



GAIL FARBER, Director

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

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IN REPLY PLEASE
REFER TO FILE: **WM-7**

May 16, 2013

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 Renee Purdy

Dear Mr. Unger:

**REQUEST FOR TIME SCHEDULE ORDER
RESPONSE TO COMMENTS
MARINA DEL REY HARBOR MOTHER'S BEACH AND BACK BASINS BACTERIA
TOTAL MAXIMUM DAILY LOAD
SUMMER AND WINTER DRY-WEATHER CONDITIONS**

On behalf of the County of Los Angeles (County) and the Los Angeles County Flood Control District (LACFCD), we appreciate the opportunity to provide a response to your comments, sent via e-mail on February 1, 2013, on the two agencies' request for a Time Schedule Order (TSO) for the Marina del Rey (MdR) Harbor Mother's Beach and Back Basins Bacteria Total Maximum Daily Load (TMDL) Summer and Winter Dry-Weather Conditions. We hope this supplemental document will address your request for more detailed information regarding the specific actions that will be implemented in the MdR Watershed. In addition, we have coordinated with the City of Los Angeles and included interim milestones, as requested.

Background

Below is a list of actions that the County and the LACFCD have taken to come into compliance with dry-weather bacteria objectives since the effective date of the TMDL March 28, 2004.

MdR Small Drain Survey (2004)

A Small Drain Survey identified all storm drain outlets that discharge into the MdR. Approximately 25 storm drain outlets to the MdR harbor were identified. There were no further recommendations from this report.

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RECEIVED



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Mechanical Circulation Device at Mother's Beach (2006)

The Los Angeles County Department of Beaches and Harbor (LACDBH) installed two subsurface water circulators just offshore of Marina Beach, attached under a special dock at Parcel No. 91. The circulators pump water toward the beach face at a rate of 60,000 GPM (30,000 GPM each). The circulators are currently in operation. Effectiveness monitoring was conducted from March 2007 to March 2008 and results did not show that there was any improvement due to the circulators. Additional data over a longer period of time may be needed to determine the effectiveness of the circulators.

MdR TMDL Non-Point Source Study (2007)

The Non-Point Source Study was completed to assess the bacterial sources that may potentially impact water quality. The recommendations from the Study, in order of priority, included the following:

- Rehabilitate the sewage system

Since 2007, the County has lined and rehabilitated eleven miles of sewer lines and 208 manholes in the MdR Watershed.

- Install the Oxford Basin and Boone Olive Low-Flow Diversions (LFD)

Both LFDs have been constructed by the LACFCD. In addition, the Washington Boulevard LFD has also been constructed by the LACFCD.

- Deter birds by limiting trash, posting signs, and installing exclusion devices
 - Bird spikes have been installed on all light standards in all County owned parking lots including Parking Lots 5, 7, 10, and 11, which discharge into the Back Basins.
 - Trash is removed from all County facilities on a daily basis.
- Investigate the possibility of additional pump out stations for boats

There are currently eight parcels that are planning to renovate their dock anchorage systems over the next several years. As part of this renovation, additional pump out stations for public and private use are planned to be constructed.

- Remove bird related fecal matter from Mother's Beach.

Mother's Beach is raked and sanitized daily by LACDBH staff as part of their maintenance program.

- Provide restroom, restaurant, parking lot, and boat wash down education.
 - Wash down educational posters have been placed at launch ramps and pumping stations.
 - A dog walker educational program has been implemented.

Low-Impact Development Ordinance (2009)

The County implemented the Low-Impact Development Ordinance for all unincorporated portions of the County to reduce the impacts of development on stormwater quality and quantity, which provides an ancillary benefit of reducing bacteria.

Oxford Basin Sediment and Water Quality Characterization Study (2010)

The Sediment and Water Quality Characterization Study was completed in 2010 to determine the contribution from Oxford Basin to dry-and wet-weather bacteria loading. Results showed that:

- Bacteria concentrations were meeting water-quality objectives (WQO) at all monitoring sites during ebb tides, but during flood tides were above WQOs within Oxford Basin.
- Bacteria concentration exceeded WQOs in the Boone-Olive Pump Plant, Oxford Basin, and Basin E during wet weather.

Results from the coordinated monitoring plan (CMP) show that since the installation of the low-flow diversions, bacteria loading and occurrence of exceedances have been reduced. However, bird related fecal matter, poor circulation, and other factors can still result in isolated exceedances of bacteria.

Public Outreach (On-going)

Throughout the years, the County and/or the LACFCD, along with other Permittees, have conducted numerous public outreach efforts in the MdR Watershed and the surrounding vicinity that address water quality issues. The following provides a list of some of the efforts conducted and/or supported by the County and/or the LACFCD either through in-kind services, financial support, or fee waivers:

Public Outreach Effort	Description
Clean Los Angeles Public Outreach Program	General education including www.888CleanLA.org .
Smart Gardening Workshops	Water-wise gardening reduces dry-weather runoff, which in turn reduces the transport of bacteria from gardens and streets into the stormwater system.
"No dumping. Drains to the ocean" stencils on catch basins	Reduction of trash in catch basins, storm drains, and water ways reduces bacterial loading.
Clean Harbors Steering Committee	Provides guidance and identifies opportunities to deliver messages about clean boating practices, which reduce bacterial loading in the harbor.
Dockwalker Training	County provided tote bags filled with educational material regarding clean boating practices.
Strategic Boater Focus Group	Open forum for boaters to share observations related to water pollution. County gathered input on how to better enforce boat regulations.
Poster Campaign	Based on the results of the Boater Focus Group, the County started the "Boaters Help Keep Marina del Rey and Santa Monica Bay Clean" campaign. A series of posters were created and posted at strategic sites in the harbor.

Facility Inspections (On-going)

Restaurants are inspected annually for potential sources of bacteria, trash, and other pollutants from waste disposal, grease containers, mop sinks, and other housekeeping activities. The inspection identifies facilities lacking minimum stormwater Best Management Practices (BMPs) and housekeeping practices. Inspections provide an ancillary benefit in keeping bacteria from entering the stormdrain system.

Street and Parking Lot Sweeping (On-Going)

Streets and parking lots in MdR are swept at least twice a week, on Mondays and Thursdays. Parking Lot 15 is swept six times a week during the winter and seven times a week during the summer. Parking Lots 11, 13, and 16 are swept four times a week. Street and parking lot sweeping provide an ancillary benefit by preventing bacteria nourishment from entering the stormdrain system.

Proposed Actions

Oxford Retention Basin Multiuse Enhancement Project (2015)

The LACFCD proposes to convert Oxford Basin into a multiuse facility, which includes the following water-quality benefits:

- Removal of contaminated sediment in the basin bottom to restore sediment storage capacity.
- Installation of a berm between the two existing tide gates on the south side of Oxford Basin to improve water circulation within Oxford Basin.
- Improvements to the operation of the tide gates on the south side of the basin. The opening and closing cycle will be reprogrammed to improve water circulation. During high tide, the west gate will be opened to allow water to flow into Oxford Basin. During low tide, the east gate will be opened to allow water to flow out of Oxford Basin into the Harbor. During storm events, both gates will be operated in accordance with flood related needs.
- Excavation of contaminated soil around the basin perimeter so that newly planted vegetation can thrive.
- Effectiveness Monitoring to determine the effectiveness of the project with regards to water-quality improvement.
- Planting of native vegetation and removal of invasive species.

Project Schedule (Key Milestones):

Phase	Estimated Completion Date
Design	January 2014
Construction Bid and Award	January 2015
Construction	August 2015
Post Construction	December 2015

Parking Lot & Library BMP Retrofit Projects (2014-2017)

The Parking Lot and Library BMP projects will be a combination of rain barrels, bioretention, and filtration BMPs to capture, infiltrate, and treat the runoff before being discharged into Basin D, E, and F. The BMPs will be designed for the 90th percentile, 24-hour storm. More detail can be found in Section 5.4 and Table 6-19 of the Marina del Rey Multi-Pollutant Implementation Plan for the unincorporated area of the County (2012). Enclosure A shows the location, drainage area, estimated bacteria reductions, and schedule for the projects.

Enhanced Watershed Management Program (EWMP)

The County and the LACFCD both plan to participate in the EWMP with the Cities of Los Angeles and Culver City to investigate opportunities for multibenefit regional projects for water-quality improvements.

Interim Limitations

The proposed interim limits are expressed as the number of allowable exceedance days at the existing monitoring locations in the Back Basins. Since no significant improvement of water quality in the Back Basins is expected until the Oxford Basin Project has been completed in Year 3 (2015), the 99th percentile of exceedance days will be the interim limit during years 1, 2, and 3. In Year 4 (2017), the interim limit would be reduced from the 99th percentile to the 85th percentile to reflect the Oxford Basin Project. In Year 5 (2018), the interim limits would be reduced from the 85th percentile to the 75th percentile to reflect the Parking Lot and Library BMP Projects.

Proposed Interim Limits

Year		Percentile	Constructed Project
1-3	May 1, 2013, to April 30, 2016	99	
4	May 1, 2016, to April 30, 2017	85	Oxford Basin
5	May 1, 2017, to April 30, 2018	75	Parking Lot Projects

Enclosure B shows the number of exceedance days for each percentile for each monitoring location for a daily sampling schedule. Enclosure C provides an explanation on how the interim limits were calculated.

The County and the LACFCD expect water quality to be improved with the implementation of these projects and share the Regional Board's commitment to water quality and look forward to working with you and your staff on the development of an approach that will help address the subject TMDL.

Mr. Samuel Unger
May 16, 2013
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If you have any questions, please contact me at (626) 458-4300 or ghildeb@dpw.lacounty.gov or your staff may contact Ms. Angela George at (626) 458-4325 or ageorge@dpw.lacounty.gov.

Very truly yours,

GAIL FARBER
Director of Public Works



GARY HILDEBRAND
Assistant Deputy Director
Watershed Management Division

TM:cp

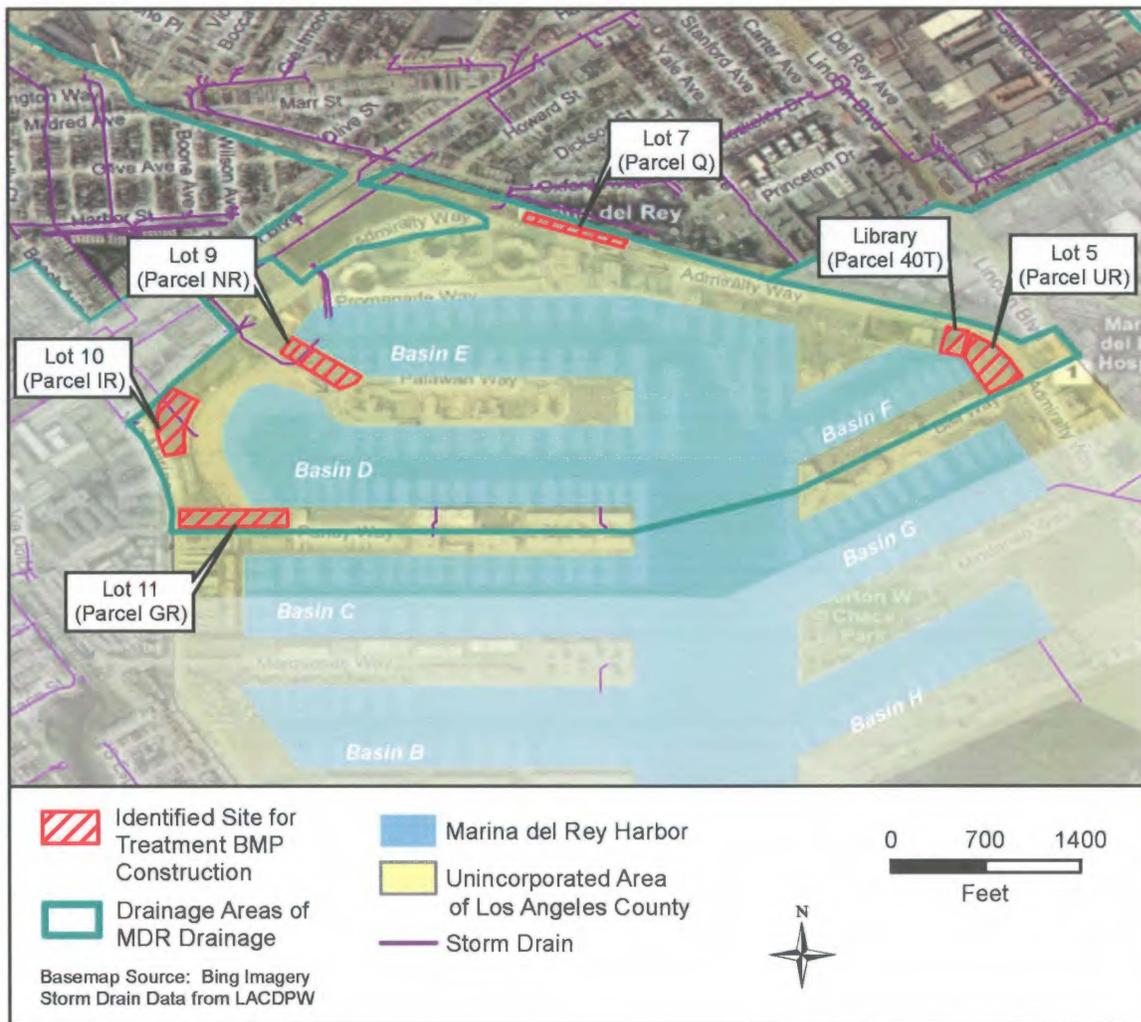
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Enc.

cc: Chief Executive Office
County of Los Angeles Department of Beaches and Harbors
California Department of Transportation
City of Culver City
City of Los Angeles

ENCLOSURE A – PARKING LOT AND LIBRARY BMP PROJECTS

Marina del Rey Parking Lot and Library BMP Project Locations



Marina del Rey Parking Lot and Library BMP Summary

BMP Project	Drainage Area (acres)	Bacteria BMP Reduction Effectiveness ¹	Estimated Schedule
Parking Lot 5	2.1	85%	Start Construction – March 2014
Parking Lot 7	0.85	70%	Start Construction – March 2014
Parking Lot 11	2.1	70%	Concept – July 2013 Start Construction – March 2015
Parking Lot 9	1.5	83%	Concept – July 2014 Start Construction – March 2016
Parking Lot 10	2.1	91%	Concept – July 2015 Start Construction – March 2017
Marina del Rey Library	0.5	95%	Concept – July 2015 Start Construction – March 2017

1- Per Table 6-19 of the Mdr Multi-Pollutant Implementation Plan

**ENCLOSURE B: PERCENTILE EXCEEDANCE RATES AND EXCEEDANCE DAYS
SUMMER DRY WEATHER**

BASIN D															
Percentile	MDRH-1			MDRH-2			MDRH-3			MDRH-4 (DEPTH)			MDRH-4 (SURFACE)		
	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)
99 th	43.8%	74	11	37.5%	63	9	25.0%	42	6	16.7%	28	4	25.0%	42	6
85 th	22.2%	38	5	16.7%	28	4	14.3%	24	3	0.0%	0	0	14.3%	24	3
75 th	14.3%	24	3	8.3%	14	2	14.3%	24	3	0.0%	0	0	0.0%	0	0

BASIN E													
Percentile	MDRH-5			MDRH-6 (DEPTH)			MDRH-6 (SURFACE)			MDRH-7			
	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	
99 th	63.6%	107	15	37.5%	63	9	70.3%	119	17	69.2%	117	17	
85 th	45.5%	77	11	14.3%	24	3	40.0%	68	10	50.0%	84	12	
75 th	37.5%	63	9	14.3%	24	3	33.3%	56	8	40.0%	68	10	

BASIN F												
Percentile	MDRH-8 (DEPTH)			MDRH-8 (SURFACE)			MDRH-9 (DEPTH)			MDRH-9 (SURFACE)		
	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)
99 th	0.0%	0	0	14.3%	24	3	14.3%	24	3	25.00%	42	6
85 th	0.0%	0	0	0.0%	0	0	0.0%	0	0	14.30%	24	3
75 th	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.00%	0	0

**ENCLOSURE B: PERCENTILE EXCEEDANCE RATES AND EXCEEDANCE DAYS
WINTER DRY WEATHER**

BASIN D															
Percentile	MDRH-1			MDRH-2			MDRH-3			MDRH-4 (DEPTH)			MDRH-4 (SURFACE)		
	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)
99 th	84.0%	103	15	60.3%	74	11	77.1%	95	14	25.0%	31	4	33.3%	41	6
85 th	49.2%	60	9	28.1%	35	5	25.0%	31	4	14.3%	18	3	10.7%	14	2
75 th	43.5%	54	8	22.2%	28	4	25.0%	31	4	0.0%	0	0	0.0%	0	0

BASIN E													
Percentile	MDRH-5			MDRH-6 (DEPTH)			MDRH-6 (SURFACE)			MDRH-7			
	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	
99 th	44.5%	55	8	40.0%	49	7	72.4%	89	13	66.7%	82	12	
85 th	28.6%	35	5	26.6%	33	5	33.3%	41	6	46.8%	58	8	
75 th	25.0%	31	4	25.0%	31	4	27.7%	34	5	33.3%	41	6	

BASIN F												
Percentile	MDRH-8 (DEPTH)			MDRH-8 (SURFACE)			MDRH-9 (DEPTH)			MDRH-9 (SURFACE)		
	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)	% Exc.	Exc. Days (Daily)	Exc. Days (weekly)
99 th	29.0%	36	5	0.0%	0	0	9.6%	12	2	18.3%	23	3
85 th	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0
75 th	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0

ENCLOSURE C. METHODOLOGY FOR INTERIM LIMITS CALCULATIONS

The following is a description of the approach used to calculate interim limits for bacteria TMDLs based on exceedance days. The approach to interim limits calculations was based on the following formula:

$$\text{Interim Exceedance Days} = \text{Percentile [Historic \% Exceedance]} \\ \times \text{[Number of Days in a Critical Year]},$$

where Percentile can be incrementally decreased for phased implementation (e.g., from 99th percentile to 85th percentile to 75th percentile).

The calculated *Interim Exceedance Days* are based on daily sampling; the values would be scaled proportionately if the Coordinated Monitoring Plan (CMP) performs weekly sampling (or other frequency.)

Calculating [Number of Days in a Critical Year]:

The numbers of days in a critical year were pre-determined by the bacteria TMDLs, as follows:

- Winter dry days: 122 days
- Summer dry days: 168 days
- Wet days: 75 days

Calculating Percentile [Historic \% Exceedance]:

Historic \% Exceedance was calculated using data collected during the TMDL CMPs. For the MdR Bacteria TMDL, CMP data collection began on April 2, 2007. Because relatively few years of data are available, if *Historic \% Exceedance* was calculated based on discrete calendar year or seasonal exceedance rates, then relatively few data points would be available to calculate percentiles (i.e., 5 values – one for each year/season). With so few values, the calculated percentiles would not capture/represent the variability of exceedances of MdR. As such, a rolling calculation was used to step through the dataset and calculate exceedance rates over multiple intervals, greatly increasing the number of data points available for percentile calculations. The rolling approach also captures varying wet and dry periods, thereby representing future periods that could be exceptionally wet or dry.

In order to generate additional data points for percentile estimates of *Historic \% Exceedance*, the rolling calculation must be shorter than the winter and summer seasons that the TMDL uses to categorize allowable exceedance days. Considered options included 30, 42, or 60 days. For example, a duration of 90 days was considered

too long because calculations would essentially be limited to the last two months of the winter dry season (calculations wouldn't start until the 4th month and the winter season is five months long).

The following approach was applied for calculations of Percentile [*Historic % Exceedance*]:

- Duration of 42-days was selected because it corresponds to the duration of the geometric mean calculation for the TMDL and thus has relevance to the applicable Water Quality Objectives (WQOs) for the bacteria TMDLs. This duration is also sufficiently short to allow the calculation to be performed over the course of the whole season.
- Each time a sample was collected, the single sample WQO exceedance rate was calculated for the previous 42-days (starting on the 42nd day in each season). If any of the applicable indicators (total coliform, fecal coliform, enterococcus, or the total-to-fecal ratio) exceeded the single sample target in a given sample, that sample was counted as one exceedance.
- The values for each Percentile (99th, 85th, and 75th) were calculated based on all the exceedance rates calculated in the CMP dataset (i.e., the exceedance rates calculated with the rolling calculation were ranked from highest to lowest and percentiles were determined).