June 2015

SANTA MONICA BAY JURISDICTIONAL GROUP 2 AND 3
ENHANCED WATERSHED MANAGEMENT PLAN GROUP

Revised Coordinated Integrated Monitoring Program (CIMP)

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Prepared by

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The MWH Team

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Table 9
Summary of Receiving Water Monitoring Sites

Site ID	Water Body/Location	JG	LFD	Coordinates		Monitoring Type	
				Latitude	Longitude	RW	TMDL
New Monitoring Sites							
RW-SMB-1	SMB/ Santa Monica Canyon (SMC) Channel (In Ocean outward transect)	2	Yes	34.02519	-118.52362	X	
RW-SMB-2	Santa Monica Canyon (SMC) Channel/ Upstream of Low Flow Diversion (LFD)	2	Yes	34.02879	-118.51784	X	X(1)
RW-SMB-3	SMB/ Pico-Kenter (In Ocean outward transect)	3	Yes	34.00326	-118.49643	X	
Existing Monitoring Sites							
SMB-2-1	Santa Monica Bay/Shoreline	2	Yes	34.04135	-118.56600		X(2)
SMB-2-2	Santa Monica Bay/Shoreline	2	Yes	34.03801	-118.55500		X(2)
SMB-2-3	Santa Monica Bay/Shoreline	2	No	34.03934	-118.55052		X(2)
SMB-2-4	Santa Monica Bay/Shoreline	2	Yes	34.03757	-118.54200		X(2)
SMB-2-5	Santa Monica Bay/Shoreline	2	Yes	34.03837	-118.54400		X(2)
SMB-2-6	Santa Monica Bay/Shoreline	2	Yes	34.03473	-118.53600		X(2)
SMB-2-7	Santa Monica Bay/Shoreline	2	Yes	34.02784	-118.51800		X(2)
SMB-2-8	Santa Monica Bay/Shoreline	2	No	33.97826	-118.46714		X(2)
SMB-2-9	Santa Monica Bay/Shoreline	2	No	33.96768	-118.45994		X(2)
SMB-2-10	Santa Monica Bay/Shoreline	2	Yes	33.95641	-118.45100		X(2)
SMB-2-11	Santa Monica Bay/Shoreline	2	Yes	33.94447	-118.44400		X(2)
SMB-2-12	Santa Monica Bay/Shoreline	2	No	33.94064	-118.44226		X(2)
SMB-2-13	Santa Monica Bay/Shoreline	2	Yes	33.93005	-118.43600		X(2)
SMB-2-14	Santa Monica Bay/Shoreline	2	No	33.92331	-118.43326		X(2)
SMB-2-15	Santa Monica Bay/Shoreline	2	Yes	33.91592	-118.42926		X(2)
SMB-3-1	Santa Monica Bay/Shoreline	3	Yes	34.02061	-118.50900		X(2)
SMB-3-2	Santa Monica Bay/Shoreline	3	Yes	34.01535	-118.50200		X(2)
SMB-3-3	Santa Monica Bay/Shoreline	3	Yes	34.0087	-118.49600		X(2)
SMB-3-4	Santa Monica Bay/Shoreline	3	Yes	34.00615	-118.49100		X(2)
SMB-3-5	Santa Monica Bay/Shoreline	3	Yes	33.99702	-118.48400		X(2)
SMB-3-6	Santa Monica Bay/Shoreline	3	Yes	33.99398	-118.48100		X(2)
SMB-3-7	Santa Monica Bay/Shoreline	3	Yes	33.98946	-118.47700		X(2)
SMB-3-8	Santa Monica Bay/Shoreline	3	Yes	33.9852	-118.47600		X(2)
SMB-3-9	Santa Monica Bay/Shoreline	3	No	34.00199	-118.48979		X(2)

1. SMB Total DDT and PCB TMDL
2. SMBBB TMDL

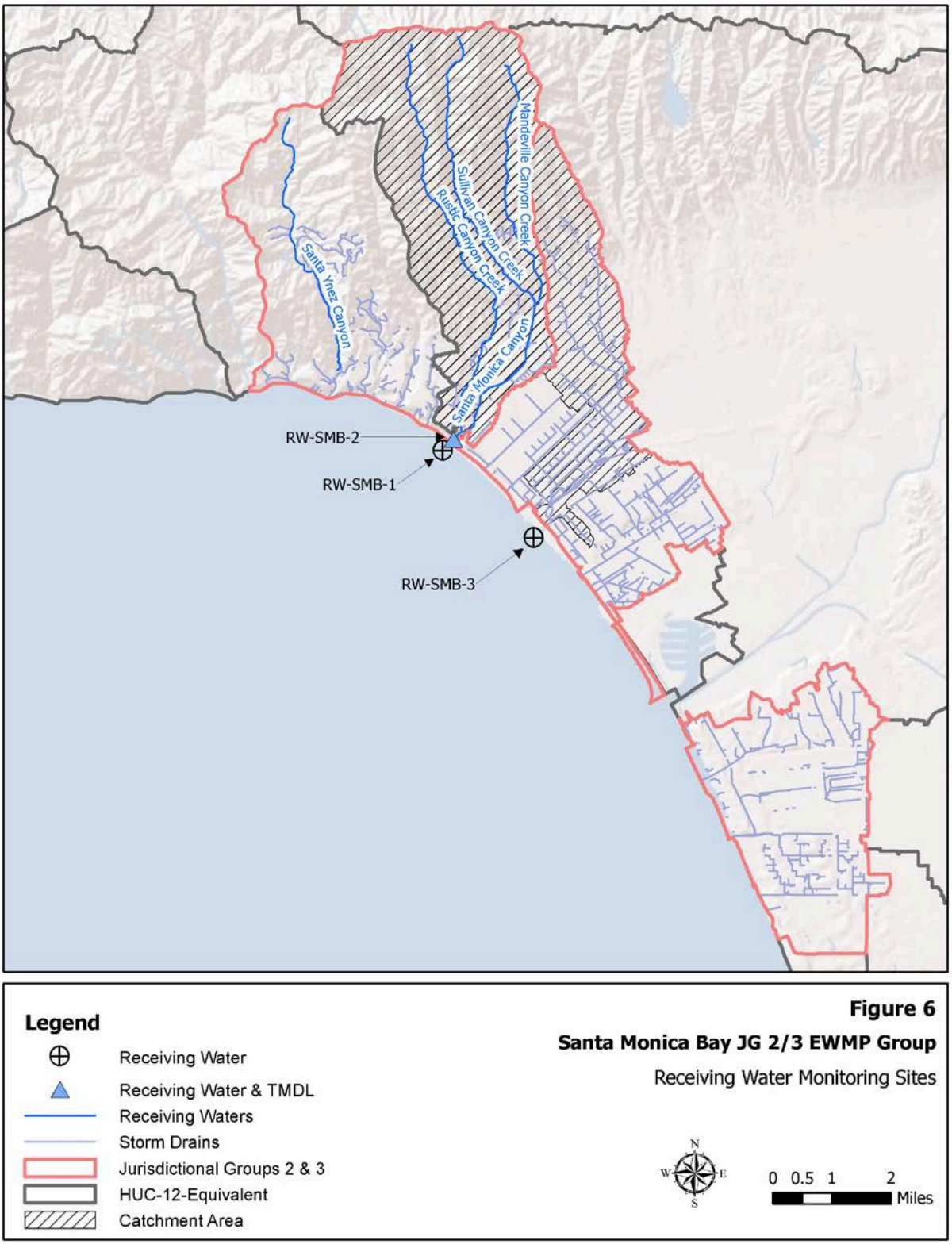

Figure 6
Receiving Water Monitoring Sites

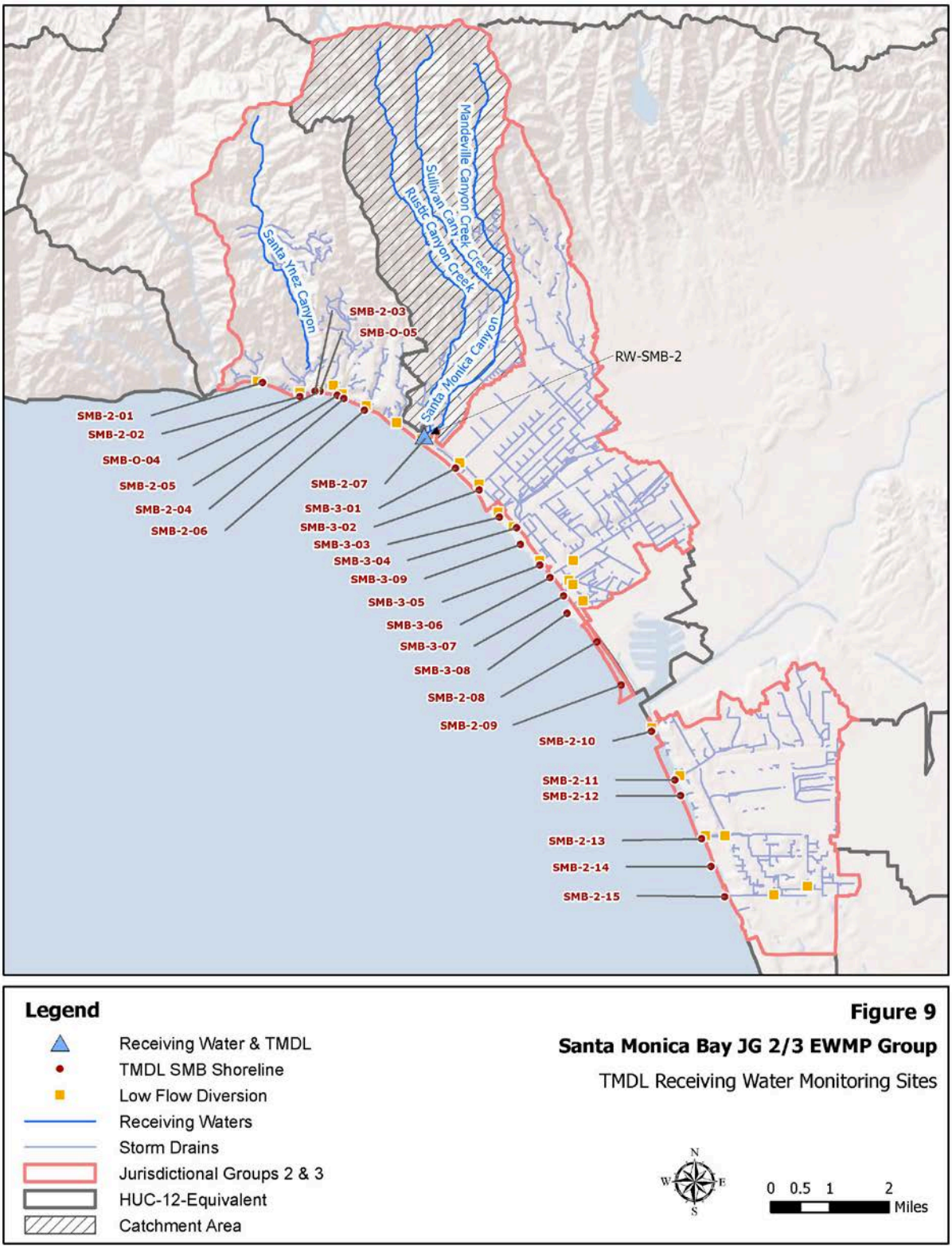

Figure 9
TMDL Receiving Water Monitoring Sites

Table 8
Santa Monica Bay Beaches Bacterial TMDL Sampling Frequency

SMB-3-1	3	Point Zero	Yes	Montana storm drain (DHS104)	Weekly
SMB-3-2	3	Point Zero	Yes	Wilshire storm drain (DHS105)	Weekly
SMB-3-3	3	Point Zero	Yes	Santa Monica Pier storm drain(S5)	Daily
SMB-3-4	3	Point Zero	Yes	Pico-Kenter storm drain (S6)	Daily
SMB-3-5	3	Point Zero	Yes	Ashland storm drain (S7)	Daily
SMB-3-6	3	Point Zero	Yes	Rose storm drain	Weekly
SMB-3-7	3	Point Zero	Yes	Brooks storm drain (DHS107)	Weekly
SMB-3-8*	3	Point Zero	Yes	Windward storm drain (S8)	Weekly
SMB-3-9	3	Open Beach	No	Santa Monica Beach at Strand Street (DHS106)	Weekly

* Beach monitoring locations subject to the anti-degradation implementation provision in the TMDL.

In the event an exceedance has occurred at a SMBBB TMDL monitoring site, procedures following Elevated Bacteria Levels (Exceedances), per the CSMP, will be executed. SMB EWMP Group will conduct accelerated testing 48 hours after the initial bacteria exceedances, and if necessary, SMB EWMP Group will conduct accelerated testing 96 hours for those sites still exceeding bacterial indicators after 48 hours. The purpose of the increased monitoring is to identify the persistence of an exceedance, especially during dry-weather when source identification will be a priority. This accelerated monitoring may not be as critical during wet-weather at every location when the source of the exceedance is known to be storm water runoff.

Toxic TMDL – Storm Sediment Monitoring

Receiving water monitoring site RW-SMB-2 has been selected as the monitoring site for the SMB Toxics TMDL, as mentioned in **Section 2.2.4**. It is proposed that three wet-weather sampling events be conducted to evaluate the annual WLA of DDT and PCB for SMB EWMP Group based on the three (3) year average loading.

A summary of constituents and monitoring frequency for each of the receiving water monitoring sites is presented in **Table 7**.

2.4 RECEIVING WATER MONITORING SUMMARY

Three receiving water monitoring sites, which include monitoring for SMB Toxics, and 24 existing SMBBB TMDL sites have been selected to meet the MRP objects for receiving water monitoring. **Table 10** provides a summary of receiving water monitoring sites. Approximate locations of the monitoring sites are presented in **Figure 6** through **Figure 9**. A summary of constituents and monitoring frequency for each of the receiving water monitoring sites is presented in **Table 7**.

Attachment B provides summary sheets for each receiving water monitoring site, which include photos and additional information. Sampling and analytical methods for receiving water monitoring is provided in **Attachment C**.

Table 6
Receiving Water Monitoring Summary of Constituents to be Monitored and Annual Frequency (wet/dry)[1]

Constituents	Site ID		
	RW-SMB-1	**RW-SMB-2**	**RW-SMB-3**
Flow and field parameters[2]	3/0	3/2	3/0
Pollutants identified in Table E-2 of the MRP[3]	1[4]/0	1[4]/1[4]	1[4]/0
Aquatic Toxicity and Toxicity Identification Evaluation (TIE)	2/0	2/1	2/0
TSS and Hardness		3/2	
Total Coliform[5]			
Fecal Coliform/(*E. coli)*[5]			
Enterococcus[4]			
Suspended Sediment: DDT[6], PCBs[7]		3/0	
Lead		3/2	
E. coli (Indicator Bacteria)		3/2	

1. Annual frequency listed as number of wet-weather/dry-weather events per year, respectively (e.g., 3/2 signifies three wet weather and two dry weather events per year).
2. Field parameters are defined as DO, hardness, pH, temperature, and specific conductivity; ocean parameters will be DO, pH, temperature, and salinity
3. All pollutants identified in Table E-2 of the MRP that are not already addressed by TMDL monitoring at this site, will be monitored during the first significant rain event of the storm year and critical dry event for the year. After the first year of monitoring where the Table E-2 constituents are monitored, an analysis will be conducted to determine which MS4 Permit required pollutants exceeded a water quality objective. Those exceeding the respective water quality objectives will be added to the monitoring list.
4. After the first year of monitoring, pollutants identified in Table E-2 of the MRP that were not detected at the Method Detection Limit (MDL) for its respective test method or the result is below the lowest applicable water quality objective, additional monitoring will not be conducted (i.e., the monitoring frequency will become 0/0). For pollutants identified in Table E-2 of the MRP that are detected above the lowest applicable water quality objective, additional monitoring will be conducted at the frequency specified in the MRP (i.e., the monitoring frequency will become 3/0 or 3/2) beginning the season following the Table E-2 sampling.
5. Will be monitored at the existing CSMP monitoring locations and CSMP sampling schedule.
6. DDT is defined as the sum of 2,4'-DDD, 2,4'-DDE, 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT.
7. To allow appropriate comparisons between potential sources and effects, the 54 PCB congeners are to be analyzed for each matrix. PCBs are defined as the sum of 54 PCB congeners when analyzed in the water column, sediment or suspended solids, including: 8, 18, 28, 31, 33, 37, 44, 49, 52, 56, 60, 66, 70, 74, 77, 81, 87, 95, 97, 99, 101, 105, 110, 114, 118, 119, 123, 126, 128, 132, 138, 141, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 174, 177, 180, 183, 187, 189, 194, 195, 201, 203, 206, and 209.

2.3.2 Dry-Weather

Dry-weather receiving water monitoring will be conducted two times per year, except aquatic toxicity, which will be conducted once per year during the historically driest month. As detailed in **Attachment A, Section 2.1.1** and presented in **Table 8**, the SMB EWMP Group has installed 23 LFDs at all outfalls along the Santa Monica shoreline within the JG2 and 3 to address dry-weather flows. The LFDs are operational year round and divert dry-weather flows from the storm drains to the sanitary sewer system, keeping dry-weather flows from reaching Santa Monica Bay. Given that the LFDs divert all dry-weather flow from reaching Santa Monica Bay, the SMB EWMP Group will not conduct dry-weather receiving water monitoring for the Santa Monica Bay. All LFDs are closely monitored and maintained to ensure that no dry-weather flow will reach Santa Monica Bay shoreline.

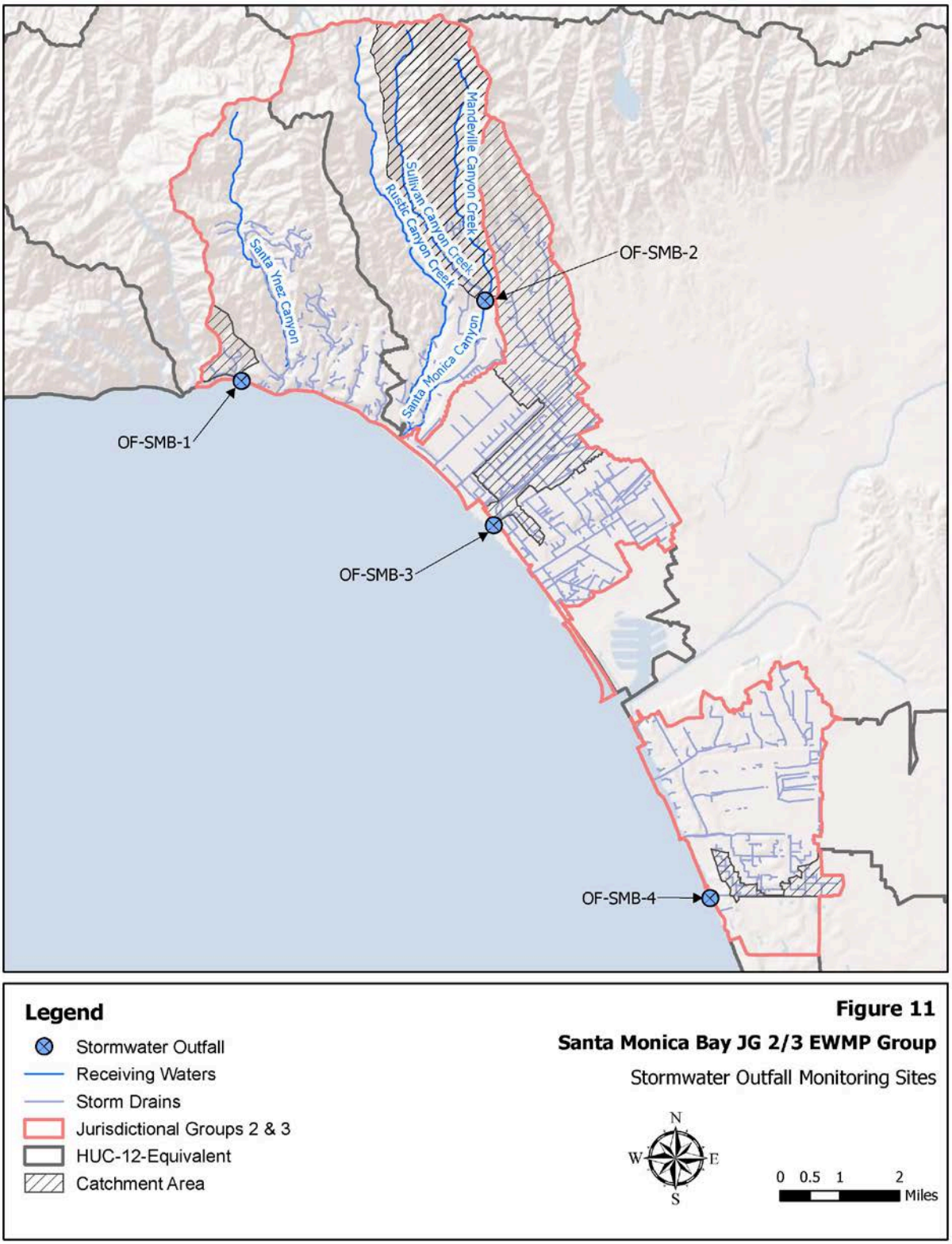

Figure 11
Stormwater Outfall Monitoring Sites

Table 15
List of Constituents for Stormwater Outfall Monitoring(1)

Constituent	Site ID			
	OF-SMB-1	OF-SMB-2	OF-SMB-3	OF-SMB-4
Flow, pH, dissolved oxygen, temperature, and specific conductivity	X	X	X	X
Hardness	X	X	X	X
TSS	X	X	X	X
Table E-2 pollutants detected above relevant objectives	X	X	X	X
Aquatic Toxicity and Toxicity Identification Evaluation (TIE)(2)				
Total Coliform	X		X	X
Fecal Coliform/(*E. coli)*	X		X	X
Enterococcus	X		X	X
Lead		X		
E. coli (Indicator Bacteria)		X		

1. Annual frequency for stormwater outfall monitoring would be 3 times per storm year.
2. Toxicity is only monitored from outfalls when triggered by recent receiving water toxicity monitoring where a TIE on the observed receiving water toxicity test identifies pollutants or where the results were inconclusive. If toxicity is observed at the outfall a TIE must be conducted.

4.4 SUMMARY OF STORMWATER OUTFALL MONITORING

Four stormwater outfall monitoring sites, as presented in **Figure 11**, were selected to represent a combination of the HUC-12, jurisdictions, and the land uses within each drainage area of the SMB EWMP Group (OF-SMB-1 through -4). A summary of outfall characteristics are presented in **Table 17** and **Attachment B**.

Table 16
Summary of Stormwater Outfall Monitoring Sites

Outfall ID	Latitude	Longitude	LFD	Tributary HUC-12 Area	Drainage System
OF-SMB-1	34.041362	118.567045	Yes	Santa Monica Beach – Frontal Santa Monica Bay (180701040403) (Upper JG2)	Castle Rock (Parker Mesa)
OF-SMB-2	34.060808	-118.495170	No	Santa Monica Canyon (180701040402)	Sullivan Canyon and Mandeville Canyon
OF-SMB-3	34.006370	118.49184	Yes	Santa Monica Beach – Frontal Santa Monica Bay (180701040403) (JG3)	Pico Kenter
OF-SMB-4	33.917430	118.42858	Yes	Manhattan Beach – Frontal Santa Monica Bay (180701040500) (Lower JG2)	Grand Avenue

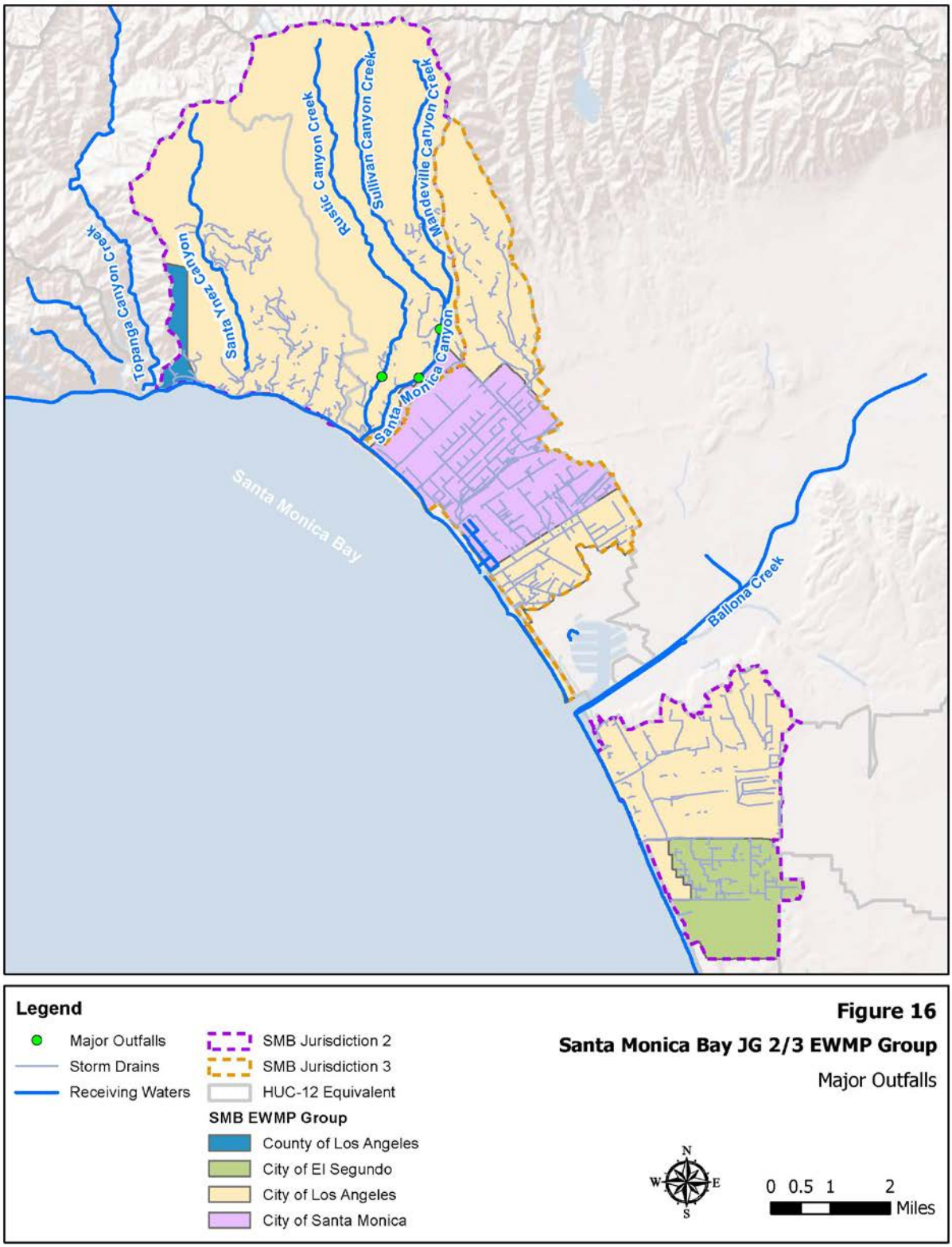

Figure 16
Major Outfalls

of whether the non-stormwater discharges are causing or contributing to any observed exceedances of water quality objectives in the receiving water. Significant non-stormwater outfalls will be monitored for all required constituents, per receiving water bodies, as outlined in Part IX.G.1.a-e of the MRP, except toxicity. Toxicity monitoring is only required when triggered by recent receiving water toxicity monitoring where a TIE on the observed receiving water toxicity test was inconclusive. An overview of the constituents to be monitored and the corresponding frequency is listed in **Table 21**. Outfalls on the monitoring list will be monitored for at least the duration of the Permit term, or until the non-stormwater discharge is eliminated. Additional analytical and monitoring procedures are discussed in **Attachment C**.

Table 20
List of Constituents for Non-Stormwater Monitoring

Constituent	Outfalls on Monitoring List
Flow, pH, dissolved oxygen, temperature, and specific conductivity	X
Hardness	X
TSS	X
Table E-2 pollutants detected above relevant objectives	X
Aquatic Toxicity and Toxicity Identification Evaluation (TIE)(1)	
Lead	X
E. coli (Indicator Bacteria)	X

1. Annual frequency for non-stormwater outfall monitoring will be 2 times per storm year.
2. Toxicity is only monitored from outfalls when triggered by recent receiving water toxicity monitoring where a TIE on the observed receiving water toxicity test identifies pollutants or where the results were inconclusive. If toxicity is observed at the outfall a TIE must be conducted.

5.8 NON-STORMWATER OUTFALL PROGRAM SUMMARY

At this time, non-stormwater outfall monitoring sites have not been identified. The SMB EWMP Group will conduct the following steps as part of the non-stormwater outfall program to identify non-stormwater outfall monitoring sites:

1. Outfall screening;
2. Identification of outfalls with significant non-stormwater discharge (Part IX.C of the MRP);
3. Inventory of outfalls with non-stormwater discharge (Part IX.D of the MRP);
4. Prioritized source investigation (Part IX.E of the MRP); and
5. Identify sources of significant non-stormwater discharges (Part IX.F of the MRP).

As non-stormwater discharges are addressed, monitoring at the outfall(s) will cease. Additionally, if monitoring demonstrates that discharges do not exceed any WQBELs, action levels, or water quality standards for pollutants identified in 303(d) listings, then modifications to the monitoring program, specifically the elimination of parameters and or constituents may be proposed and will be subject to approval by the Regional Board Executive Officer.