CITY OF LOS ANGELES
CALIFORNIA

433 SOUTH SPRING STREET
LOS ANGELES, CA 90013
TEL: (213) 473-7999
FAX: (213) 473-8100

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Mr. Jon Bishop, Executive Director
California Regional Water Quality Control Board
Los Angeles Region
Junipero-Serra Building
320 W. Fourth Street, Suite 200
Los Angeles, CA 90013

SANTA MONICA BAY BEACHES BACTERIA TMDL – SUBMITTAL OF FINAL IMPLEMENTATION PLAN FOR JURISDICTIONAL GROUPS 2 AND 3

The City of Los Angeles (City) is submitting the enclosed two hardcopies of the final Implementation Plan on behalf of the responsible agencies of Jurisdictional Groups 2 and 3 (JG 2/3) of the Santa Monica Bay Beaches Bacteria TMDL (TMDL). The responsible agencies of Jurisdictional Groups 2 and 3 (JG 2/3) have jointly prepared an Implementation Plan to meet the Santa Monica Bay Beaches Wet Weather Bacteria TMDL in accordance with the schedule for submittals of the draft and final Implementation Plan (I-Plan) reports to the California Regional Water Quality Control Board – Los Angeles Region (Regional Board). Responses to comments received from the Regional Board staff on the draft I-Plan are provided in Attachment A. We thank the Regional Board for this opportunity to work cooperatively on the preparation of the first public safety TMDL compliance plan for the beaches that balances the interests and goals of all of the participating stakeholders.

For the past 2 years, the JG 2/3 agencies and other interested stakeholders have collaborated in the development of this I-Plan. The five participating JG 2/3 agencies (City of Los Angeles, City of Santa Monica, City of El Segundo, County of Los Angeles, and California Department of Transportation) and Regional Board staff have met monthly, and four workshops have been held with interested stakeholders, including key environmental organizations, to review the I-Plan progress and obtain input into the I-Plan components. This final report reflects a culmination of this coordinated effort.

The proposed I-Plan lays out a program in which the JG 2/3 agencies have made explicit commitments to conduct additional and focused non-structural, institutional, source control activities as well as specific structural BMPs at publicly-owned facilities. As these programs roll-out, their impact on downstream water quality will be assessed, and adjustments made to subsequent projects planning. This is the essence of the phased, iterative, adaptive approach underlying this plan.

The phased approach to implementation assumes that the initial programs and projects conducted during Stage 1 will provide information about the effectiveness of these efforts in meeting the objectives of this TMDL. Planning, design, permitting, advertisement/bid and award, construction and operation of these initial efforts are expected to take 8 years to fully implement and test (i.e., until 2013.) This effort represents an investment of approximately $38 million. If found to be effective, additional sub-regional BMPs will be constructed, and

additional investments in non-structural, institutional programs will be made over the subsequent 8 years to achieve the overall water quality objectives of this TMDL by 2021, at an additional cost of approximately $56 million. If progress toward the TMDL objectives does not adequately demonstrate water quality improvements in the Bay by 2013, then end-of-pipe, regional solutions will be revisited in Stage 2.

While this represents a significant investment toward water quality improvement in the Santa Monica Bay, the cost of launching into regional, end-of-pipe projects would be an order-of-magnitude greater than that reflected in the proposed I-Plan. In light of the uncertainties of the effectiveness of the Stage 1 efforts, coupled with the continued research into pathogen indicators, the compliance strategy presented in this I-Plan is considered to be a better use of public resources by the JG 2/3 stakeholders. We hope that the Regional Board provides the JG 2/3 agencies with the latitude to achieve the necessary improvements in Santa Monica Bay water quality in a manner that honors and supports the agencies' stewardship of these public resources by approving this I-Plan and allowing the adaptive, iterative process of TMDL compliance to proceed over the course of the next 16 years.

We appreciate the Regional Board's guidance and support in the development of this I-Plan, and look forward to continuing the strong partnership that has been established among the stakeholders to see it through to fruition.

If you have any questions regarding this Implementation Plan, please contact Morad Sedrak or Wing Tam at (323) 342-1577 or (323) 342-1574, respectively.

Sincerely,

RITA L. ROBINSON, Director
Bureau of Sanitation

Enclosure
SK:MFS:WKT
cc: w/ Enclosure:
Joe Mundine, Executive Officer, Bureau of Sanitation (BOS), City of Los Angeles
Craig Perkins, City of Santa Monica
Mark Pestralla, County of Los Angeles
Jeff Stewart, City of El Segundo
Paul Thakur, Caltrans
Phil Richardson, Street and Stormwater Program Manager, BOE, City of Los Angeles
Shahram Kharaghani, Stormwater Program Manager, BOS, City of Los Angeles

w/o Enclosure:
Daniel Hackney, City of Los Angeles, Mayor's Office
Phil Tate, City of Los Angeles, Council District 11
Bee Campbell, CAO, City of Los Angeles
Rafael Prieto, CLA Office, City of Los Angeles
Joseph Cruz, CAO Office, City of Los Angeles

H:RWQCB/Final-SMBBB TMDL I-Plan Cover Ltr (071405)

Attachment A – Responses to Water Board Comments

After the draft report was submitted on March 15, 2005, the agency representatives met with Water Board staff on April 4, 2005 to discuss their initial reactions to the the Santa Monica Bay Beaches Wet Weather Bacteria TMDL Implementation Plan (I-Plan). A subsequent meeting was held on April 14, 2005 with both Regional Board staff and the Executive Director of Heal the Bay to obtain verbal feedback on the proposed Plan. Formal comments from the Regional Board were sent to the responsible jurisdictions on May 6, 2005.

The key issues raised by the Water Board staff related to conveying a more clear description of how the proposed plan supported an integrated water resources approach to TMDL implementation. This implies that the I-Plan's solutions include elements that integrates planning for future wastewater, stormwater, recycled water and potable water needs and systems, reuses storm water to preserve local groundwater resources and reduce reliance on imported water, addresses multiple pollutants, and serves a variety of public goals. The Water Board recognizes that such a plan would likely take longer to implement because of the more complicated planning and implementation activities involved than would a non-integrated water resources approach that focused exclusively on bacteria reduction, which would most reliably be achieved through regional, end-of-pipe, structural solutions.

The institutional solutions consist of enhancements to ongoing storm water quality improvement practices that are conducted in accordance with the existing MS4 and Caltrans statewide storm water NPDES permits. In addition, new programs that could have a significant impact on storm water quality such as pre-wet weather storm drain flushing will be explored and their efficacy evaluated.

The specific, decentralized structural BMP projects ("subregional, structural solutions") primarily include:

- cisterns/rain barrels for storm water reuse primarily for on-site irrigation to supplant local or imported water supplies; these also serve to reduce the amount of runoff that will ultimately reach the Bay,
- bioretention and bioswales provide aesthetic as well as water quality enhancements for multiple pollutants, particularly if installed on vacant lots that are currently paved,
- infiltration pits and a perforated culvert to reduce runoff and prevent pollutants from reaching the Bay,
- constructed wetlands, which provide habitat and has aesthetic value, in addition to reducing multiple pollutants, and
- sunken medians and tree wells that provide aesthetic enhancements (when new trees are planted) or reuse storm water to irrigate existing trees, thereby saving local groundwater or imported water.

These decentralized BMPs are initially being installed at public facilities owned by the JG 2/3 agencies, since these sites represent the greatest opportunity to expedite implementation. However, the Implementation Plan includes commitments to coordinate with local school districts to identify opportunities to apply similar BMPs at their facilities.

Responses to each of the comments provided in the Water Board's comment letter of May 6. 2005 and the manner in which they were addressed in the final I-Plan are provided in the table below.

General Comments

Comment	Response
Describe more clearly and in greater detail how the draft I-Plan provides an integrated water resources approach to compliance with the Wet Weather TMDL.	The relevant integrated water resources approach (IWRA) criterion for each Committed and Pilot project is indicated on Table 22 and included in the project Fact Sheets provided in Appendix R.
Demonstrate more clearly the need for an 18-year implementation schedule.	Timelines for the Stage 1 institutional programs and subregional structural projects are provided in Section 4.12. Depending on the outcome, additional "Consider" projects will be implemented in Stage 2 and will follow a similar course of implementation. While the rate of implementation is expected to increase due to certainties and the advantage of advanced planning (securing funding, aligning staff resources, etc.), the remaining 16 years ahead (i.e, by year 2021, which is 18 years from the 2003 effective date of the TMDL) will be needed to fully implement this Plan in accordance with the inherent iterative, adaptive approach to compliance. The agencies of JG 2/3 have identified a total of 25 subregional projects that will be performed in the first 8-year time frame. These projects require a significant period of budgetary appropriations, planning, design, permitting and construction. This process for each project can take up to 5 years, depending on the site and extent of the project. Once these 25 projects are completed and based on their effectiveness, JG 2/3 plan on

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Comment	Response
	identifying an additional 40 projects that can be implemented to meet the other interim reduction milestones and the final goal of 100% reduction in exceedance days beyond the allowable limit. The additional years to 2021 are required to practically implement these 40 additional projects. Based on this iterative process, a shorter timeframe would not allow for sufficient data gathering and analysis to ensure an effective plan of implementation.
Discuss in more detail how the draft I-Plan will achieve the TMDL compliance milestones (i.e. exceedance day reductions at the beach).	Section 1.1.3.3 discusses how the Stage 1 projects were selected and how they will meet the TMDL milestones during that period, (i.e., 10% and 25% milestones in 2009 and 2013, respectively). It also addresses how the Stage 1 plan is expected to reduce bacterial contamination. Section 4.12.2 provides a prioritized project list and associated timelines for the Stage 1 subregional structural projects (Figure 11). A map showing the subregional structural projects is provided in Appendix R.
Include specific performance measures (i.e. implementation goals) as well as project-level schedules for committed and pilot Stage 1 institutional programs (Table 23) and local projects (Table 22).	Specific performance measures for the institutional programs will be developed in the implementation plan for each program. Since some JG 2/3 agencies are further along than others, the rollout of these programs needs to build on current programs, and resources adjusted to target the more problematic areas. An accounting of what each agency currently does vs. planned program adjustments needs to be considered to identify performance measures and milestones. For subregional structural solutions, the timelines provided by project phase offer interim milestones that are measurable by date. Adjustments to these milestone dates will be communicated, as necessary, to the Regional Board.
The draft I-Plan should discuss in more detail how the agencies would maximize coordination within	Section 4.11 addresses intra/interagency coordination.

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Comment	Response
their organization and with other agencies to create opportunities for more efficient and effective actions to achieve water quality improvements.	
The draft I-Plan should replace the requests for additional reopeners with periodic reports to the Water Board on implementation progress, monitoring results and updates to the I-Plan.	Section 4.2.3 discusses reporting of new research findings to the Board. Anticipated dates for such reports are shown in Figure ES-2 and Figure 5. Sections 4.12.1 and 4.12.2 note that annual MS4 permit reports to the Board will include progress reports on the status of the Implementation Plan activities.
Provide a fact sheet for each of the 30 local projects in Stage 1, including: • Map of project location • Subwatershed location • Approximate drainage area served • Amount of runoff managed • Land use(s) targeted • Estimated reduction in bacteria • Estimated project footprint • IWRA criteria achieved by project • Tentative start and end dates • Brief project description, including type of runoff control	Fact sheets for the local projects (renamed "subregional structural" projects) are provided in Appendix R. They include as much of the requested information as could be reasonably developed for each site. It is our belief, based on discussion with Southern California Coastal Water Research Project (SCCWRP), that the high-density residential and commercial areas are a greater contributor to bacteria loading than lower density areas. These are bacteria "hot spots" within these watersheds. This is also evident by the low number of exceedances for the majority of Jurisdictional Groups 5, 6, and 7. Based on this understanding, we've estimated that about 13 percent of the land uses in JG 2/3 are of high-density areas. Proportionally, the flow from these areas is approximately 13 percent of the overall wet weather flow. Using direct flow as a surrogate to measure bacteria reduction, it is estimated that these 25 subregional projects will manage approximately 5 MGD of flow. It is also estimated that the amount of total flow from these high-density areas are approximately 18 MGD. Based on this proportionality, it is estimated that these 25 subregional projects in addition to the aggressive institutional programs will help JG2/3 meet its interim target milestones of 10% and 25% reduction in exceedance days beyond the allowable days. In Stage 2, the additional 8 years to 2021, JG 2/3 will implement 40 additional subregional projects that will help in meeting its final exceedance days reduction target. Note that there are now 25 listed projects (Committed and Pilot) for Stage 1:

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Comment	Response
	Three Committed projects had been inadvertently duplicated in the original listing in the Draft Report, and two Committed projects were found to be outside of the J2/3 agency domain (DMV site is state-owned, 425 PCH is private.)
The I-Plan should distinguish between the two general types of pilot projects identified: a) those that are "on-the-ground" tests and have specific locations already identified, and b) those for which specific locations have yet to be determined.	After further discussion with Renee DeShazo of the LA RWQCB, it was agreed that additional clarification between generic project types and site-specific projects was not necessary since greater detail on each project, to the extent that it has been defined, is now provided in the requested "Fact Sheets" for each of the Committed and Pilot projects (in Appendix R).
In the I-Plan, the term "local" solutions should be replaced with the term "sub-regional" solutions where appropriate.	The term "subregional structural solutions" has replaced the term "local solutions" throughout the document.
Though public schools are not within the agencies' jurisdictions, the I-Plan should provide additional detail on what could be done at school sites that would complement activities at other city-owned public sites. These recommendations regarding BMPs such as retrofitting schools with green roofs, target levels of pervious surface, institutional programs, etc. could ultimately be considered by the Water Board in subsequent phases of the municipal stormwater permitting program.	In Section 4.9.1, a description of the recent stormwater management project at the Open Charter Elementary School in the Westchester area of Los Angeles was added as an example of possible BMPs that could be implemented at other school sites. The JG 2/3 agencies are committed to exploring with all of the school districts represented in these watersheds additional school sites for implementation of subregional structural solutions.

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Specific Comments

Document Reference (Doc. #, Section #, Page #, Paragraph #)	Comment	Response
Section 4.4.1, Appendix L	The I-Plan should include a description of existing institutional controls along with the associated performance measures and timeframes for El Segundo, Caltrans and the County.	Descriptions of existing institutional solutions for El Segundo and the County were included in Appendix L. A discussion of developing performance measures for each institutional solution is provided in Section 4.12.1.
Section 3.3.3	The Water Board does not consider discharge of untreated stormwater through an extended outfall an integrated water resources approach. Furthermore, though this option might address bacterial contamination at the beaches, the Water Board does not consider it a viable solution given the potential adverse impacts on Bay resources (see section 3.3.3). If it were to be considered, it would be subject to an NPDES permit and associated requirements.	Agreed. While an extended outfall was evaluated as an option during the development of this Implementation Plan, (documented in the Technical Memorandum provided in Appendix G), it is clearly eliminated from further consideration in the last paragraph of Section 3.3.3 since "it does not fit within the integrated water resources approach framework of this TMDL Implementation Plan."
p. ES-1, 2nd paragraph	Executive Summary, p. ES-1, 2nd paragraph: Revised first sentence to clarify that Jurisdictional Groups are made up of groups of subwatersheds within the Santa Monica Bay Watershed Management Area. There are 27 subwatersheds defined in the TMDL. Six of these are grouped under	Revised accordingly in the Executive Summary and in Section 1.1.1.2.

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Document Reference (Doc. #, Section #, Page #, Paragraph #)	Comment	Response
	Jurisdictional Group 2 and one is grouped under Jurisdictional Group 3.	
p. ES-2	Executive Summary, p. ES-2: The TMDLs were developed using the reference system/anti-degradation approach only. The natural sources exclusion approach is an alternative implementation approach to use in future bacteria TMDLs if an appropriate reference system cannot be found. Reference to the natural sources exclusion approach should be deleted.	Reference to the natural sources exclusion approach deleted from Section ES-1 and Section 1.1.1.1.
p. ES-2	Executive Summary, p. ES-2: The US EPA approved the TMDLs on June 19, 2003 not July 15, 2003. The effective date of the TMDLs is July 15, 2003 when the Water Board filed the Notice of Decision. The last paragraph should be revised accordingly.	Dates revised in Section ES-1 and Section 1.1.1.1.
p. ES-3	Executive Summary, p. ES-3, Figure ES-1: Note that the "Wet Weather" Re-opener indicated at 2007 is, in fact, a re-opener for both the Dry- and Wet-Weather TMDLs.	Figure ES-1 and Figure 5 revised accordingly.
Section 1, p. 1-3, Figure 1	Section 1, p. 1-3, Figure 1: The Ballona Creek and Malibu Creek Watersheds should be depicted in the figure as Jurisdictional	Figure 1 revised to show JGs 8 and 9. Text added to Section 1.1.1.2.

Document Reference (Doc. #, Section #, Page #, Paragraph #)	Comment	Response
	Groups 8 and 9, respectively. While the implementation plans for these watersheds are being developed under separate TMDLs, the jurisdictions within these watersheds remain responsible agencies under the Santa Monica Bay Beaches Bacteria TMDL as well. The implementation plans developed under the individual bacteria TMDLs for Ballona Creek and Malibu Creek will be required to achieve the downstream WLAs (exceedance day requirements) at the beach locations under the Beaches TMDLs.	
Section 1, p. 1-3, last paragraph	Revise to clarify that Jurisdictional Groups are made up of groups of subwatersheds within the Santa Monica Bay Watershed Management Area. There are 27 subwatersheds defined in the TMDL. Six of these are grouped under Jurisdictional Group 2 and one is grouped under Jurisdictional Group 3.	Revised accordingly – see response to comment #13.
Section 1, p. 1-4, Second	Revise first sentence to clarify that Ballona Creek and Malibu Creek Watersheds are regulated by the Beaches TMDLs in that	Revised accordingly – see response to comment #17.

Document Reference (Doc. #, Section #, Page #, Paragraph #)	Comment	Response
paragraph	they must achieve the downstream (beach) WLAs set in the Beaches TMDLs. However, implementation plans will be developed under the individual TMDLs rather than under the Beaches TMDLs.	
Section 2, p. 2-2, Table 1	The due date for submitting the Coordinated Shoreline Monitoring Plan was November 15, 2003 not January 15, 2004.	Table 1 revised accordingly.
Section 2.1.4, p. 2-3	The CSMP was initially submitted on November 12, 2003. Revisions were submitted on February 17, 2004 and April 7, 2004. The Water Board approved the CSMP on April 28, 2004.	Discussion of key dates for the CSMP revised in Section 2.1.4.
Section 4.3.4, p. 4-9, Table 13	Site S9 (Mother's Beach, Marina del Rey) should be removed from the table as it is not a compliance point under the Beaches TMDLs. Footnote 5 is incorrect; S10 is a compliance point under the Beaches TMDLs, though not for Jurisdictional Groups 2 or 3. S10 is a compliance point for Jurisdictional Group 8 (Ballona Creek Watershed) under the Beaches TMDLs.	Site S9 deleted from Table 13. Text of Footnote 5 (now Footnote 4) revised as requested.
Section 4.7.1, p. 4-29,	The second sentence should be revised to state that ongoing research is exploring	Second sentence of Section 4.7.1 revised accordingly.

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Document Reference (Doc. #, Section #, Page #, Paragraph #)	Comment	Response
First paragraph	other methods for detection of pathogens in recreational waters. It is misleading to state that studies have shown that the bacterial indicators used by the state are limited in their ability to assess human-health risk. One recent study has shown this under specific conditions (Mission Bay, San Diego), but many others including the Santa Monica Bay epidemiological study have shown that bacterial indicators are well correlated with health risk.	
Section 4.8.1, p. 4-32	Baseline and performance monitoring should be conducted using established protocols and, specifically, the ASCE monitoring protocols so that the data collected can be imported into the International BMP Database.	Application of ASCE monitoring protocols were identified in Section 4.8.3 for the assessment of subregional structural solutions. It was added in Section 4.8.1 to apply to upstream baseline monitoring as well.
Section 4.8.2, p. 4-33	The draft I-Plan proposes using the conceptual framework developed by the Australia-based Cooperative Research Centre (CRC) for assessing the value and costs of nonstructural BMPs for stormwater quality improvement. The I-Plan should also describe local efforts such as those of	Efforts by CASQA have just recently been initiated and the MS4 Permit assessments are focused on the effectiveness of the outreach campaigns. Reference coordination with these efforts has been included in Section 4.8.2.

Document Reference (Doc. #, Section #, Page #, Paragraph #)	**Comment**	**Response**
	the California Association of Stormwater Quality Agencies (CASQA) to develop a framework for compiling this type of information and the County of Los Angeles to assess the effectiveness of nonstructural programs under the LA County MS4 Permit. Any assessments conducted as part of the I-Plan should be designed to the extent possible to make use of and feed into these other local efforts.	
Appendix R	Please provide map showing overview of Committed and Pilot project locations.	Provided as first page of Appendix R.

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