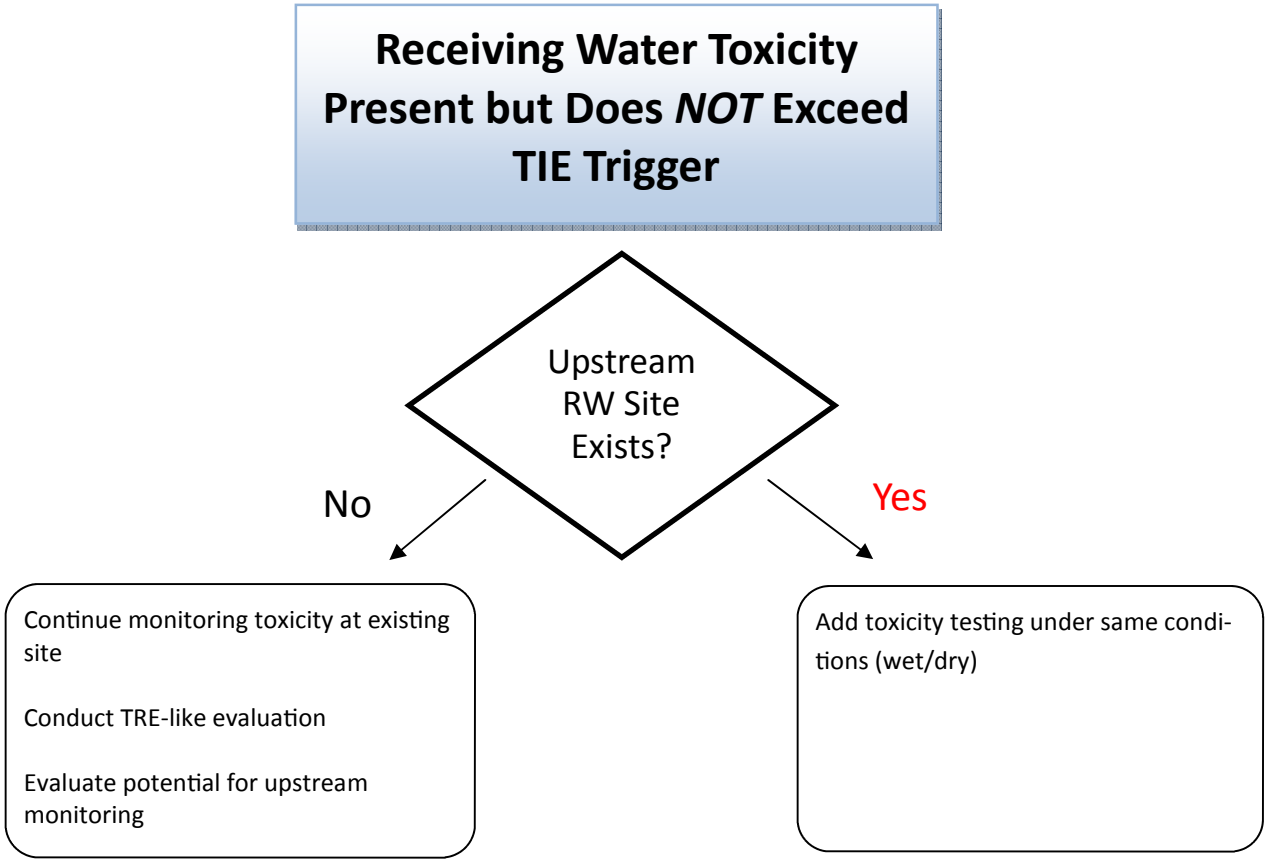
STEPS RELATED TO *OUTFALL TOXICITY TESTING* ONCE TRIGGERED:

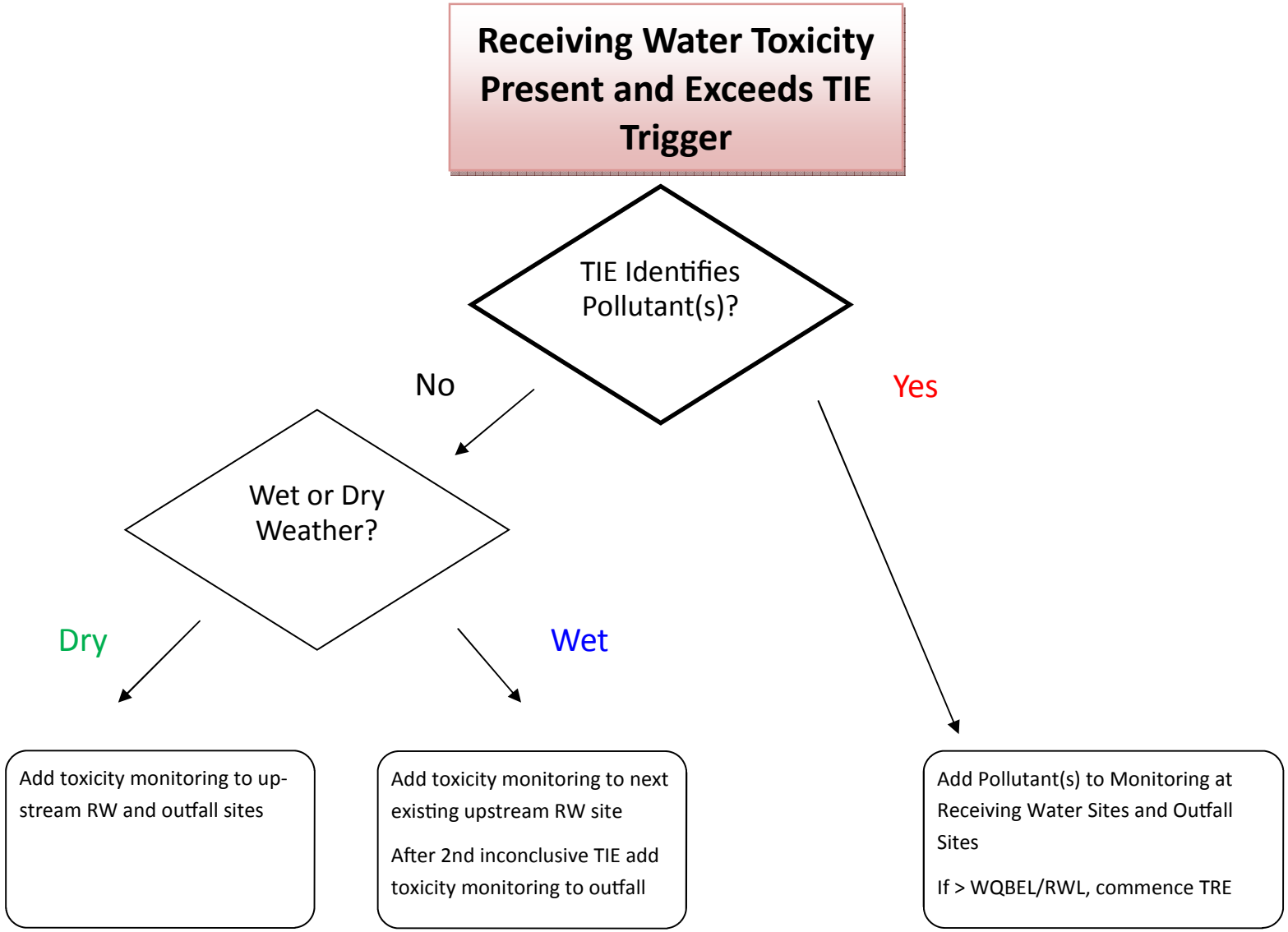
1. If toxicity is not present as determined based on pass of the TST t-test as specified in the Permit, then continue toxicity testing during the same condition
2. (i.e. wet or dry weather) until (1) meeting the deactivation criterion (i.e., two consecutive samples that pass the pass/fail TST t-test during the same condition), or (2) a TIE conducted at the downstream receiving water site conclusively identifies the constituent or class of constituents causing toxicity, or (3) the discharge is eliminated.
3. If toxicity is present as determined based on fail of the TST t-test as specified in the Permit, but not above the TIE trigger, then continue toxicity testing during the same condition until (1) meeting the deactivation criterion (i.e., two consecutive samples that pass the pass/fail TST t-test during the same condition), or (2) a TIE conducted at a downstream receiving water site conclusively identifies the constituent or class of constituents causing toxicity, or (3) the discharge is eliminated. Concurrently conduct an evaluation similar to the TRE in Attachment E, Part XII.J to identify, to the extent practicable, the source(s) of toxicity with the goal of addressing cause(s) of toxicity, paying particular attention to sources of potential constituent(s) causing toxicity (e.g., fipronil).

a. If toxicity is present in the non-stormwater discharge, actions taken as part of the non-stormwater program (e.g., source identification and elimination or treatment of unauthorized non-stormwater discharges that are a source of pollutants) should be utilized to support the TRE.
b. If toxicity is present in the stormwater discharge, consider the following actions to support the TRE: evaluating land uses and potential associated source(s) in the drainage area, evaluation of other permitted discharges, and evaluation of inspection activities.

4. If toxicity is present at a level exceeding the TIE trigger and the TIE identifies the constituent or class of constituents causing toxicity, then:
    a. Discontinue toxicity testing at the outfall. AND
    b. Add the identified constituent or constituents within the identified class of constituents[3] during the same condition starting with the next monitoring event that is at least 45 days following the toxicity sample collection and monitor for those constituents at the outfall until meeting the deactivation criterion for those constituents (i.e., two consecutive samples do not exceed RWLs, WQBELs, or other appropriate threshold or guideline if there is no numeric RWL or WQBEL, for identified constituents), while simultaneously performing a TRE for the constituent(s) causing toxicity per Attachment E, Part XII.J.
5. If toxicity is present at a level exceeding the TIE trigger and the TIE is inconclusive, then continue toxicity testing during the same condition until (1) meeting the deactivation criterion (i.e., two consecutive samples that pass the pass/fail TST t-test during the same condition), or (2) a TIE identifies the constituent or class of constituents causing toxicity (proceed with following the process outlined in Bullet 3, above), or (3) eliminate the discharge. Concurrently conduct an evaluation similar to the TRE in Attachment E, Part XII.J to identify, to the extent practicable, the source(s) of toxicity with the goal of addressing cause(s) of toxicity, paying particular attention to identifying sources of potential constituent(s) causing toxicity that may not have been evaluated in the TIE (e.g., fipronil).
    a. If the TIE is inconclusive in the non-stormwater discharge, actions taken as part of the non-stormwater program (e.g., source identification and elimination or treatment of unauthorized non-stormwater discharges that are a source of pollutants) should be utilized to support the TRE.
    b. If the TIE is inconclusive in the stormwater discharge, consider the following actions to support the TRE: evaluating land uses and potential associated source(s) in the drainage area, evaluation of other permitted discharges, and evaluation of inspection activities.

[3] Using appropriate detection limits


Receiving Water Toxicity Present but Does *NOT* Exceed TIE Trigger
Upstream RW Site Exists?
No
Yes
Continue monitoring toxicity at existing site
Conduct TRE-like evaluation
Evaluate potential for upstream monitoring
Add toxicity testing under same conditions (wet/dry)


Receiving Water Toxicity Present and Exceeds TIE Trigger
TIE Identifies Pollutant(s)?
No
Yes
Wet or Dry Weather?
Dry
Wet
Add toxicity monitoring to up-stream RW and outfall sites
Add toxicity monitoring to next existing upstream RW site
After 2nd inconclusive TIE add toxicity monitoring to outfall
Add Pollutant(s) to Monitoring at Receiving Water Sites and Outfall Sites
If > WQBEL/RWL, commence TRE

Outfall Toxicity Testing Once Triggered