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December 24, 2012

Mr. Samuel Unger
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. Fourth Street, Suite 200
Los Angeles, CA 90013

REQUEST FOR TIME SCHEDULE ORDER FOR THE CITY OF LOS ANGELES TO IMPLEMENT THE WASTE LOAD ALLOCATIONS OF THE TOTAL MAXIMUM DAILY LOAD FOR BACTERIA AT MARINA DEL REY HARBOR MOTHERS' BEACH AND BACK BASINS

Dear Mr. Unger,

The City of Los Angeles (City) respectfully requests a Time Schedule Order (TSO) to implement the dry weather Waste Load Allocations (WLAs) of the Total Maximum Daily Load for Bacteria at Marina del Rey Harbor Mothers' Beach and Back Basins (Mdr Bacteria TMDL). The Mdr Bacteria TMDL was adopted as Resolution No. 2003-012 by the Los Angeles Regional Water Quality Control Board (Regional Board) on August 7, 2003 and became effective on March 18, 2004. Subsequently, by Order No. R4-2012-0175, the provisions of the Mdr Bacteria TMDL were incorporated into NPDES Permit No. CAS004001 for Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Los Angeles County Flood Control District, including the County of Los Angeles, and the Incorporated Cities therein, except the City of Long Beach (MS4 Permit). The Mdr Bacteria TMDL requires the permittees to comply with the single sample maximum and geometric mean WLAs for the summer and winter dry-weather periods four years after the effective date of the TMDL (March 18, 2008). The WLAs were incorporated into the MS4 Permit as: 1) final Water Quality Based Effluent Limitations (WQBELs) set equal to the TMDL numeric targets and Basin Plan objectives; and 2) receiving water limitations set equal to the allowable number of exceedance days.

In June 2012, the Regional Board adopted an amendment (Amended Mdr Bacteria TMDL) revising the final compliance date for the geometric mean WLAs from March 18, 2008 to



coincide with the wet weather compliance date of July 15, 2021. The MS4 Permit incorporated the amended provisions. However, as the Amended Mdr Bacteria TMDL is not effective (as it is currently going through the State and USEPA approval process), the amended provisions incorporated into the MS4 permit are not effective at this time. As the final compliance date has passed for the single sample maximum and the geometric mean WLAs, the MS4 Permit requires permittees to immediately comply with the WQBELs and receiving water limitations during summer and winter dry-weather as summarized in Tables 1 and 2, respectively. Periodic monitoring in the Marina del Harbor Back Basins indicates that these requirements currently are not being met in a consistent manner as will be further discussed in the following sections. While the sources of observed exceedances have not routinely been determined and are likely to be manifold, the City as one of the permittees may be potentially subject to enforcement action by the Regional Board. The City is requesting a TSO to: 1) allow for additional actions to be taken to attain the dry-weather TMDL requirements associated with the single sample maximum water quality objectives; and 2) allow for the Amended Mdr Bacteria TMDL revisions associated with the geometric mean to become effective. The following sections are provided for consideration by the Regional Board to support the issuance of a TSO.

Table 1. Water Quality-Based Effluent Limitations of Mdr Bacteria TMDL

| Constituent | Effluent Limitations (MPN or CFU) | |
|------------------------------|-----------------------------------|----------------|
| | Daily Maximum | Geometric Mean |
| Total coliform ¹⁾ | 10,000 / 100 mL | 1,000 / 100mL |
| Fecal coliform | 400 / 100 mL | 200 / 100 mL |
| Enterococcus | 104 / 100 mL | 35 / 100 mL |

¹⁾ Total coliform density shall not exceed a daily maximum of 1,000 / 100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

Table 2. Receiving Water Limitations of Mdr Bacteria TMDL

| Time period | Annual allowable exceedance days of single sample objectives | |
|--------------------|--|-----------------|
| | Daily sampling | Weekly sampling |
| Summer dry weather | 0 | 0 |
| Winter dry weather | 3 | 1 |

DRAINAGE OF CITY OF LOS ANGELES MS4 TO BACK BASINS

The City is one of four agencies listed in the Mdr Bacteria TMDL as responsible for the WLAs but its MS4 only discharges to Back Basin E and not to Back Basins D and F. As shown in Figure 1, the City is entirely located in Marina del Rey Subwatersheds 2, 3 and 4:

- Subwatershed 2 (326 acres) is entirely within the City and drains into Grand Canal and Ballona Lagoon. The Regional Water Board excluded this area from the Mdr Bacteria TMDL.

- Subwatershed 3 (71 acres) also is entirely within the City and drains directly into Back Basin E. Storm drain D-1056 in Subwatershed 3 no longer discharges into Back Basin D as it was abandoned in 1986, hence, there is no City discharge into Back Basin D.
- Subwatershed 4 (672 acres) is primarily within the City but contains small portions of land from Caltrans, the City of Culver City and the County of Los Angeles. All of Subwatershed 4 drains into Oxford Basin, and subsequently to Back Basin E.

The City does not have any direct or indirect discharges into Back Basins D and F; therefore, the City is not responsible for water quality exceedances of bacteria objectives that may occur in those basins. Accordingly, this TSO only addresses the City's compliance requirements of the Mdr Bacteria TMDL as they relate to Back Basin E during dry weather.

WATER QUALITY MONITORING DATA AND DEMONSTRATION OF INABILITY TO CURRENTLY MEET FINAL EFFLUENT LIMITATIONS AND RECEIVING WATER LIMITATIONS

Water quality monitoring in Marina del Rey Harbor is coordinated by the City on behalf of all watershed agencies per the specifications of the Coordinated Monitoring Plan for the Mdr Bacteria TMDL. As shown in Attachment 2, monitoring stations MdrRH-5, MdrRH-6 and MdrRH-7 are located in Back Basin E and have been sampled on a weekly basis since March 2007. Table 3 tabulates the average annual number of the days with one exceedance or more of the limits for single samples or geometric means. Year-by-year analyses are included in Appendix 3 and they indicate that receiving water limitations have been exceeded since the start of TMDL monitoring (period 2007-2011) at all monitoring stations in Back Basin E.

Table 3. Average annual number of dry weather exceedance days in Back Basin E (2007-2012)

| Monitoring station | Single samples | | Single samples | | Geometric mean | |
|-------------------------|--------------------|---------|--------------------|---------|-----------------------|---------|
| | Summer dry weather | | Winter dry weather | | Yearround dry weather | |
| | Actual | Allowed | Actual | Allowed | Actual | Allowed |
| MdrRH-5 | 10.2 | 0 | 1.2 | 1 | 58.2 | 0 |
| MdrRH-6, surface | 6.0 | 0 | 2.6 | 1 | 110 | 0 |
| MdrRH-6, depth | 2.2 | 0 | 1.2 | 1 | 41.6 | 0 |
| MdrRH-7 | 8.6 | 0 | 2.2 | 1 | 63.4 | 0 |

IMPLEMENTATION EFFORTS FOR TMDL COMPLIANCE

The Mothers' Beach and Back Basins Bacteria TMDL Non-Point Source Study (submitted to the Regional Water Board in 2007) identified discharges from the Oxford Basin (which collects urban runoff from most of Subwatershed 4) and the Boone Olive Pump Plant (which collects urban runoff from most of Subwatershed 3) as major sources of bacteria in the Back Basin E. Several BMPs have been implemented to address the dry weather WLAs and corresponding WQBELs and receiving water limitations of the Mdr bacteria TMDL. The following three Low

Flow Diversions (LFDs), owned and operated on behalf of the Responsible Agencies by the County of Los Angeles, have been implemented to specifically address MS4 discharges to Back Basin E:

- Low Flow Diversion Project No. 3874: Located at 539 Washington St. in Venice at the Boone Olive Pump plant, this LFD has been operated year-round since March 2007 capturing runoff from a City drainage area of 61 acres in Subwatershed 3.
- Low Flow Diversion Project No. 5234: This LFD is located at Washington Boulevard and Thatcher Avenue in Los Angeles, capturing runoff from a City drainage area of 310 acres in Subwatershed 4 year-round since March 2007.
- Low Flow Diversion Project No. 3872: This LFD was taken in operation in November 2009. It is located at Berkley Drive and Yale Avenue in Los Angeles serving a City drainage area of 148 acres in Subwatershed 4.

As shown in Appendix 4, the three LFDs divert dry weather runoff from a tributary area of 519 acres. The remaining area in Subwatersheds 3 and 4 of approximately 137 acres is currently not being served by LFDs as this area (also known as the “under-represented area”) is under tidal influence. However, five bio-retention filters (Filterra) have been installed within this area at Garfield Avenue, Abbot Kinney and Coeur D’Alene. These filters each have a footprint of 6.5 x 4 ft, were installed in December 2006 and have been in operation ever since. They collect and treat dry weather runoff and stormwater serving three sub-drainages areas of 0.3, 14.1 and 16.5 acres, or a total of 31 acres. As such, the remaining area in Subwatersheds 3 and 4 that currently does not have structural BMPs for the collection and treatment or diversion of dry weather runoff amounts to approximately 106 acres (less than 20% of the total area).

Aside from structural BMPs, the City has implemented the following institutional BMPs that are expected to provide ancillary benefits to reducing bacteria loadings to Back Basin E, in particular from those areas from the City MS4 that are not served by structural BMPs:

- As part of the implementation of the Trash TMDLs, the City retrofitted a total of 103 City-owned and 190 County-owned catch basins in the Marina del Rey watershed. All catch basins were provided with trash screens in 2011.
- Catch basin cleaning at a typical frequency of at least 3-4 times per year.
- Street sweeping on weekly or monthly basis.
- Inspections, outreach and enforcement as part of the Restaurant and Grocery Store Trash Management Program.
- Implementation of the SUSMP program and the Low Impact Development ordinance.

Given that a portion of the City area in the Marina del Rey watershed is not fully addressed by structural and institutional BMPs, the City cannot exclude at this time that potential discharges of dry weather runoff from its MS4 to Back Basin E may be one of the several potential sources contributing to the observed exceedances of the receiving water limitations.

COMPLIANCE STRATEGIES

In 2005, the County of Los Angeles (lead agency for the TMDL), the City of Los Angeles, the City of Culver City and Caltrans submitted the final Implementation Plan for the Mdr Bacteria TMDL to the Regional Water Board. This plan proposed an iterative adaptive approach for implementation of institutional and structural BMPs to meet the dry and wet weather requirements; many of the proposed BMPs have since then been implemented including the three LFDs. However, the Implementation Plan did not recommend implementation of additional structural BMPs outside of the areas that are tributary to the LFDs (i.e., Marina del Rey under-represented area) due to the following challenges:

- Construction of additional LFDs to increase the LFD tributary area in Subwatersheds 3 and 4 is challenged because additional provisions will need to be included to prevent discharges of sea water to the sewer system during the periods of high tides.
- Local high ground water levels limit the opportunities for green infrastructure BMPs that rely on infiltration of urban runoff.
- The built-out environment, lack of public parcels, and lack of green space limit the opportunities of larger scale regional BMPs.

While the City had expected to meet the dry weather WLAs for Back Basin E with the implementation of the LFDs and bio-retention filters, along with the implementation of non-structural BMPs in all watershed areas, it will need to continue the iterative adaptive approach for implementation.

Accordingly, the City requests this TSO to provide additional time to develop and implement short and longer term strategies with institutional and/or structural BMPs for dry weather runoff in the Marina del Rey under-represented area of Subwatersheds 3 and 4, and to allow for the Amended Mdr Bacteria TMDL revisions associated with the geometric mean to become effective.

Proposed action items and the estimated time for completion are summarized in Table 4. Short-term action items include dry weather runoff investigations and institutional measures that will commence immediately upon adoption of the TSO:

- Continue with institutional measures currently in place in the Marina del Rey watershed (e.g., street sweeping, catch basin cleaning, enforcement) and evaluate current levels of implementation.
- Determine the sources of dry weather runoff in the under-represented area, the bacteriological quality, and flow rates.
- Using the results of two previous items, identify and recommend opportunities for improvement of institutional measures targeting dry weather runoff and associated bacteria loadings and, if applicable, enforce the elimination of illicit discharges and illicit connections.

For the structural BMP strategy, it is proposed to identify and evaluate several alternatives for diversion and/or treatment of dry weather runoff as outlined below and to determine the feasibility of implementation. Structural BMPs that are currently available and potentially applicable for implementation in the under-represented area of Marina del Rey include, but may not be limited to:

- Additional low flow diversions provided that solutions can be implemented to prevent seawater from entering the sewer system.
- Additional tree wells or similar type of BMPs at the approximately 40 catch basins in the under-represented area.
- Other proprietary technologies from various vendors for removal of bacteria from urban runoff in catch basins and/or storm drains.

Upon completion of these evaluations, the preferred alternative and/or a combination thereof will be implemented. In addition, the Oxford Basin Multiuse Enhancement Project by the County of Los Angeles is anticipated to provide additional benefits as Oxford Basin collects all dry weather runoff from the City MS4 drainage area prior to discharge to Back Basin E. The Oxford Basin project currently is in the final design stage and construction is anticipated to be in 2014.

The proposed schedule in Table 4 is as short as possible. Several proposed actions are scheduled immediately upon adoption of the TSO and will be completed in the first year or earlier. However, the time required for implementation of structural BMPs will depend on the selected alternative and is in general determined by the specific City policies and procedures for project management as well as permitting requirements. Based on the experience of implementing projects in the past for Proposition O, the typical schedule and timeline for the implementation of similar BMP projects is four years as follows:

1. Development of a project concept report (3 months).
2. Pre-design with development of the preferred alternative and, if applicable, completion of CEQA requirements and obtaining permits (15 months).
3. Design with development of plans, specifications and contract documents (15 months).
4. Advertisement, bid and award (6 months).
5. Construction (17 months, for a "moderately complex project").
6. Post construction, start-up and turnover (6 months).

Larger projects can require substantially more time depending on the technical complexity and other factors (e.g., preparation of EIR documentation, permits from Coastal Commission, etc.).

Table 4. Proposed Actions and Estimated Time for Completion

| Proposed Action | Estimated Time to Complete each Action | Total Time after Adoption of TSO |
|---|---|---|
| Conduct winter dry weather flow investigations | 3 | 3 months |
| Conduct summer dry weather flow investigations | 3 | 6 months |
| Evaluate institutional measures, recommend potential actions, eliminate IC/ID | 6 | 9 months |
| Identify potential structural BMPs and strategy for implementation | 6 | 12 months |
| Implement Structural BMPs if applicable: | | |
| - Low Flow Diversions | 48 | 60 months |
| - Tree wells | 48 | 60 months |
| - Proprietary technologies with minimum modification to existing infrastructure | 32 | 44 months |
| - Oxford Basin retrofit (by County) | 24 | 30 months |

In the interim, the City proposes that the Regional Board considers adoption of interim limits for monitoring stations MdrRH-5, MdrRH-6 and MdrRH-7 in Back Basin E as summarized in Table 5. The Regional Board has relied upon Appendix E of USEPA's Technical Support Document (1994) in the past as the guidance for the statistical derivation of interim limits where the daily maximum has been set at the 99th percentile. Additionally, this approach has been used by the Regional Board to establish interim limitations in instances where final WLAs in TMDLs are past due. Thus, as proposed, the interim limits are set equal to the 99th percentile of the annual number of single sample exceedance days observed over 2007-2011 using the data in Attachment 3. Although LFDs were completed in 2009 and have reduced the MS4 contribution to Marina del Rey, the use of 2007-2011 dataset is proposed as the limited dataset does not suggest a significant difference in pre- and post-LFD conditions.

Table 5. Proposed Interim Limits for Back Basin E

| Monitoring Station | Proposed interim limits (annual allowable exceedance days for single samples) | |
|--------------------|--|---------------------------------|
| | Summer dry weather ¹ | Winter dry weather ² |
| MdRH-5 | 19 | 3 |
| MdRH-6, surface | 16 | 4 |
| MdRH, depth | 6 | 3 |
| MdRH-7 | 23 | 6 |

1 – Interim limit based on the 99th percentile of observed single sample maximum exceedance days during summer dry weather over 2007-2011.

2 – Interim limit based on the 99th percentile of observed single sample maximum exceedance days during winter dry weather over 2007-2011.

The City appreciates your consideration of this TSO request and we thank you and your staff for your continued assistance. If you or your staff has any questions regarding this request, or needs additional information, please contact Dr. Shahram Kharaghani, Manager of the City's Watershed Protection Program at 213-485-0587 or shahram.kharaghani@lacity.org.

Sincerely



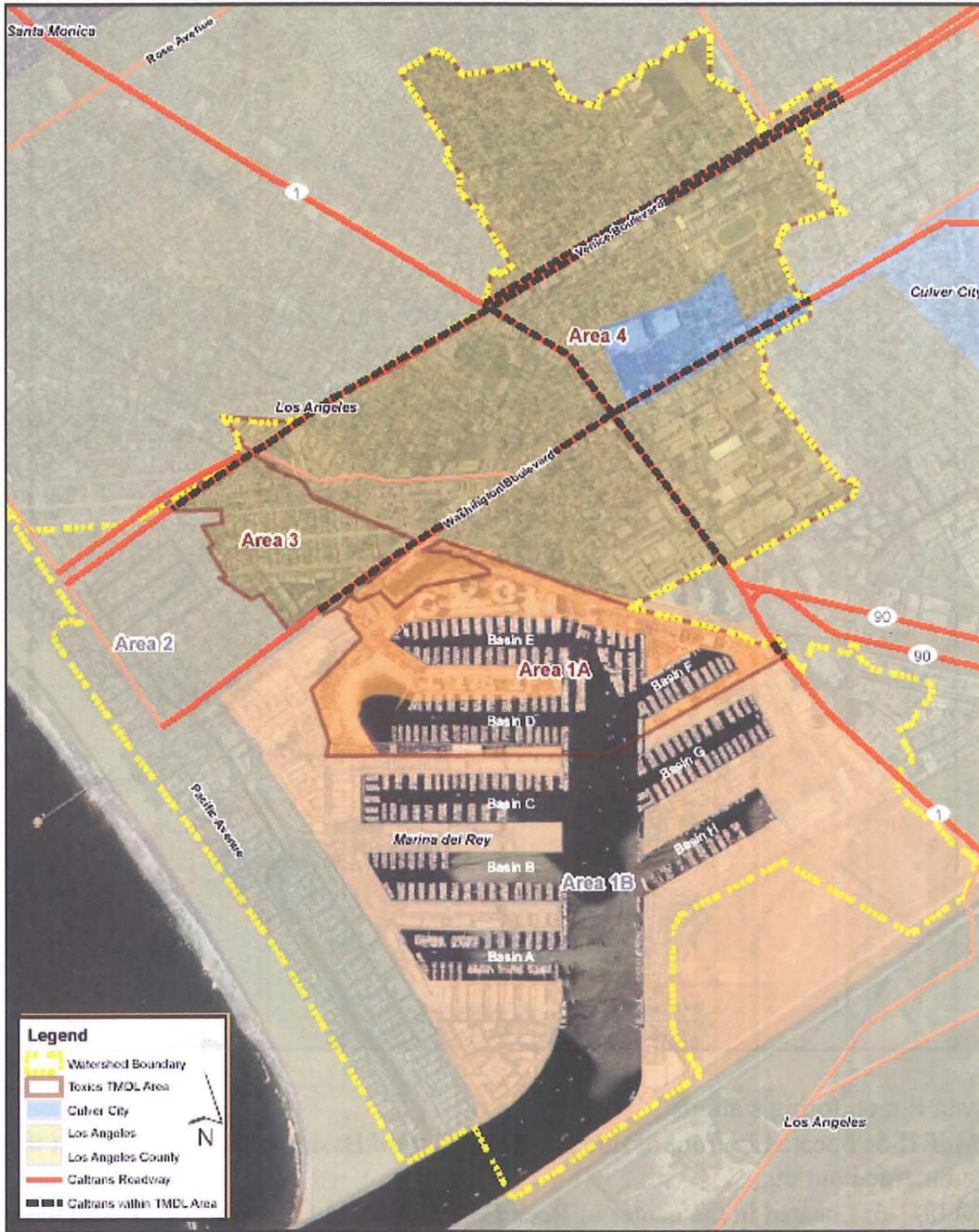
SHAHRAM KHARAGHANI, Ph.D., P.E., BCEE
Watershed Protection Program Manager
Bureau of Sanitation

Attachments

Cc: Ivar Ridgeway, California Regional Water Quality Control Board, Los Angeles Region
Renee Purdee, California Regional Water Quality Control Board, Los Angeles Region
LB Nye, California Regional Water Quality Control Board, Los Angeles Region
Man Voong, California Regional Water Quality Control Board, Los Angeles Region
Traci Minamide, Chief Operating Officer, City of Los Angeles, Bureau of Sanitation
Adel Hagekhalil, Assistant Director, City of Los Angeles, Bureau of Sanitation
Robert Vega, Assistant Division Manager, City of Los Angeles, Bureau of Sanitation
Donna Toy-Chen, Assistant Division Manager, City of Los Angeles, Bureau of Sanitation
Hubertus Cox, Assistant Division Manager (acting), City of Los Angeles, Bureau of Sanitation

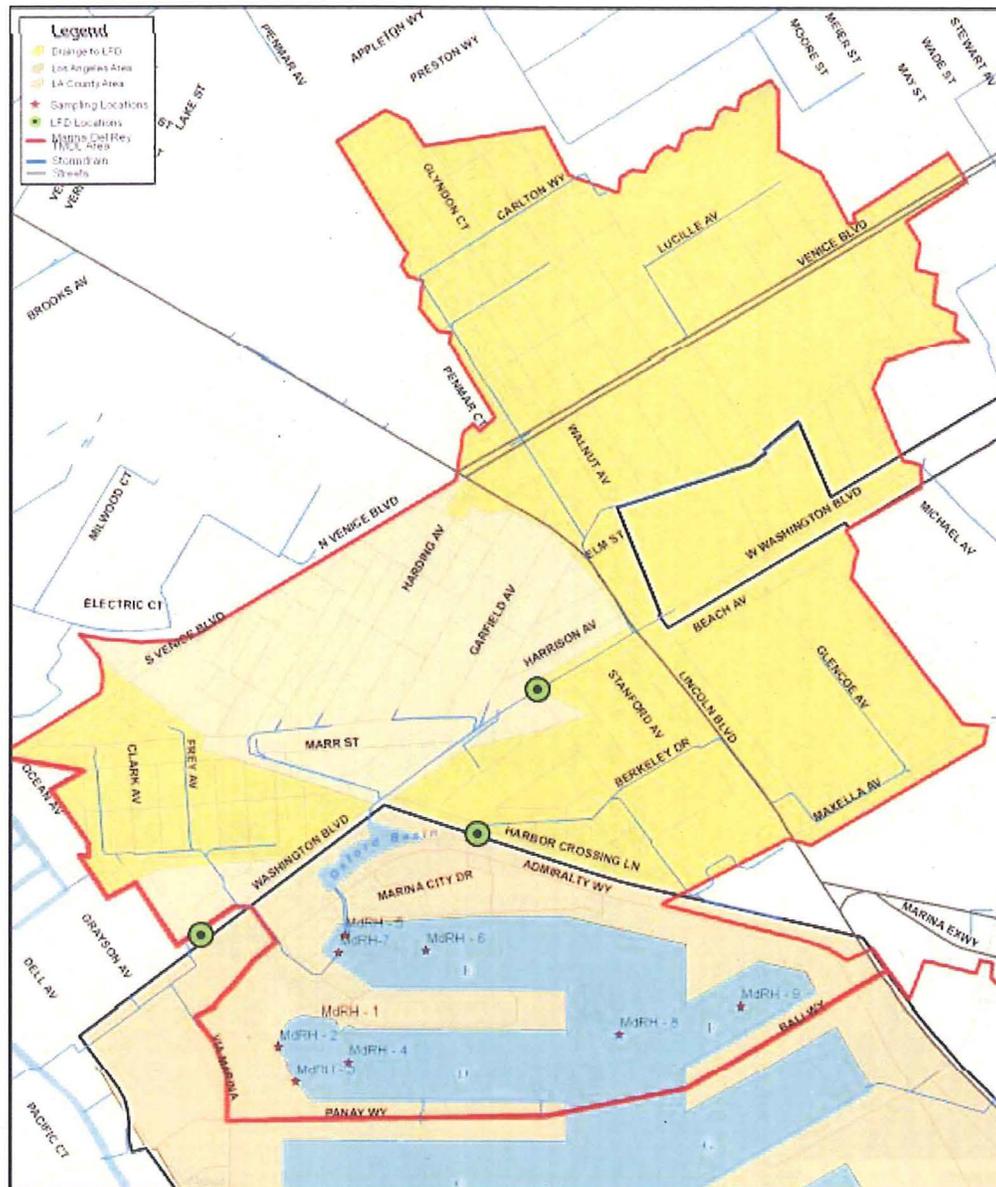
ATTACHMENT 1

Marina del Rey subwatershed areas and jurisdictional boundaries



ATTACHMENT 2

Bacteria monitoring stations in Marina del Rey Harbor



Back Basin E monitoring stations:

- MdrH-5: Located in front of tide gate from Oxford Basin; weekly sampling at the submerged outlet.
- MdrH-6: Located in the center of Back Basin E; weekly sampling at the surface and at depth.
- MdrH-7: Located in front of the outlet of the Boone-Olive Pump Station; weekly sampling at the submerged outlet.

ATTACHMENT 3

Water quality analyses 2007-2012, Marina del Rey Harbor Back Basin E

| Dry weather exceedance days of single sample limits at Back Basin E monitoring stations | | | | | |
|---|------|------------------------------|-----------------|------------------------------|------------------|
| Monitoring station | Year | Summer dry weather (Apr-Oct) | | Winter dry weather (Nov-Mar) | |
| | | Samples | Exceedance days | Samples | Exceedances days |
| MdRH-5 | 2007 | 33 | 5 | 15 | 1 |
| | 2008 | 45 | 19 | 17 | 1 |
| | 2009 | 39 | 10 | 14 | 1 |
| | 2010 | 37 | 12 | 13 | 3 |
| | 2011 | 33 | 2 | 14 | 0 |
| MdRH-6 (surface) | 2007 | 33 | 4 | 16 | 2 |
| | 2008 | 43 | 16 | 16 | 0 |
| | 2009 | 36 | 7 | 16 | 4 |
| | 2010 | 27 | 0 | 13 | 4 |
| | 2011 | 34 | 3 | 16 | 3 |
| MdRH-6 (depth) | 2007 | 28 | 0 | 14 | 0 |
| | 2008 | 32 | 1 | 17 | 1 |
| | 2009 | 32 | 2 | 14 | 1 |
| | 2010 | 29 | 2 | 12 | 1 |
| | 2011 | 36 | 6 | 17 | 3 |
| MdRH-7 (surface) | 2007 | 33 | 5 | 15 | 1 |
| | 2008 | 49 | 23 | 17 | 1 |
| | 2009 | 35 | 6 | 14 | 0 |
| | 2010 | 30 | 4 | 17 | 6 |
| | 2011 | 35 | 5 | 17 | 3 |

Values in **bold font** indicate exceedance of the receiving water limitations

Dry weather exceedance days of 30-day rolling geometric mean limits at Back Basin E monitoring stations

| Monitoring station | Storm Year | Summer dry weather exceedance days | Winter dry weather exceedance days |
|---------------------------|-------------------|---|---|
| MdRH-5 | 2007-08 | 0 | 0 |
| | 2008-09 | 142 | 9 |
| | 2009-10 | 14 | 14 |
| | 2010-11 | 18 | 45 |
| | 2011-12 | 25 | 24 |
| MdRH-6 (surface) | 2007-08 | 72 | 42 |
| | 2008-09 | 121 | 2 |
| | 2009-10 | 30 | 56 |
| | 2010-11 | 47 | 80 |
| | 2011-12 | 56 | 44 |
| MdRH-6 (depth) | 2007-08 | 0 | 16 |
| | 2008-09 | 0 | 4 |
| | 2009-10 | 0 | 24 |
| | 2010-11 | 39 | 49 |
| | 2011-12 | 28 | 48 |
| MdRH-7 (surface) | 2007-08 | 0 | 39 |
| | 2008-09 | 141 | 11 |
| | 2009-10 | 32 | 1 |
| | 2010-11 | 7 | 43 |
| | 2011-12 | 23 | 20 |

Values in **bold font** indicate exceedance of the receiving water limitations

ATTACHMENT 4

LFD drainage areas in Subwatershed Areas 3 and 4

