COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

MARK PESTRELLA, Director

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
http://dpw.lacounty.gov

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

January 10, 2018

IN REPLY PLEASE
REFER TO FILE: WM-8

Mr. Samuel Unger, P.E.
Executive Officer
California Regional Water Quality
Control Board – Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Attention Ms. Renee Purdy

Dear Mr. Unger:

MARINA DEL REY
COORDINATED INTEGRATED MONITORING PROGRAM
REQUEST FOR REVISION

The County of Los Angeles, Los Angeles County Flood Control District, and the Cities of Culver City and Los Angeles (collectively the Group) are submitting the proposed revisions to the Marina del Rey Coordinated Integrated Monitoring Program (MdR CIMP). The MdR CIMP was approved on May 23, 2016, and the Group began implementation in July 2016.

As discussed with Ms. Renee Purdy, and other Regional Board staff on September 12, 2017, November 21, 2017, and December 19, 2017, the Group requests revisions to the Marina del Rey Harbor Toxics Total Maximum Daily Load and Permit monitoring portions of the MdR CIMP based on newly acquired information.

The Group proposes the following revisions. Please refer to the enclosed Exhibit A for justification of the proposed changes and Exhibit B for additional information requested by Regional Board staff.

1. Outfall Monitoring Locations

    a. Consolidate MdRs -3 and -4 to a new location, MdR-4-Oxford Retention Basin, near the tide gates of the Oxford Retention Basin; collect samples prior to release of retained stormwater from Oxford Basin.

b. Move Permit Outfall Monitoring from MdRs -3 to -5.

c. Move MdRU-C-1 from Admiralty Way to Parking Lot 11, MdRU-C-1P11.

2. Sample Collection and Analytical Methods

   a. Change storm-borne sediment collection method from using the passive collection devices to collecting stormwater to be analyzed by the high-resolution method.

   b. Analyze the collected stormwater for stations MdRU-C-1P11, MdRU-C-2, MdR-40RB and MdR-5 for Total Organic Carbon.

3. Storm Event Mobilization Criteria and Monitoring Frequency

   a. Change mobilization criteria from 0.1 inch to 0.25 inch of precipitation in order to fulfill the three permit-required wet weather events, we may trigger mobilization for events less than 0.25 inch, if necessary.

   b. Change the frequency of Toxics TMDL stormwater and storm-borne sediment outfall monitoring from up to fifteen to three monitored storm events.

The following sections and appendices of the CIMP will be updated accordingly:

- Section 2.3 – Wet Weather Monitoring Mobilization
- Sections 4.1 – 4.4 – Stormwater Outfall Monitoring Sites, Monitored Parameters and Frequency, Stormwater Mobilization Criteria, and Stormwater Outfall Monitoring Summary
- Appendix B – Monitoring Station Selection Process
- Appendix C – Sampling Procedures, Analytical Methods, and Data Quality Control
- Appendix D – Monitoring List
- Appendix F – CIMP Data Management and Assessment
- Appendix H – Storm-borne Sediment Report (to be removed)
- Appendix I – Data Analysis Used to Support Toxics TMDL Monitoring Program Changes

The Group greatly appreciates the guidance provided by your staff, and look forward to working with you and your team during this CIMP revision process.

If you have any questions, please contact me at (626) 458-4325 or palva@dpw.lacounty.gov or your staff may contact at Mr. Bruce Hamamoto (626) 458- 5918 or bhamamo@dpw.lacounty.gov.

Very truly yours,

MARK PESTRELLA
Director of Public Works

PAUL ALVA
Assistant Deputy Director
Stormwater Compliance Division

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Enc.

cc: City of Culver City
City of Los Angeles

Exhibit A
Marina del Rey Coordinated Integrated Monitoring Program
Proposed Revisions

#	Current	Proposed Revision	Justification
1	**Outfall Monitoring Locations**		
1.a	Outfall Station MdR-3 - Permit and Toxics TMDL Monitoring MdR-3 on Washington Blvd. Outfall Station MdR-4 - Toxics TMDL Monitoring upstream of Oxford Retention Basin	Outfall Station MdR-4-ORB - Toxics TMDL Monitoring MdR-4-ORB in Oxford Retention Basin (ORB) Stormwater samples will be taken in ORB near the tide gates prior to discharge into Basin E of the Marina del Rey Harbor.	1. MdR-3 and MdR-4 both drain into ORB. 2. MdR-3 and MdR-4 currently drain approximately 343 & 172 acres, respectively, for a total of 515 acres. MdR-ORB will represent approximately 667 acres of drainage area. Direct measurement and calculation of pollutants from a larger drainage will provide a more accurate pollutant loading. 3. Samples taken in ORB near the tide gates would be more representative of what will be discharged from the watershed during a storm event. 4. Monitoring at MdR-3 will be impacted by the upcoming Washington Blvd Project while monitoring MdR-4 has been impacted by the recently constructed ORB project.
1.b	Outfall Station MdRU-C-1 (Toxics TMDL Monitoring) MdRU-C-1 located on Admiralty Way, being used to represent Commercial land use	Outfall Station MdRU-C-1P11 (Toxics TMDL Monitoring) MdRU-C-1P11 located at Parking Lot 11	1. MdRU-C-1 drains Admiralty Way, which is not representative of Commercial land use (mainly secondary roads land use). 2. Evaluation of land use and available parking lots in the underrepresented Marina del Rey area revealed that parking lots make up a higher land use percentage than Commercial land use. 3. Proposed MdRU-C-1P11 will be representative of the Commercial and Parking Lot land uses in the underrepresented Marina del Rey area.
1.c	MdR-3 is the representative Permit Outfall Monitoring Station.	MdR-5 is the representative Permit Outfall Monitoring Station.	1. MdR-3 will be removed and replaced by MdR-4-ORB 2. MdR-3 and MdR-5 drainage areas have a similar land use composition 3. MdR-5 is not impacted by tidal influence

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2	**Sample Collection & Analytical Methods**		
2.a	Storm-borne sediment collected in-field using Passive Sediment Collection Device	Stormwater collected; flow data collected or estimated for non-sampled storms	1. Stormwater will be collected and filtered by the laboratory prior to analyses using high-resolution analytical methods, which does not require large amounts of sediment sample for analysis. 2. Compositing will not be required because the high-resolution analysis methods achieve much lower method detection limits than the conventional methods.
2.b	Storm-borne sediment filtered in-field, and, at the end of the monitoring year, composited for each site in the lab for analyses of Chlordane, DDTs, and Total PCBs analyzed using conventional analytical methods (EPA Method 8270)	Storm-borne sediment filtered and analyzed by lab for each site and event; Chlordane, DDTs, and Total PCBs analyzed using high-resolution analytical methods (EPA Methods 1699 and 1668C)	1. The lab can filter the stormwater, and use EPA Method 1668 to analyze the filtered storm-borne sediment for Total PCBs, & EPA Method 1699 for Chlordane and DDTs. 2. The high-resolution methods require much less sediment for analyses, without the need to composite samples
2.c	TOC analyzed in storm-borne sediment	TOC analyzed in stormwater	1. TOC requires approximately 10g of sediment for analysis. Filtering by the lab will not generate sufficient sediment for this analysis. 2. TOC is required by other TMDLs that specify a Waste Load Allocation (WLA) based on TOC. The Marina del Rey Harbor Toxics TMDL WLA is not TOC-based, so the value is not needed to calculate loading. 3. If needed, TOC in the water unit can be converted to the sediment unit, using TSS concentration.

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3	**Storm Event Mobilization Criteria & Monitoring Frequency**		
3.a	Wet weather monitoring mobilization criteria set at a 70% probability of at least 0.1-inch rainfall 24 hours prior to the start of the storm event	Wet weather monitoring mobilization criteria set at a 70% probability of at least 0.25-inch rainfall 24 hours prior to the start of the storm event	1. Past storm events of 0.15 inch. or less have proved challenging to collect a minimum of 4 liters of stormwater to analyze TDS, TSS, and SS, or 8 liters including duplicates. 2. With the switch to filtering and analyzing the stormwater using hi-resolution methods, 20 to 30 liters must be collected at Toxics TMDL sites, and 44 to 54 liters at the Permit/Toxics TMDL site, including collecting sufficient sample for aquatic toxicity if triggered by results at receiving water site MdRH-MC. 3. Since we propose monitoring 3 wet weather events instead of up to 15 (see 3.b), we recommend focusing on larger storms to maximize the capture of sufficient stormwater. 4. Based on historical rainfall data of 966 storm events greater than or equal to 0.1" from 1940 through 2014, 74% were > 0.25 inch., and 26% were 0.1-0.25 inch. If the required number of storms has not been monitored as the storm season ends; smaller storms may be targeted to achieve the three-storm minimum.
3.b	Storm-borne sediment collected over the year for up to 15 storms per year	Stormwater will be collected for 3 storms per year; flow data collected or estimated for non-sampled storms	1. Up to 15 storm events are no longer required to collect sufficient storm-borne sediment for flow-weighted compositing; approximately 75 grams of storm-borne sediment is required for one set of analyses (conventional methods), excluding duplicates. 2. Three storm events are recommended for consistency with the permit monitoring requirement and other CIMP Groups that are also subject to a Toxics TMDL.

Exhibit A
Marina del Rey Coordinated Integrated Monitoring Program
Proposed Revisions

Relocation of MdRU-C-1 to MdRU-C-1P11 (Parking Lot 11)

A tabletop GIS evaluation was conducted on the top land uses (LUs) and percentages in the Marina del Rey Harbor to determine the new monitoring site. The top 4 LUs are Residential, Parking Lots, Commercial Services, and Transportation. Since parking lots is the 2nd highest land use within the Marina del Rey Harbor area, it is an appropriate land use to select for the proposed monitoring station.

Top 4 Land Uses		Within Marina del Rey Harbor Area (367.47 acres)	
		Acres	%
1	Residential	121.7	33.1%
2	Parking Lots	96.0	26.1%
3	Commercial and Services	64.5	17.6%
4	Transportation	43.5	11.8%
	Top 4 Total	325.7	88.6%

All County parking lots around Marina del Rey Harbor area were evaluated based on available drainage infrastructure, drainage area, and accessibility. Parking Lot 11 was chosen as the most ideal location based on drainage area, parking lot usage, and accessibility. The larger drainage area will facilitate the collection of 20 to 30 liters of stormwater needed to conduct the required analyses.

Parking Lots		Drainage Area (Acres)	Parking Lot Usage	BMP	Access
1	Parking Lot 11	2.0	Moderate	No	Yes
2	Department of Beaches & Harbors Parking Lot	0.6	High	No	Yes
3	Library Parking Lot	0.3	Moderate	Yes	Challenging
4	Parking Lot 9 (Approx. 1.4 Total Acreage)	0.4	Low	Yes	Yes
5	Parking Lot 7 (Approx. 0.9 Total Acreage)	0.4	Low	Yes	Yes
6	Parking Lot 5 (Approx. 1.6 Total Acreage)	0.3	Low	Yes	Yes

See Figure 1 for location map of Parking Lot 11 compared to MdRU-C-1.

Exhibit A
Marina del Rey Coordinated Integrated Monitoring Program
Proposed Revisions

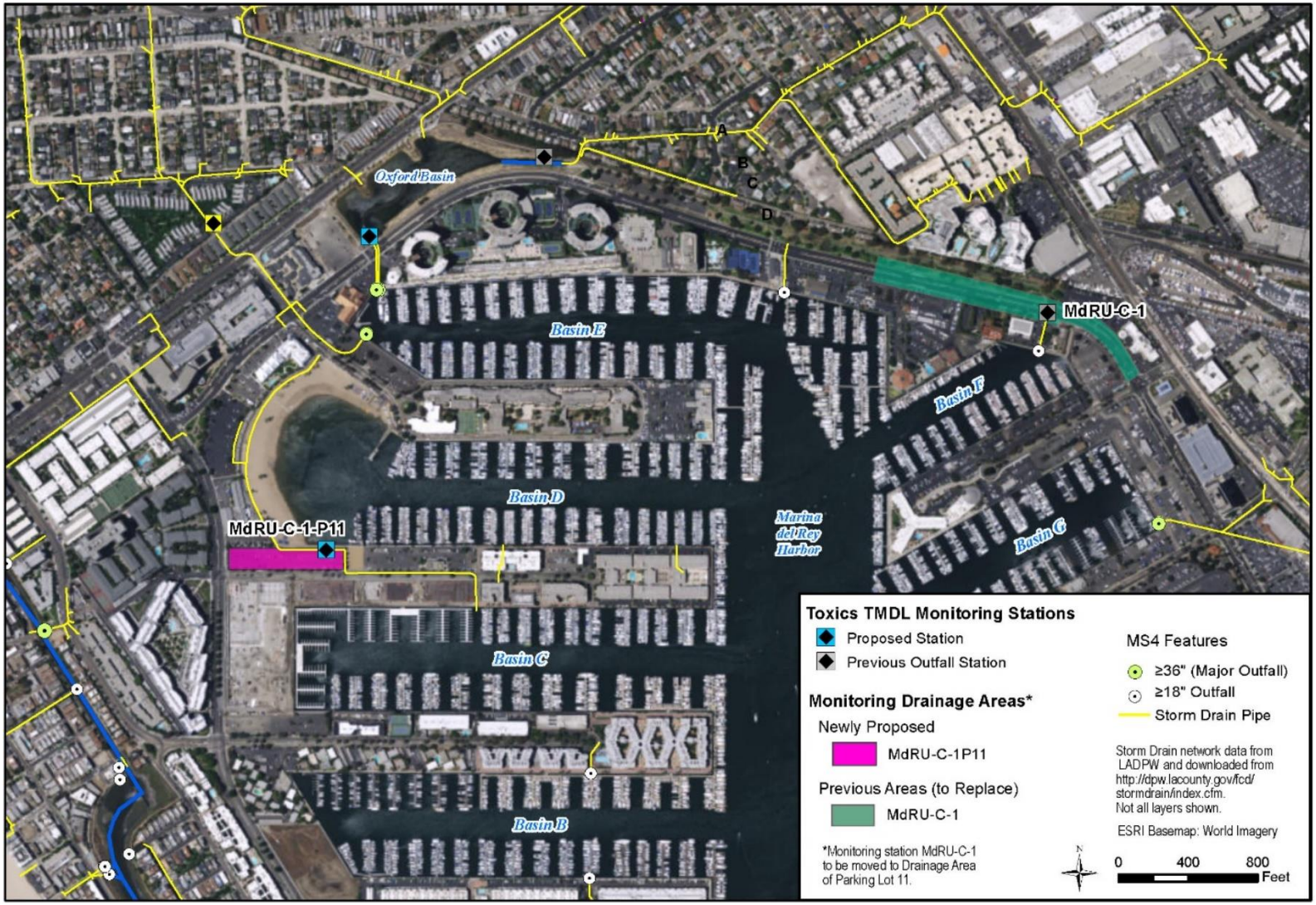

Figure 1 – Relocation of MdRU-C-1 to MdRU-C-1P11

Relocation of MdR-3 and MdR-4 to MdR-4-ORB

With the relocation of MdR-3 and MdR-4 to MdR-4-ORB, MdR-3 will be removed, and Permit Monitoring will be shifted to MdR-5. This table shows the Land Use for MdR-3 before and after excluding the areas addressed by the proposed Washington Blvd project, in comparison with MdR-5.

Land Use	MdR-3		MdR-5
	Before	After	
HD SFR	31.95%	34.12%	33.68%
MFR	10.51%	12.32%	28.36%
Secondary Roads	28.94%	29.48%	31.57%
Institutional	16.04%	19.78%	2.21%
Commercial	11.62%	4.26%	1.65%
Open Recreational	0.00%	0.00%	0.00%
Vacant	0.17%	0.04%	1.84%
Industrial	0.77%	0.00%	0.69%

Figure 2 shows the locations of the existing and proposed monitoring location along with the drainage area for each monitoring location.

Exhibit A
Marina del Rey Coordinated Integrated Monitoring Program
Proposed Revisions

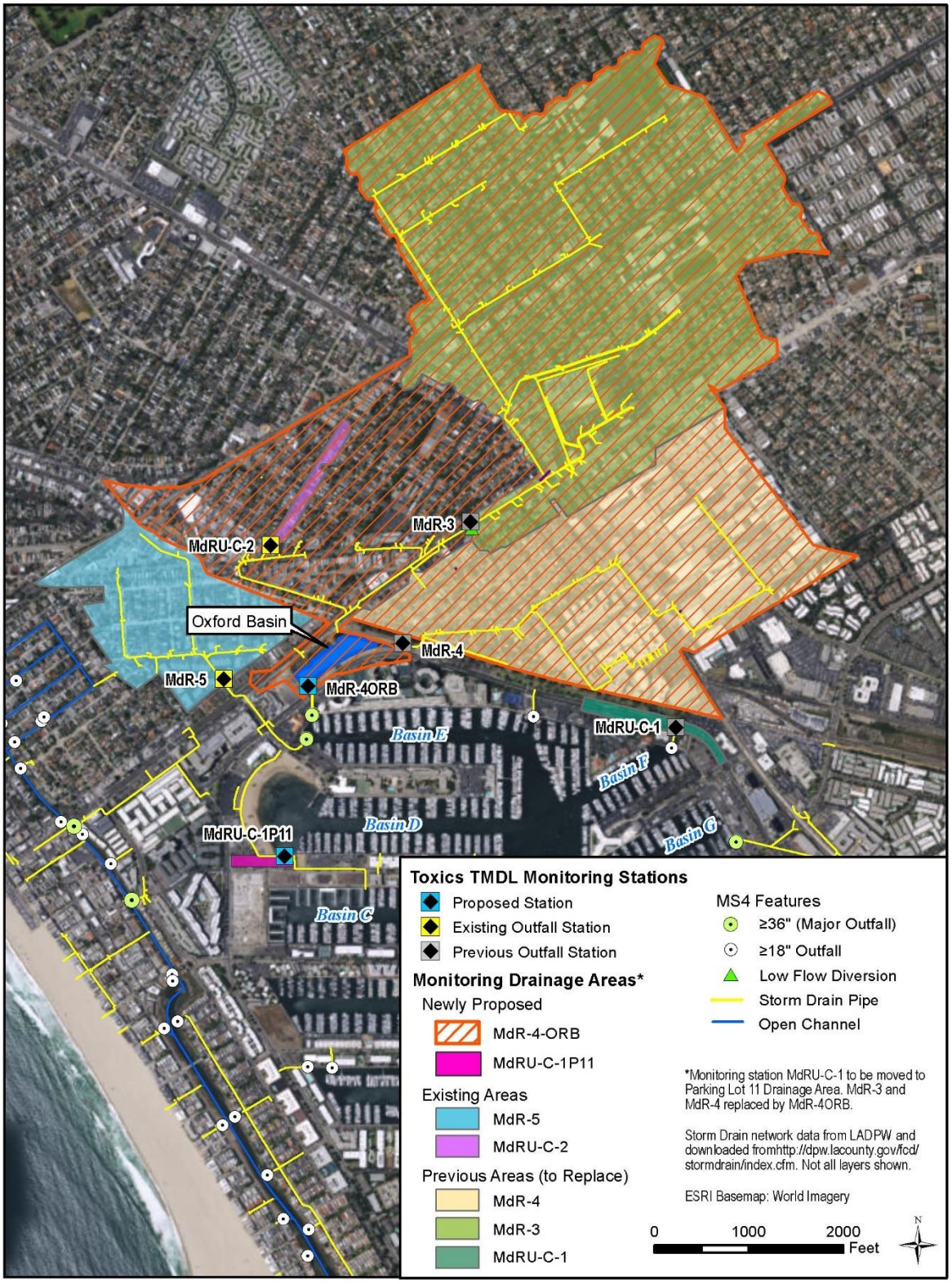

Figure 2 – Relocation of MdR-3 and MdR-4 to MdR-4-ORB

Exhibit B
Marina del Rey Coordinated Integrated Monitoring Program
Proposed Revisions

Description of Tide Gate Operations at Oxford Retention Basin During Storms

Under normal dry weather conditions, the tide gates at Oxford Retention Basin are functioning under an automated tide gate logic for draining the basin according to the daily ebb and flood tides in Marina del Rey Harbor. During storms, however, Oxford Basin functions as a temporary storage for stormwater from the watershed to prevent local flooding. When storms are predicted, Los Angeles County Flood Control District (LACFCD) staff switch the dry weather tide gate logic to "STORM MODE" tide gate logic. The tide gates operations are modified as follows during a storm event:

1) At least one day prior to a predicted storm, the tide gate operations are switched from dry weather operations to Storm Mode Operations.
2) ORB is drained (emptied) during an ebb tide prior to the storm to make as much storage capacity as possible for the incoming stormwater. The tide gates are closed once the water level in the basin is drained to the lowest possible level.
3) While the tide gate operations are set to Storm Mode, the tide gates are closed during flood tides so water from Basin E does not flow into ORB.
4) The tide gates are opened and the stormwater collected in ORB is drained during ebb tides when the Basin E water level is lower than the ORB water level. Stormwater samples will be collected near the tide gates before the retained stormwater is released into Basin E.
5) Once the storm is over, LACFCD crew switches the tide gates from Storm Mode back to a dry weather mode.

For storms predicted with very high rainfall amount that may threaten flooding of the adjacent neighborhoods, LACFCD staff will remain at Oxford Retention Basin to monitor the basin water levels, and manually controls the tide gates to drain the basin as needed for flood protection. Should this occur, the monitoring team will coordinate with LACFCD staff to collect samples prior to release.

Exhibit B
Marina del Rey Coordinated Integrated Monitoring Program
Proposed Revisions

Description of Current and Proposed Load Calculations

2016-2017 Load Calculation Method:

Pollutant loading to MdRH was estimated for the Front and Back Basins for 2016-2017 using information collected by existing storm-borne sediment monitoring program. Sediment loads were calculated for each of the five monitoring stations for monitored storms as the product of measured discharge and measured TSS concentration. Discharge calculations were based on site-specific conditions, and as applicable, considered factors such as BMPs and pump operations. The TSS concentration represented a flow or time-weighted composite sample collected over the monitoring event. An annual sediment load was calculated for each station by summing the sediment load for monitored storms (nine events in 2016-2017), and a modeled sediment load representing wet weather days not monitored during the year. The sediment load model represented the cumulative discharge to the harbor for non-monitored wet weather days (24-hour calendar days with ≥0.1 inches rainfall) and the station-specific median TSS concentration representing all available measured TSS results. Discharge was determined using the Modified Rational Method. If BMPs were operational, the Modified Rational Method volume was reduced appropriately. A median TSS result of monitored storm events was used for the model.

The annual sediment load for the watershed was translated into an annual Toxics TMDL load for each station using the analytical results from the storm-borne sediment sample. The storm-borne sediment sample represents a flow-weighted composite sample of collected sediments. For each Toxics TMDL constituent, the measured constituent concentration was multiplied by the annual sediment load. Annual Toxic TMDL pollutant loads were determined for under-represented drainage areas (watershed does not drain to a monitoring location) using a land use area based multiplier. Loads for under-represented drainage areas were calculated using loads calculated for MdRU-C-1 and MdRU-C-2 extrapolated to underrepresented Commercial and Residential areas respectively. Total loads were determined for the Front Basins and Back Basins. Loads were reported as zero for Toxics TMDL constituents that had a non-detected result.

Proposed Modified Load Calculation Method:

Watershed monitoring is proposed at four locations (MdRU-C-P11, MdRU-C-2, MdR-4ORB, and MdR-5). At three of the locations, MdRU-C-P11, MdRU-C-2, and MdR-5, continuous flow monitoring equipment would be installed at each location and used to determine annual discharge to the harbor from each drainage area. High volume water quality samples would be collected during three storm events (of 0.25 inches or greater) and analyzed for TSS. The suspended sediment in the stormwater samples would also be filtered out and analyzed for Toxics TMDL constituents. Annual loads would be calculated for each of these three stations. For monitored storms, the load would represent the product of the measured discharge and the measured Toxics TMDL

constituents. For non-monitored wet weather days, annual loads for each station would be determined as the product of measured discharge and the flow weighted concentration (FWC) for the three storms. Similar to the current load calculation approach, annual Toxic pollutant loads would be determined for under-represented drainage areas using loads calculated for MdRU-C-P11 and MdRU-C-2 and a land use-based multiplier.

It is also proposed to move Stations MdR-3 and MdR-4 to Oxford Basin adjacent to the tide gates (the discharge point to the harbor). This new station would be identified as MdR-4ORB. Discharge to Marina del Rey Harbor would be modeled for monitored storms and non-monitored wet weather days using an established basin model, tide data, and other telemetry information. Similar to load calculations for the other three stations, loads for monitored storms would be based on measured concentration data from high volume samples collected from Oxford Basin. Loads for non-monitored wet weather days would be based on the FWC for the three monitored storms. Total loads will be reported for the Front Basins and Back Basins. Loads will be reported as zero for Toxics TMDL constituents that had a non-detected result.