
Los Angeles Regional Water Quality Control Board

January 7, 2015

Dr. Shahram Kharaghani
City of Los Angeles
Department of Public Works, Bureau of
Sanitation
Watershed Protection Division
1149 South Broadway, 10th Floor
Los Angeles, CA 90015

Ms. Gail Farber, Chief Engineer
Los Angeles County Flood Control District
Department of Public Works
Watershed Management Division, 11th Floor
900 South Fremont Avenue
Alhambra, CA 91803

REVIEW OF THE CITY OF LOS ANGELES AREA IN SANTA MONICA BAY JURISDICTIONAL GROUP 7 SUBWATERSHED COORDINATED INTEGRATED MONITORING PROGRAM, PURSUANT TO PART VI.B AND ATTACHMENT E, PART IV.B OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Dr. Kharaghani and Ms. Farber:

The Regional Water Board has reviewed the monitoring program submitted on June 27, 2014 by the City of Los Angeles (City) and Los Angeles County Flood Control District (LACFCD) for the City of Los Angeles' land area and the LACFCD's infrastructure within Jurisdictional Group 7 of the Santa Monica Bay Watershed Management Area. This monitoring program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop and implement, in coordination with an approved Watershed Management Program per Part VI.C, a customized monitoring program that achieves the five Primary Objectives set forth in Part II.A of Attachment E and includes the elements set forth in Part II.E of Attachment E. Customized monitoring programs may be developed on an individual jurisdictional basis, referred to as an Integrated Monitoring Program (IMP), or on a watershed basis, referred to as a Coordinated Integrated Monitoring Program (CIMP). These programs must be approved by the Executive Officer of the Regional Water Board.

The Regional Water Board has reviewed the City's and LACFCD's monitoring program and has determined that the monitoring program submitted did not include sufficient detail regarding some of the elements set forth in Part II.E to achieve the Primary Objectives as set forth in Part II.A of Attachment E of the LA County MS4 Permit. In particular, dry weather receiving water monitoring and storm-borne sediment sampling for DDTs and PCBs was lacking. The Regional Water Board's comments on the City of Los Angeles area in SMB JG7 CIMP, including detailed information concerning necessary additions and revisions to the CIMP, are found in Enclosure 1 and Enclosure 2.

Please make the necessary additions and revisions to the CIMP, as identified in the enclosures to this letter, and submit the revised CIMP as soon as possible and no later than **April 7, 2015**. The revised CIMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised City of LA SMB JG7 Coordinated Integrated Monitoring Program" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Rebecca.Christmann@waterboards.ca.gov.

Upon approval of the revised CIMP by the Executive Officer, the City and LACFCD must prepare to commence the monitoring program within 90 days. If the necessary revisions are not made, the City and LACFCD must comply with the Monitoring and Reporting Program and future revisions thereto, in Attachment E of the LA County MS4 Permit.

Until the City's and LACFCD's CIMP is approved by the Executive Officer, the monitoring requirements pursuant to Order No. 01-182 and Monitoring and Reporting Program CI 6948, and pursuant to approved TMDL monitoring plans shall remain in effect for the City and LACFCD.

If you have any questions, please contact Ms. Rebecca Christmann of the Storm Water Permitting Unit by electronic mail at Rebecca.Christmann@waterboards.ca.gov or by phone at (213) 576-5734. 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, P.E.
Executive Officer

cc: Donna Chen, City of Los Angeles
Hubertus Cox, City of Los Angeles
Hamid Tadayon, City of Los Angeles
Angela George, County of Los Angeles, Department of Public Works

Enclosures: Enclosure 1 – Summary of Comments and Required Revisions
Enclosure 2 – Comments on Aquatic Toxicity Testing

Los Angeles Regional Water Quality Control Board

Enclosure 1 to January 7, 2015 Letter Regarding the City of Los Angeles Area in Santa Monica Bay Jurisdictional Group 7 Subwatershed Draft Coordinated Integrated Monitoring Program, Pursuant to Part VI.B and Attachment E, Part IV.B of the LA County MS4 Permit (Order No. R4-2012-0175)

Summary of Comments and Required Revisions to the Draft Integrated Monitoring Program

CIMP Reference	MRP Element/ Reference (Attachment E)	Summary of Comments and Necessary Revisions
General Comments		
Section 1.1, pp. 1 - 7	Part VI.C.5.a.i Water Quality Characterization	The geographical scope of this CIMP is the City of Los Angeles' land area and the LACFCD's infrastructure within Santa Monica Bay (SMB) Jurisdictional Group 7 (JG7) subwatershed. As documented in the Regional Water Board letter dated January 20, 2004, the subwatershed boundary of the Jurisdictional Group 7 was changed to include the Point Fermin subwatershed at the southern boundary of JG7. The revised CIMP needs to make this correction throughout the document, which includes adding Point Fermin Park Beach to the bulleted list of receiving waters on page 7. This correction also needs to be reflected in the revised WMP.
Section 2, Figure 4, and Table 5	Part VI.C.5.a.i Water Quality Characterization	Figure 4 and Table 5 need to be revised to include the shoreline monitoring location SMB 7-09.
Receiving Water Monitoring		
Section 2.1.1, pg. 13	Attachment E Part II.E.1, pg. E-4	SMB Beaches Bacteria TMDL monitoring needs to continue at monitoring sites SMB 7-06, SMB 7-08, and SMB 7-09 in accordance with the approved Santa Monica Bay Beaches Bacteria TMDL Coordinated Shoreline Monitoring Plan (CSMP).
Section 2.1.1, pg. 13	Attachment E Part VI.B.2.c., pg. E-14	Monitoring site SMB 7-07, a point zero sampling location, was destroyed in a landslide in 2009. A new point zero sampling site needs to be established to replace SMB 7-07. The new SMB Beaches Bacteria TMDL compliance location will be subject to the reference system criterion for allowable exceedance days until sufficient data are collected to evaluate whether the site should alternatively be subject to the antidegradation criterion. The new shoreline monitoring location shall be sampled for three bacterial indicators (total coliform, fecal coliform (or <i>E. coli</i>) and enterococcus) five (5) times per week pursuant to Part VI.B.2.c of Attachment E. After one (1) year of

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		sampling the Permittee may request a reduction of the sampling frequency based on the exceedance rate.
Section 2.1.3, pp. 14 - 15	Attachment E Part II.E.1, pg. E-4	<p>The CIMP states that compliance with the WLAs for DDTs and PCBs will be assessed through monitoring conducted as part of the JG2/JG3 CIMP in Santa Monica Canyon Channel rather than sampling in the JG7 WMP Group area.</p> <p>The TMDL provides input on stormwater monitoring and states, "Monitoring should be conducted on a coordinated watershed-wide basis. The monitoring design and assessment framework should be designed to provide credible estimates of the total mass loadings to the Bay. Any such estimates will require some extrapolation from a few locations to the entire watershed. Stormwater permittees should document the methodology for any such extrapolation." (USEPA Region IX, 2012, Santa Monica Bay Total Maximum Daily Loads for DDTs and PCBs, page 56).</p> <p>If the City and LACFCD intend to rely on sampling in Santa Monica Canyon Channel, the methodology and justification for applying the sampling results from Santa Monica Canyon Channel to the City of LA area in Jurisdictional Group 7 needs to be presented in the CIMP. Based on an initial evaluation, it seems that there may be more representative sampling locations from which to extrapolate pollutant loads for the City of LA area within Jurisdictional Group 7. Santa Monica Canyon is over ten times larger, has a different land use distribution, and is located in a very different geographic area than the City of LA area within Jurisdictional Group 7. For example, it may be more appropriate to look at other stormwater data collected from storm drains on the Palos Verdes Peninsula.</p>
Section 2.3, Table 9, and Section 2.3.1, pg. 18	Attachment E Part VI.C.1.a page E-15	The bacterial indicators total coliform, <i>E. coli</i> (fecal coliform) and enterococcus need to be sampled three times per year during wet weather at the receiving water station as required per Part VI.C.1.a of Attachment E.
Section 2.3, Table 9, and Section 2.3.1, pg. 18	Attachment E Part VI.C.1.d.iii pp. E-15 & E-16	The CIMP does not appear to include wet weather receiving water monitoring for DDTs and PCBs, which may be transported through the MS4 to Santa Monica Bay during storm events. The SMB TMDL for DDTs and PCBs recommends that MS4 Permittees filter water samples from mass emission stations (i.e., receiving water stations) and analyze the sediment for DDTs and PCBs. The revised CIMP needs to indicated through what program(s) monitoring of the receiving water for PCBs and DDT will be conducted consistent with the EPA established TMDL, or propose such monitoring as part of the CIMP.
Section 2.3,	Attachment E	In the third sentence of footnote 2 of Table 9, replace the reference to

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Table 9, footnote 2 and Section 2.3.1, pg. 18	Part VI.C.1.e page E-16	the MRP, with the language from the MRP as follows, “For pollutants detected above the lowest applicable water quality objective, future monitoring will be conducted at the frequency specified in the MRP then these pollutants will be analyzed for the duration of the LA MS4 Permit during wet weather at the receiving water monitoring station where it was detected. In addition, make the conforming change to the language in Section 2.3.1.
Section 2.3, Table 9, and Section 2.3.2, pp. 18-19	Attachment E Part VI.D.1.a page E-16	<p>The CIMP did not propose dry weather receiving water monitoring unless it is triggered by the non-storm water outfall screening program. The objectives of the dry weather receiving water monitoring program include more than just determining whether a non-storm water discharge is causing or contributing to an exceedance of the receiving water quality. The objectives of the receiving water monitoring program also include:</p> <ul style="list-style-type: none"> • Determining whether the receiving water limitations are being achieved; • Assessing trends in pollutant concentrations over time, or during specified conditions; and • Determining whether the designated beneficial uses are fully supported as determined by water chemistry, as well as aquatic toxicity and bioassessment monitoring. <p>The revised CIMP needs to comply with all the dry weather receiving water monitoring requirements as contained in Attachment E, Part VI.D of the LA County MS4 Permit, or indicate how these objectives are being met for the receiving water adjacent to the City of LA area within Jurisdictional Group 7 by another program(s).</p>
MS4 Infrastructure Information		
Section 3, pg. 20	Attachment E Part VII.A pp. E-20 & E-21	The revised CIMP needs to include the sources of the Geographic Information System (GIS) data used to generate the maps and database. In addition, submit the GIS database per the requirements in Attachment E, Part VII.A of the LA County MS4 Permit.
Storm Water Outfall Based Monitoring		
Section 4.3, and Table 11, pp. 22-23	Attachment E Part VIII.B.1.c pp. E-22 & E-23	<p>The CIMP does not include stormwater outfall monitoring of DDTs and PCBs, which are pollutants addressed by a TMDL. Per Attachment E, Part VIII.B.1.c.ii, these pollutants must be monitored in stormwater discharges.</p> <p>As stated above, the CIMP states that compliance with the WLAs for DDTs and PCBs will be assessed through monitoring conducted as part of the JG2/JG3 CIMP in Santa Monica Canyon Channel rather than sampling in the JG7 WMP Group area.</p>

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		<p>The TMDL provides input on stormwater monitoring and states, “As both DDT and PCBs are highly associated with particles, monitoring should focus on sediment particles which may be transported during storms (e.g., as in Curren et al., 2011). We recommend that stormwater permittees filter water from their mass emission stations and analyze particles for DDT and PCBs. This will provide more meaningful estimates of mass loading than traditional water column sampling. We also recommend using sufficiently sensitive methods for DDT and PCBs (e.g. EPA method 1668c for PCB congeners). Monitoring should be conducted on a coordinated watershed-wide basis. The monitoring design and assessment framework should be designed to provide credible estimates of the total mass loadings to the Bay. Any such estimates will require some extrapolation from a few locations to the entire watershed. Stormwater permittees should document the methodology for any such extrapolation.” (USEPA, Region IX, 2012, Santa Monica Bay Total Maximum Daily Loads for DDTs and PCBs, page 56).</p> <p>If the City and LACFCD intend to rely on sampling in Santa Monica Canyon Channel, the methodology and justification for applying the stormwater sampling results from Santa Monica Canyon Channel to the City of LA area in Jurisdictional Group 7 needs to be presented in the CIMP. Based on an initial evaluation, it seems that there may be more representative sampling locations from which to extrapolate pollutant loads for the City of LA area within Jurisdictional Group 7. Santa Monica Canyon is over ten times larger, has a different land use distribution, and is located in a very different geographic are than the City of LA area within Jurisdictional Group 7. For example, it may be more appropriate to look at other stormwater data collected from storm drains on the Palos Verdes Peninsula.</p>
Section 4.3, and Table 11, pp. 22-23	Attachment E Part VIII.B.1.d page E-23	The CIMP proposes not to analyze the parameters listed in Attachment E, Table E-2 of the LA County MS4 Permit until after the first year of receiving water monitoring data has been reviewed. Wet weather receiving water monitoring of the parameters listed in Table E-2 is required to be conducted during the first significant rain event of the first year of monitoring. Therefore, the City does not need to delay the storm water outfall monitoring of the parameters in Table E-2 until the second year of monitoring. The revised CIMP shall include storm water outfall monitoring of subsequent storm events of the parameters in Table E-2, which exceed the lowest applicable water quality objectives at the receiving water monitoring station sampled after the first significant rain event.
Section 4.3,	Attachment E	The revised CIMP needs to discuss the duration over which the storm

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pg. 22	Part VIII.C page E-23	water outfall samples will be collected. In addition, the CIMP needs to specify if the storm water outfall samples will be taken by a continuous sampler. If not then the storm water samples need to be composited as outlined in Attachment E, Part VIII.C.2 of the LA County MS4 Permit.
Non-Stormwater Outfall Based Monitoring		
Section 5.3 pg. 26	Attachment E Part IX.B.1 page E-24	The CIMP proposes to perform three non-storm water outfall screenings during the first year after CIMP approval; however, the CIMP did not provide a schedule. The revised CIMP needs to provide a schedule of non-storm water screenings, which needs to address potential seasonal variations of non-storm water discharges.
Section 5.3 pg. 26	Attachment E Part IX.B.2 page E-24	The revised CIMP must include a process for reassessing the non-storm water outfall screening and monitoring plan within the current permit term pursuant to Attachment E, Part IX.B.2.
Section 5.3 pg. 26	Attachment E Part IX.C pp. E-24 & E-25	The revised CIMP needs to more specifically define thresholds for flow and <i>E. coli</i> density that will be used to conclude that an outfall has a significant non-storm water discharge.
Section 5.3 pg. 26	Attachment E Part IX.D pp. E-25 – E-26	The revised CIMP needs to include a process for updating annually, a MS4 inventory database and map of outfalls that have been identified as having significant non-storm water discharges or require no further assessment.
Section 5.4 pg. 27	Attachment E Part IX.E page E-26	The revised CIMP needs to provide a process for prioritizing outfalls with significant non-storm water discharges and a schedule to conduct the source identification of outfalls with significant discharges. If the City and LACFCD intend to follow the process set forth in Part IX.E of Attachment E, the CIMP may simply reference this section of the LA County MS4 Permit MRP and indicate that it will be followed.
Section 5.5.1 and Table 14, pp. 28-29	Attachment E Part IX.G pp. E-27 & E-28	The revised CIMP needs to comply with the non-storm water monitoring requirements as contained in Attachment E, Part IX.G.3 of the LA County MS4 Permit, which includes either monitoring of significant non-storm water discharges four times per year for the first year of monitoring or at the frequency specified in an approved TMDL monitoring plan unless sufficient justification is provided for an alternate frequency.
Section 5.5.1, pp. 28-29	Attachment E Part IX.H.2 page E-28	The revised CIMP needs to discuss the duration over which the non-storm water outfall samples will be collected. In addition, the CIMP needs to specify if the non-storm water outfall samples will be taken by a continuous sampler. If not then the non-storm water samples need to be composited as outlined in Attachment E, Part IX.H.2 of the LA County MS4 Permit unless sufficient justification for an alternate protocol is provided.
Section 5.6, pg. 29	Attachment E, Part IX.G.4 Pg. E-28	The CIMP states, “[I]f monitoring demonstrates that discharges do not exceed any WQBELs, then action levels or water quality standards for pollutants identified on the 303(d) list, monitoring will cease at the

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		<p>outfall(s) after the first year.”</p> <p>Attachment E, Part IX.G.5 of the LA County MS4 Permit provides that, “Following one year of monitoring, the Permittee may submit a written request to the Executive Officer of the Regional Water Board to reduce or eliminate monitoring of specified pollutants, based on an evaluation of the monitoring data.” The CIMP must follow this process of submitting a written request prior to discontinuing monitoring at the outfalls after the first year.</p>
Attachment B, Table B-2, pg. B-8	SMB TMDLs for DDTs and PCBs	<p>The TMDL provides input on stormwater monitoring and states, “As both DDT and PCBs are highly associated with particles, monitoring should focus on sediment particles which may be transported during storms (e.g., as in Curren et al., 2011). We recommend that stormwater permittees filter water from their mass emission stations and analyze particles for DDT and PCBs. This will provide more meaningful estimates of mass loading than traditional water column sampling. We also recommend using sufficiently sensitive methods for DDT and PCBs (e.g. EPA method 1668c for PCB congeners). (USEPA, Region IX, 2012, Santa Monica Bay Total Maximum Daily Loads for DDTs and PCBs, page 56).</p> <p>Monitoring for PCBs in sediment or water should be reported as the summation of a minimum of 40 (and preferably at least 50) congeners and Aroclors as specified in Table E-2 of the Attachment E of the Permit. See Table C8 in the state’s Surface Water Ambient Monitoring Program’s Quality Assurance Program Plan (Page 72 of Appendix C), which can be downloaded at http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/qaprp082209.pdf for guidance. It is preferable samples be analyzed using EPA Methods 8270 or 1668C (as appropriate), and High Resolution Mass Spectrometry.</p>
Attachment C		Please provide a table with the land use information for outfalls SMBJ7-O-4, SMBJ7-O-7, and SMBJ7-O-8.

Curren J., S. Bush, S. Ha, M.K. Stenstrom, S. Lau, I.H. Suffet. 2011. Identification of subwatershed sources for chlorinated pesticides and polychlorinated biphenyls in the Ballona Creek watershed. Science of the Total Environment 409: 2525–2533

ENCLOSURE 2
COMMENTS ON AQUATIC TOXICITY TESTING
SANTA MONICA BAY JURISDICTIONAL GROUP 7 CIMP

Part XII.G.1. (Page E-30) and Part XII.G.2. (Page E-30) of the Monitoring and Reporting Program state that Permittees shall conduct aquatic toxicity monitoring utilizing the critical life stage chronic toxicity test methods listed. The draft CIMP does not propose use of critical life stage chronic toxicity test methods for assessment of toxicity in wet weather samples and instead proposes use of acute toxicity test methods. This is not acceptable; the appropriate chronic toxicity test method listed in the MRP must be used and both survival and sublethal endpoints must be reported. We suggest the group consult 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 wet weather samples.

Part XII.I.1. (Page E-33) of the Monitoring and Reporting Program states that a toxicity test sample is immediately subject to TIE procedures if either survival or sublethal endpoints demonstrate a Percent Effect value equal to or greater than 50% at the Instream Waste Concentration. The draft CIMP does not propose to perform a TIE when at least a 50% sublethal effect is seen but instead proposes to first collect a confirmatory sample two weeks later.

This is not an acceptable approach. The CIMP seems to be implying that chronic toxicity has some inherent non-persistent quality to it that makes the results unreliable. It also implies that chronic toxicity is of lesser importance. Although it would be hard to generalize to all possible situations, the fact that a large number of invertebrates (or fish) living in a receiving water can survive an ambient pollutant concentration but are impacted in terms of growth or reproduction means that the population as a whole will be impacted, and could eventually collapse. Some species living in the receiving water have very short lifespans and during critical times of the year may be prey for other organisms that will in turn be impacted by their population decline.

Additionally, the toxicity flowcharts do not show the need to proceed to outfall toxicity testing should a TIE of a toxic receiving water sample be inconclusive and instead focus on the response to non-persistent toxicity. We strongly recommend a more cohesive approach whereby the City and LACFCD develop a Toxicity Assessment Plan analogous to the Discharge Assessment Plan currently proposed in the CIMP.

Suggested Special Study: The 2013 study released by the California Stormwater Quality Association (CASQA) entitled "Review of Pyrethroid, Fipronil and Toxicity Monitoring Data from California Urban Watersheds" reviewed stormwater data from studies conducted during 2005 - 2012 and highlighted the toxicity impacts from use of pesticides not currently required to be monitored for by the MRP. We suggest the group begin monitoring for these chemicals in the receiving water and, in addition, assess toxicity using the 2002 acute toxicity testing protocol (EPA-821-R-02-012) with the amphipod *Hyalella azteca* as the test organism. *H. azteca* is known to be much more sensitive to pyrethroids than is *Ceriodaphnia dubia*, while the latter is useful for its sensitivity to OP pesticides. The two species together may also prove to be more useful in detecting toxicity from fipronil. And, should 50% or

greater effect be detected in the toxicity test, we suggest a procedure to incorporate pyrethroids into the subsequent TIE be documented (three possible treatments have been identified by researchers, see <http://www.pubfacts.com/detail/20018342/Focused-toxicity-identification-evaluations-to-rapidly-identify-the-cause-of-toxicity-in-environment>). While fipronil does not have a TIE procedure identified currently, chemical testing for the parameter (and degradates) and comparison to U.S. EPA Office of Pesticide Program's aquatic life benchmarks at http://www.epa.gov/oppefed1/ecorisk_ders/aquatic_life_benchmark.htm will aid in determining the cause(s) of toxicity in order to follow up with outfall testing of the parameter(s) with the ultimate goal of removing the source. This approach will also help minimize inconclusive TIE results which would lead to required toxicity testing in a representative upstream outfall.