MAR VISTA RECREATION CENTER
STORMWATER
BEST MANAGEMENT PRACTICES

Santa Monica Bay Beaches Bacterial
TMDL Implementation Plan

Project Concept Report

July 2006

Prepared by:

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF SANITATION

WATERSHED PROTECTION DIVISION

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1. EXECUTIVE SUMMARY

Storm water runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline and pathogens to the storm water conveyance system. The Mar Vista Recreation Center Stormwater Best Management Practices (BMP) project goal is to minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts, generated from site runoff to the storm water conveyance system. Pollutants of concern consist of any pollutants that exhibit one or more of the following characteristics:

- Current loadings or historic deposits of the pollutant impact the beneficial uses of receiving water bodies.

- Elevated levels of the pollutant are found in sediments of receiving water and/or have the potential to bioaccumulate in organisms therein.

- The detectable inputs of the pollutant are at concentrations or loads considered potentially toxic to humans and habitats.

This project is consistent with the types of projects that have been identified in the SMBBB Implementation Plan for jurisdictions 2 and 3. The Implementation Plan was developed with various stakeholders such as the City of Los Angeles, City of Santa Monica, City of El Segundo, Los Angeles County, Caltrans, various environmental groups, and the LARWQCB. Stakeholders have agreed that by implementing sub regional projects targeting "hot spots", the watershed can meet its bacteria TMDL requirements.

In meeting this specific requirement, "minimization of the pollutants of concern" will require the incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable.

Proposed stormwater best management practices along this project site include:

1- Diversion of off-site stormwater from existing storm drain system to the project site.
2- Pretreatment of diverted stormwater through hydrodynamic separators.
3- Retention of pretreated stormwater in two underground detention tanks.
4- Disinfection of the stormwater through the Contact Tanks.
5- Reuse application of tertiary stormwater through landscape irrigation.

This project will result in increased beneficial and recreational uses of receiving water bodies, reduced potential for human safety and health risk, reduced beach closures, the preservation of aquatic marine and plant habitat and positive impacts on the tourism industry while enabling the City to meet the new requirements of the stormwater NPDES permit to reduce bacterial levels in the surf zone.

2. PROJECT SCOPE

2.1 Existing Conditions

The Mar Vista Recreation Center (“Mar Vista Rec. Center”) has an area of approximately 15 acres and is owned and operated by the City of Los Angeles, Department of Recreation and Parks. This project targets a drainage area of approximately 243 acres. This project will be capable of capturing up to 4.8 million gallons of surface runoff per year (see Figure 2- Mar Vista Drainage Map).

2.2 Project Description

Mar Vista Rec. Center is a good potential site for implementation of sub-regional solutions such as underground detention systems. The area is large enough to provide a large underground detention tank to capture and store surface runoff for reuse application of stormwater through irrigation of the Mar Vista Rec. Center landscape. Portions of the eastern section of the park drain toward Sawtelle Blvd., but most of the captured runoff that will be treated by the proposed BMPs are from off-site sources.

Although infiltration was researched as an alternative, it was not determined to be a suitable BMP for this site due to (1) the soil type (not permeable), (2) the close proximity of the site to drinking water wells, and (3) the fact that the groundwater near the City of Santa Monica is contaminated.

The advantages of applying an underground BMP at Mar Vista Rec. Center project site are as follows:

- Capturing, storing and treating the surface runoff which leads to pollutant load reduction
- Decreasing the demand for costly imported potable water
- Improving air quality by reducing the demand for energy
- Full use of the land
- Aesthetically pleasing

This project targets an area that is predominantly made up of a high-density residential area and transportation corridor within the Ballona Creek watershed. The project will divert dry weather flows and the “first flush” from the Sawtelle Channel to the adjacent Mar Vista Recreation Center and Park, which is located West of the 405 Freeway at the corner of Sawtelle Blvd and Palms Blvd.

The Mar Vista Recreation Center Stormwater Best Management Practices (BMP) project includes installation of a stormwater lift station (to be sized for 30 cfs peak flowrate), flow diversion facility, a hydrodynamic separator (to be sized for 30 cfs peak flowrate), a 500,000 -gallon underground detention tank, chlorination facility, final effluent pump station, recirculation pump and overflow piping. Off-site surface runoff will be diverted from the existing 63" RCP at Sawtelle Boulevard to a stormwater lift station. Stormwater will be pumped to a diversion structure and to a hydrodynamic separator for removal of heavy sediments, oil, grease and floatable wastes. The pretreated stormwater runoff will then be stored in the proposed underground detention tank at the East ball field. The stored stormwater will be transferred to a small chlorine contact tank, which provides the required contact time to disinfect the water in compliance with Title 22. The disinfected effluent will be pumped through the irrigation system to decrease the current landscaping irrigation demand. It is very important to have a completely isolated system to prevent effluent backflow into the potable water system that is currently used for landscape irrigation

In order to enhance the quality of the stored stormwater and maintain an aerobic environment in the detention tank to reduce the odor issues, a recirculation pump shall circulate the stored water through the proposed hydrodynamic separator into the detention tank. This also helps prevent excessive sediment build up at the bottom of the detention tank, which reduces the O&M cost of the project. The lift station pump will be triggered and shut down by Low-Low & High-High level signals from detention tank. The lift station pump will also shut down by a Low-Low level signal from the lift station pump wet well. In case of malfunction of the level transmitters, the flow will overflow to the existing storm drain system.

Figure 1 in Appendix A illustrates proposed BMP layout schematic.

The governing factor in the execution and staging of work for this project is to provide the public with safe, limited access to the park (if possible) during the construction phase. The CONTRACTOR shall arrange the operation to keep the impacted area to an absolute minimum.

2.2.1 Description of the Proposed BMPs

2.2.1.1 Underground Stormwater Detention System

Underground detention structures manage runoff quality similar to ponds. They provide necessary volumes for capturing the stormwater and attenuating stormwater peak flows. In areas where land is not available for traditional wet or dry ponds, underground detention systems are an option. As a BMP, underground detention systems function to mitigate storm water runoff by holding excess water for slow release. Underground detention systems vary greatly in size and complexity, and can be installed at almost any location. The greatest benefit of this type of BMP is that it is hidden from view, and does not require surface land.

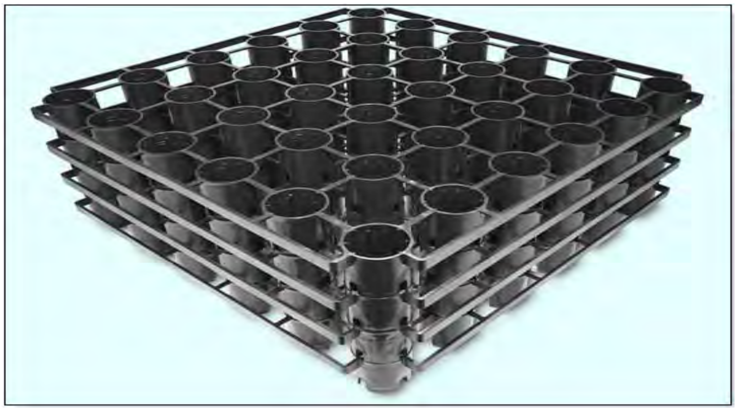
ADVANTAGES

- Modest removal efficiencies for the larger particulate fraction of pollutants.
- Removal of sediment and buoyant materials. Nutrients, heavy metals, toxic materials, and oxygen-demanding particles are also removed with sediment substances associated with the particles.
- Can be designed for combined flood control and stormwater quality control.

LIMITATIONS

- Requires sufficient area and hydraulic head to function properly
- Generally not effective in removing dissolved and finer particulate size pollutants from stormwater.
- Some constraints other than the existing topography include, but are not limited to, the location of existing and proposed utilities, depth to bedrock, location and number of existing trees, and wetlands.
- Extended/dry detention basins have moderate to high maintenance requirements.
- Sediments can be resuspended if allowed to accumulate over time and escape through the hydraulic control to downstream systems.

Plastic Infill Underground Detention Systems



These systems include a free-form structure encased in a plastic liner. The structure can be used for water retention by the use of an impervious liner. Water is then accessible for irrigation, fire protection, manufacturing plants etc.

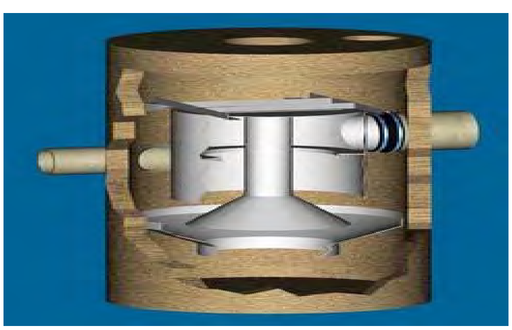
These plastic structures can have a maximum void volume of 95%, maximizing water storage capacity while the intrinsic strength permits heavy loads over completed structure.

They have profound logistical advantages over traditional installations, due to its modular design and lightweight characteristics.

The following are three well-known vendors for these products:

- Rainstore
- StormCell®
- Tensar BX1100

2.2.1.2 Hydrodynamic Separator



DESCRIPTION

Hydrodynamic separators are flow-through structures with a settling or separation unit to remove sediments and other pollutants that are widely used in storm water treatment. No outside power source is required, because the energy of the flowing water allows the sediments to efficiently separate. Depending on the type of unit, this separation may be by means of swirl action or indirect filtration. Variations of this unit have been designed to meet specific needs.

Hydrodynamic separators are most effective where the materials to be removed from runoff are heavy particulates - which can be settled - or floatables - which can be captured, rather than solids with poor settleability or dissolved pollutants. In addition to the standard units, some vendors offer supplemental features to reduce the velocity of the flow entering the system. This increases the efficiency of the unit by allowing more sediments to settle out.

APPLICABILITY

This technology may be used by itself or in conjunction with other storm water BMPs as part of an overall storm water control strategy. Hydrodynamic separators come in a wide size range and some are small enough to fit in conventional manholes. This makes hydrodynamic separators ideal for areas where land availability is limited. Also, because they can be placed in almost any specific location in a system, hydrodynamic separators are ideal for use in potential storm water "hotspots"-- areas such as near gas stations, where higher concentrations of pollutants are more likely to occur. The need for hydrodynamic separators is growing as a result of decreasing land availability for the installation of storm water BMPs. Although there are many hydrodynamic separation systems available, these four vendors are the major types:

- Continuous Deflective Separation (CDS)
- Downstream Defender™.
- Stormceptor®
- Vortechs™

Hydrodynamic separators are most effective where the separation of heavy particulates or floatables from wet weather runoff is required. (The typical concentrations of heavy particulate and floatable pollutants found in storm water are shown in Table 1. They are designed to remove settleable solids and capture floatables; however, suspended solids are not effectively removed. Most units are small (depending on the flow entering needing to be treated) and may be able to fit into pre-existing manholes. For this reason, this technology is particularly well suited to locations where there is limited land available.

ADVANTAGES AND DISADVANTAGES

The use of hydrodynamic separators as wet weather treatment options may be limited by the variability of net solids removal. While some data suggest excellent removal rates, these rates often depend on site-specific conditions, as well as other contributing factors.

Pollutants such as nutrients, which adhere to fine particulates or are dissolved, will not be significantly removed by the unit. Site constraints, including the availability of suitable land, appropriate soil depth, and stable soil to support the unit structurally, may also limit the applicability of the hydrodynamic separator. The slope of the site or collection system may necessitate the use of an underground unit, which can result in an extensive excavation.

Observable improvements in waterways are often attributable to the use of hydrodynamic separators. This is due to the reduction of sediments, floatables, and oil and grease in the flow out of the unit. These positive impacts are only achievable when proper design and O&M of the unit are implemented.

2.2.2 Design Criteria and Initial Calculation

2.2.2.1 Estimated Runoff Volume

Using the *Time of Concentration (TC) / Regression TC Method (Los* Angeles County Hydrology Manual, 2000) to calculate the total surface runoff flow rate based on 12.01 in/yr 30 years mean rainfall (1961-1990 Los Angeles) and 1-Year 30-Min rainfall intensity (0.42 in/hr)*:*

*Qpeak (cfs) = Cd * It (in/hr) * Area (ac)*
V =3630 I (in/hr)*Cd*Area (acre);* (Runoff Volume, ft^3)
$TC = 0.31 * (Cd * It)^{-0.519} * L^{0.483} * S^{-0.135}$; (Calculated Time of Concentration in minutes)
S = (top elevation – bottom elevation) / L; (Slope, elevations and length in feet)
L = Longest flow path length, in feet, from remote boundary of the subarea to the outlet
*Cd * It;* (Rainfall excess in inches per hour)
*It = I1440 * (It / I1440)*; (Rainfall intensity at t-minutes in inches per hour)
I1440 = Rainfall Depth (inches) / 24 hours; (24-hour rainfall intensity in inches per hour)
$It / I1440 = (1440/t)^{0.47}$ (Normalized rainfall intensity for a Time of Concentration of t-minutes)
*Cd = (0.9 * IMP) + ((1 - IMP) * Cu);* (Runoff Coefficient adjusted for development)
Cu = Undeveloped Runoff coefficient associated with a specific rainfall intensity (It) as determined by using the Runoff Coefficient Curve developed for the individual soil type; (Undeveloped Runoff Coefficient)
IMP = Proportion impervious

2.2.2.2 Estimated Landscape Irrigation Demand

The project Maximum Applied Water Allowance shall be calculated using the following formula:

MAWA = (ET0) (0.8) (LA) (0.62) where:
MAWA = Maximum Applied Water Allowance (Gallons)
ET0 = Historical Reference Evapotransportation
LA = Total Landscaped (squared feet)

Table 1 summarizes the generated runoff, irrigation demand, and retained volumes managed by installation of a 500,000-gallon underground detention tank.

Underground Detention System

Drainage Area: 243 acres
Runoff Coefficient: 0.36
Landscape Area: 6 acres
Detention Capacity: 500,000 gallons
Run-off Peak Flowrate: 30 cfs
Run-off Captured: 4.8 MG/Yr

Table 1- Underground Detention System Analysis

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mean Rainfall (in)	0.34	1.76	1.66	2.4	2.51	1.98	0.72	0.14	0.03	0.01	0.15	0.31	12.01
ET0	2.2	2.7	3.7	4.7	5.5	5.8	6.2	5.9	5.0	4.0	2.6	2.0	50.3
Runoff Volume (gal)	809,268	4,189,151	3,951,131	5,712,479	5,974,301	4,712,795	1,713,744	333,228	71,406	23,802	357,030	737,862	28,586,197
Irrigation Demand (gal)	518,538	337,050	259,269	285,196	350,013	479,648	609,282	712,990	751,880	803,734	764,844	648,173	6,520,618
Stormwater Reused (gal)	518,538	337,050	259,269	285,196	350,013	479,648	609,282	712,990	191,644	23,802	357,030	648,173	4,772,635
Irrigation Satisfied (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	25.5	3.0	46.7	100.0	73.2
Stormwater Captured (%)	100.00	11.0	6.6	5.00	5.86	10.18	35.50	100.00	100.00	100.00	100.00	100.00	16.71

2.2.3 Project Benefits

2.2.3.1 Water Quality Benefits

The following water quality benefits will be achieved by implementing a **series** of sub-regional projects such as Mar Vista Rec. Center Stormwater Best Management Practices Project, targeting "hot spots:"

- Achieving the compliance target of a 10% reduction of SMBB wet weather bacteria exceedance days by the first interim compliance milestone (July 2009)
- Addressing multiple pollutants with which the SMBB is impaired.
- Enhancing beneficial and recreational uses of receiving water bodies
- Preserving the aquatic marine habitat
- Reducing the potential for human health risk and safety

Pollutant Load Reduction

Since pollutant concentrations tend to be much higher at the beginning of a storm compared to the middle or the end of the event, a significant pollutant load reduction can occur as a result of capturing the storm runoff.

Table 2 illustrates the estimated pollutants load reduction as a function of inches of stormwater captured:

Table 2- Estimated Annual Pollutant Load Reduction

Pollutant	Removal[1] Rate (%)	Estimated Annual[2] Pollutant Loads	Estimated Annual Pollutant Load Reduction
T Coliform	75	1970435 billion colonies/yr	5967 billion colonies/yr
Cu	75	6.2 kg/yr	4.6 kg/yr
Zn	75	48.2 kg/yr	36.2 kg/yr
Pb	75	1.8 kg/yr	1.3 kg/yr
TSS	75	19451 kg/yr	14588 kg/yr
TP	50	73 kg/yr	36.6 kg/yr
TN	45	456 kg/yr	205 kg/yr

1 Schueler, T.R. 1987. Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Metropolitan Washington Council of Governments, Washington, DC.

2 Los Angeles County Department of Public Works, Watershed Management Division – Stormwater Quality Data, Table 4-9 Cumulative Event Mean Concentrations 1994 – 2000 Storm Season (http://www.ladpw.org/WMD/npdes/wq_data.cfm)

2.2.3.2 Additional Benefits

Additional benefits to this project are as follows:

- Beneficial reuse application of stormwater through the Mar Vista Rec. Center landscape irrigation.

2.2.4 Operation/Maintenance Considerations

2.2.4.1 Underground Stormwater Detention system

Maintenance is usually conducted by periodically pumping out sediments and debris. In areas of high sediment flows, pretreatment is required to minimize the inflow of particulates so that the need to clean the system is reduced. Frequent maintenance is required to resuspend and remove sediment and debris and to ensure that the outlet structure is functioning properly. Large-scale removal of accumulated sediment in the system may be difficult due to limited access. In addition, underground systems will be considered confined spaces that require additional safety requirements for inspection and maintenance.

2.2.4.2 Hydrodynamic Separator

Hydrodynamic separators do not have any moving parts, and are consequently not maintenance intensive. However, maintaining the system properly is very important in ensuring that it is operating as efficiently as possible. Proper maintenance involves frequent inspections throughout the first year of installation. The unit is full when the sediment level comes within one foot of the unit's top. This is recognized through experience or the use of a "dip stick" or rod for measuring the sediment depth. When the unit has reached capacity, it must be cleaned out. This may be performed with a sump vac. or vacuum truck, depending on which unit is used. In general, hydrodynamic separators require a minimal amount of maintenance, but lack of attention will lower their overall efficiency.

2.2.4.3 Responsible Agencies

The City of Los Angeles (Dept. of Recreation and Parks and Bureau of Sanitation) will jointly coordinate and develop responsibility for water quality monitoring, operation and maintenance of the installed BMPs. The Department of Recreation and Parks will be responsible for maintenance of new irrigation systems.

2.2.5 Permit Requirements

This project is exempt from the requirements of CEQA per Exemption Class 1(4) of the City's CEQA Guidelines, which provides that "installation of new equipment and /or industrial facilities involving negligible or no expansion of use is exempt from the requirements of CEQA if required for safety, health, the public convenience, or environmental control. The preparation of the Notice of Exemption document was completed and filed with the Los Angeles County Clerk.

The following permits might be required for this project:

- Coastal Commission
- County Permits
- LA Department of Building and Safety

2.2.6 Additional Design Considerations

The location of treatment structures shall be considered in areas that are easily accessible to maintenance staff and vehicles. Access entries should be located away from playing fields and ball diamonds. Treatment structures placed above ground should be secured and protected in the interest of public health and safety. Consideration should be taken to (1) minimize the disruption to the community of the East ball field during construction, and (2) ensure enough time in the project schedule to replace turf and install a new irrigation system.

The Department of Recreation and Parks and Bureau of Sanitation shall be included in the design process.

2.3 Public Outreach

2.3.1 Public Participation and Review of Implementation Plan

Interested persons and the public have had the opportunity to participate in the development and review of the Implementation Plan for Jurisdictional 2 and 3. The responsible jurisdictions and agencies in Jurisdictional 2 and 3 held four half-day stakeholder workshops during the development of the Implementation Plan. These were held on May 29, 2003; August 12, 2004; and November 9, 2004. Appendix A includes a stakeholder attendance list for the workshop held on May 29, 2003.

2.3.2 Public Education and Awareness

The City of Los Angeles (Department of Recreation and Parks, Bureau of Engineering, and Bureau of Sanitation) will conduct additional public outreach campaign for community input as part of the design process. This could include potential safety and vandalism concerns.

3. COST ESTIMATE

3.1 Operation and Maintenance Cost

Average Annual O&M Cost	
Underground Detention Tank (Once a year)	4,000
Stormwater Lift Station	3,000
Hydrodynamic Separator (4 times a year)	3,000
Disinfection Tank and Irrigation System (Once a year)	3,000
Miscellaneous System (Once a year)	10,000
Total Annual O&M Cost ($)	**23,000**

3.2 Project Cost

Operating Expenses (Prorated for Project)	
Includes:	
Professional and Consultant Services	
Planning / Design / Engineering	624,000
Construction Management / Inspection	426,000
Total Professional and Consultant Services Cost ($)	1,050,000
Others	
Community Outreach	28,000
Direct Project Administration Costs	85,000
Total Others Cost ($)	113,000
Construction (Contracted Services)	
Stormwater Lift Station	200,000
Stromwater Diversion Structure	200,000
Hydrodynamic Separator	500,000
Underground Detention System	700,000
Recirculation Pump	20,000
Instrumentation and Control System	100,000
Power/Electrical cabinets	50,000
Piping and Valves	150,000
Disinfection Tank/Smart Irrigation System	350,000
Construction Cost	**2,270,000**
25 % Contingency	**568,000**
Total Construction Cost ($)	**2,838,000**
Total ($)	**4,114,000**

4. PROJECT IMPLEMENTATION SCHEDULE

MAR VISTA REC CENTER STORMWATER BMPS PROJECT IMPLEMENTATION SCHEDULE																					
			2006							2007											
Work Items	**Start Date**	**End Date**	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
City Council Fund Approval	-	7/30/2006																			
CEQA/NEPA Preparation and Completion	Completed	Completed																			
Community Outreach	8/1/2006	2/28/2007																			
Project Pre-Design	6/1/2006	6/30/2006																			
Project Design	7/3/2006	10/31/2006																			
Bid Solicitation Process	11/1/2006	4/30/2007																			
Right-of-way Agreement	N/A	N/A																			
Permitting identification and Acquisition	8/1/2006	8/31/2007																			
Construction Duration	5/1/2007	10/31/2007																			
Environmental Mitigation or Enhancement Efforts	N/A	N/A																			
Post Implementation, Construction and Follow Up Efforts	11/1/2007	11/30/2007																			
Other work Items	N/A	N/A																			

This project was awarded grant funding under the title "Mar Vista Center Recreation Center Retrofit" from the State of California Proposition 50, chapter 5 through the Santa Monica Bay Restoration Commission. The grant required this project to be constructed by November 2007.

5. REFERENCES

11- EPA 832-F-99-017 (September 1999) - http://www.epa.gov/owm/mtb/hydro.pdf

2- Invisible Structures, Inc.- http://www.invisiblestructures.com/RS3/rainstore.htm

APPENDIX A

Attachments

Figure 1- Proposed BMP Layout Schematic

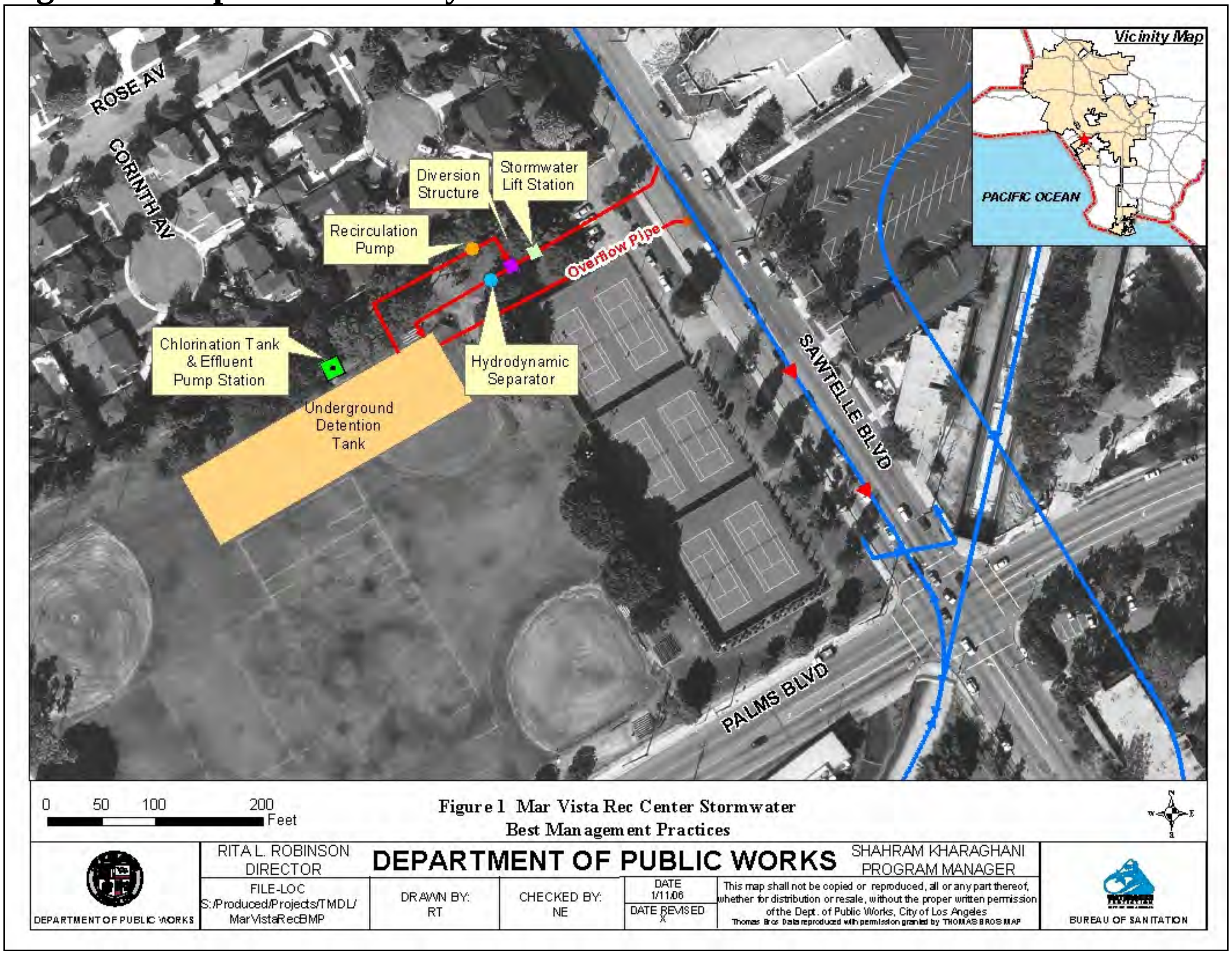
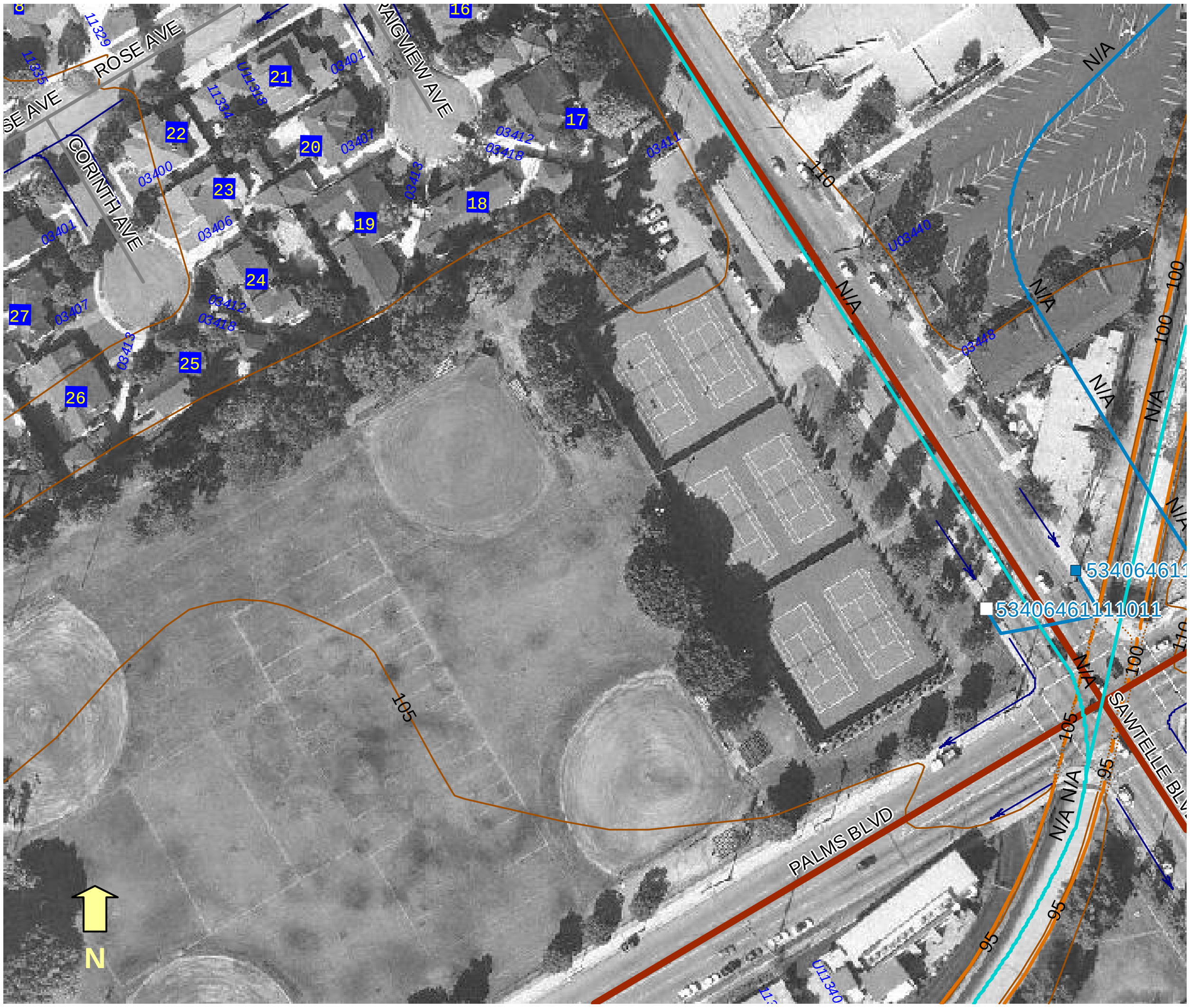


Figure 2- Mar Vista Drainage Map



Stakeholders Attendance List

SMBB Wet Weather Bacteria TMDL
Jurisdictional Groups 2 & 3 Workshop
Date: August 12, 2004 Time: 8:30am - 12:00pm
on: Hyperion Treatment Plant, 12000 Vista del Mar, Playa del Rey, CA 90393
Pergerson Building / Conference Room 116

ORGANIZATION	CONTACT NAME & TITLE	DAY PHONE	EMAIL ADDRESS	Mailing Address
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County of Los Angeles Board of Supervisors	Curt Pedersen, County supervisors, Deputy District 4		Cpedersen@bos.co.la.ca.us	
County of Los Angeles Board of Supervisors	Zev Yaroslavsky, Supervisor, Third District	(213) 974-3333	zev@bos.co.la.ca.us	500 W. Temple St., rm 821, LA, CA 90012
County of Los Angeles Board of Supervisors	Susan P. Nissman, Senior Field Deputy, Third Dis	(818) 880-9416	snissman@bos.co.la.ca.us	26500 Agoura Rd., #206, Calabasas, Ca 91302
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Pacific Palisades Community Council	Arthur Mortell, Area Representative	(310) 454-3463	awmortell@aol.com	
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Westside Neighborhood Council	Terri Tippit	(310) 474-2326	westsidenc@hotmail.com	Tmtippit@comcast.net
Westchester-Playa del Rey Neighborhood Coun	Gwen Vuchsas, Chair	(213) 473-7023	inquiries@ncwpdr.org	8726 S. Sepulveda Blvd. PMB A191, Los Angeles, CA 90
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City of Santa Monica	Neal Shapiro, Stormwater Coordinator	**310.458-8223**	neal-shapiro@santa-monica.org	200 Santa Monica Pier, Suite K, SM 90401
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North of Montana Association	Elizabeth Riel Armour	(310) 451-1741	NOMA@SMNOMA.org	1007 Montana Avenue, PMB 516, Santa Monica, CA 904
Northeast Neighbors	Lewis Perkins, Chair	(310) 453-2121	lynx2lew@yahoo.com	P.O. Box 3389, Santa Monica, CA 90408
Ocean Park Community Organization	Rick Laudati, Co-Chair	(310) 358-3350	laudati@opco.org	PO Box 5232, Santa Monica, CA 90409-5232
Pico Neighborhood Association	Wes Terry		board@piconeighborhood.org	1705 Pico Blvd, Box 125, Santa Monica, CA 90405-1648
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City of El Segundo		(310) 524-2302		350 Main Street, El Segundo, CA 90245
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El Segundo Chamber of Commerce	Daniel Ehrle, Executive Director	310-322-1220	dehrle@elsegundo.org	427 Main Street El Segundo, CA 90245
El Segundo Residents Association (E.S.R.A)	Ms. Nicky Wislocky	310.322-3078	www.elsegundo.org	PO Box 231 El Segundo CA 90245
El Segundo Residents Association (E.S.R.A)	Eric Johnson		www.elsegundo.org	1414 East Sycamore Ave. El Segundo, CA 90245
Hyperion-El Segundo Citizens Forum	Len Bonilla	(310) 334-0303	www.elsegundo.org	
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State Agencies				
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Santa Monica Bay Restoration Commission	Cathy Chang	213-576-6639	GWANG@rb4.swrcb.ca.gov	320 West 4th Street, Suite 200, Los Angeles, CA 90013
LARWQCB		213-576-6613		LARWCB
LARWQCB	John Bishop, Executive Director	213-576-6622	jbishop@rb4.swrcb.ca.gov	Regional Programs
LARWQCB	Melinda Becker			
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LARWQCB	Rebecca Christman			
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California State Parks and Recs Distircts	Ted Jackson, Southern Division Chief	213-620-6116	info@parks.ca.gov	1725 Los Virginis Rd., Calabasas, CA 91302
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Venice Chamber of Commerce	Mary Richert, President	(310) 664-7920	mrichert@nlla.edu	P.O. Box 202 Venice, CA 90294
Pacific Palisades Civic League	Richard Blumenberg, Co-Chair	(310) 459-0244	RICHARD@RLBARCHITECTURE.com	
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Heal the Bay	Mitzy Taggart	(310) 453-0395 x1(	Mtaggart@healthebay.org	3220 Nebraska Avenue Santa Monica, CA 90404
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Santa Monica Baykeeper	Angie Bera and her Assistant	310-305-9645 x3	octopus@smbaykeeper.org	P.O. Box 10096 Marina del Rey, CA 90295
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Citizen	Wendell Johnson	310-618-3066		

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