TABLE OF CONTENTS

TABLE OF CONTENTS

TABLES

APPENDICES

Program Management

TABLE OF CONTENTS

ACRONYMS

AAUW-American Association of University Women
APWA-American Public Works Association
ARS-Automatic Retractable Screens
BMP-Best Management Practices
CCTV-Close Circuit Televising
CEQA-California Environmental Quality
CIP-Capital Improvement Program
CPS-Connector Pipe Screen
CSTF-Contaminated Sediments Task Force
CTR-California Toxics Rule
CWA-Clean Water Act
DWAC-Dominguez Watershed Advisory Council
EAC-Executive Advisory Committee
ESB-Environmental Services Bureau
FCSA-Federal Cost Share Agreement
FIB-Fecal Indicator Bacteria
FOG-Fats, Oils, Grease
GCCOG-Gateway Cities Council of Governments
Haz Mat-Hazardous Materials
IPM-Integrated Pest Management
KLI-Kinnetic Laboratories, Inc.
LAR-Los Angeles River
LARMP-Los Angeles River Master Plan
LARWQCB-Los Angeles Regional Water Quality Control Board
LASGRWC-Los Angeles and San Gabriel Rivers Watershed Council
LBSWMP-Long Beach Storm Water Management Program
LFD-Low Flow Diversion
MEP-Maximum Extent Practicable
MOA-Memorandum of Agreement
MOU-Memorandum of Understanding
MS4s-Municipal Separate Storm Sewer Systems
NOI-Notice of Intent
NOT-Notice of Termination
NPDES-National Pollutant Discharge Elimination System
OC-Organochlorine Pesticides
PAH-Polycyclic Aromatic Hydrocarbons
PCA-Pest Control Advisors

PCBs-Polychlorinated Biphenyls
POLB-Port of Long Beach
RMC-Rivers and Mountains Conservancy
ROWD-Report of Waste Discharge
S.A.F.E.-Solvents Automotive Flammable Electronics
SCAG-Southern California Association of Governments
SCN-Secret Code Number
SDLAC-Sanitation Districts of Los Angeles County
SGRMP-San Gabriel River Master Plan
SMC-Storm Water Monitoring Coalition
SMARTS-Storm Water Multi-Application & Reporting System
SSO-Sanitary Sewer Overflows
SSO-Site Specific Objectives
SUSMP-Standard Urban Storm Water Mitigation Plan
SWEC-Storm Water Environmental Compliance
SWM-Storm Water Management
SWPPP-Storm Water Pollution Prevention Plan
SWRCB-State Water Resources Control Board
TIE-Toxicity Identification Evaluation
TMDL-Total Maximum Daily Load
TREC-Traveling Recycling Center
USACE-United States Army Corps of Engineers
UST-Underground Storage Tank
WRAP-Water Resources Action Plan

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INTRODUCTION

The City of Long Beach Storm Water Management Program (LBSWMP), is now beginning its 14th year. LBSWMP continues to be fully implemented in compliance with its National Pollutant Discharge Elimination System (NPDES) permit, the Federal Clean Water Act (CWA) and subsequent CWA amendments. The NPDES Permit, CWA and CWA Amendments were adopted to protect receiving waters such as rivers, lakes, and oceans from contamination by preventing pollutants from entering the City's municipal separate storm sewer systems (MS4s). The City of Long Beach (City) complies with CWA guidelines through its NPDES permit and is committed to preserving and maintaining the quality of our beaches and waterways while improving marine habitat and the quality of life for our residents.

The City is currently operating under the requirements of NPDES No. CAS004003, Order No. 99-060, issued by the Los Angeles Regional Water Quality Control Board (LARWQCB) on June 30, 1999.

On December 26, 2003, the City submitted its Report of Waste Discharge (ROWD) in accordance with Title 23, California Code of Regulations. The City's ROWD consisted of a statement of accomplishments, Long Beach Storm Water Management Plan, Water Quality Monitoring Plan, draft permit, challenges, and future goals. In September 2010 the City began discussions with the LARWQCB regarding the renewal the City's NPDES Permit. Additional meetings with the LARWQCB in November 2011, lead to discussion about the City continuing its own permit, which would be watershed, based similar to the Los Angeles County Permit. It was further discussed that the LARWQCB would not begin work on the City's Permit until the Los Angeles County NPDES Permit was completed and adopted. On November 8, 2012, during the monthly Board Hearing for the LARWQCB, the Los Angeles NPDES Permit was adopted. It is anticipated that work on the City of Long Beach NPDES permit will begin in the month of December 2012.

The Storm Water/Environmental Compliance Division (SWEC) manages the LBSWMP. Its staff consists of the SWEC Officer, the Division Analyst and the Division Clerk Typist. The SWEC also receives support from the Engineering Bureau and the Public Services/Street Operations Division. SWEC's major responsibilities include continual development and implementation of the goals and objectives of the LBSWMP and ensuring compliance with the requirements of the City's MS4 NPDES Permit. Additional duties and accomplishments of the SWEC are detailed in the Program Management Section below.

The Annual Storm Water Permit Report and Assessment details the City's storm water management accomplishments and expenditures for the period of October 1, 2011, through September 30, 2012.

PROGRAM MANAGEMENT

The SWEC is responsible for the development, enhancement and implementation of the City's comprehensive Long Beach Storm Water Management Program (LBSWMP). The Division works extensively with an internal NPDES Task Force, composed of City personnel from various City departments, to share information and responsibilities, collaborate on storm water and environmental projects and resolve NPDES issues on a real time basis.

SWEC work consist of but is not limited to: 1) proactively pursuing grant funding for Structural Best Management Practice (BMP) project development/implementation; 2) innovative financing for Storm Water/Environmental Public Education/Outreach programs; 3) coordinates the management of the City's contract for maintenance of the city-owned storm drain system; 4) coordinates the management of the City's contract for the maintenance, operations and surveillance of the City's 24 storm drain pump stations; 5) assist and supports the Port of Long Beach (POLB) and City's Airport on their Industrial NPDES Permits; 6) serves as the City liaison for the Los Angeles Gateway Region, Integrated Regional Water Management Joint Powers Authority (LA Gateway Authority) catch basin maintenance program, Los Angeles County Flood Control District; 7) conduct legislative analysis and make recommendations to senior management and elected; 8) and 9) actively participates in regional task forces, councils, organizations, and committees related to storm water/environmental activities. This ongoing involvement has proven to be an excellent avenue for exchanging information and collaborating on joint projects.

Program Management major highlights for this reporting year include:

- Participation by the SWEC Officer as the Co-Chairperson for the Los Cerritos Channel TMDL Technical Committee.
- Formation of the Coyote Creek TMDL Technical Committee
- Member of the Los Angeles River Metals TMDL Committee
- **Appian Way Low Flow Diversion:** The design of the Appian Way Low Flow Diversion (LFD) system is scheduled to be completed December 2012. The design work consisted of the installation of a new mechanical pump, new

pipelines, electrical equipment and controls, new utility and sewer vaults and manholes, and associated appurtenances. The diversion system will divert dry weather "nuisance" run-off from entering the adjacent Marine Stadium Bay and discharge it to the sanitary sewer nearby.

Funding for this project is in process and will be available December 2012. Construction is tentatively scheduled for Summer 2013.

- **Division Street Slip Lining:** Work continues on the design of the Division Street Sliplining Project. The design consists of the installation of a Cured-in-Place Thermosetting Resin Pipe Liner to prevent groundwater intrusion into the storm drain lines. This in turn reduces the amount of water that is discharge into the sanitary sewer main through the Low Flow Diversion system located within the Los Angeles County Flood Control Storm Drain Pump Station at Alamitos Bay.
- **Pump Station SD-7 Repairs/Upgrade:** The repair work at SD-7 consisted of the replacement/upgrade of the sump pump from 7.5-HP to a 10-HP sump pump, an overhaul and rebuilt of the 200-HP main pump, removal of plant overgrowth in the downstream channel, regrading of the same channel to re-establish the slope for drainage and the installation of connector pipe screens on all inlet pipe leading to the pump stations.
- **Westside Storm Drain Project:** The construction of the upgrades to the Westside Storm Drain Pump Station, SD-3 is nearing completion. The scheduled completion date is December 2012. The work consisted of the upgrade of the sump pump, replacement of the 3 main pumps, installation of trash nets with frames and a 480V generator.
- **The AQMD Permitting of Natural Gas Pumps and Motors at City Storm Drain Pump Stations:** The City worked with representatives from the Air Quality Management District to inspect and permit the natural gas pumps and motors in three of City's storm drain pump stations. The Storm Drain Pump Stations affected were SD-14, SD-15 and SD-23. Evaluation were conducted in the past fiscal year regard the remaining life and efficiency of these early 1960's dated pumps. Further evaluation on the condition of these pumps and motors are being conducted with the goal to replace the pumps and motors and/or to consider conversion to electric pumps and motors.
- **The City of Long Beach was featured or mentioned in the following media:**
    - Press release, date 10/19/11, "Learn How to Reduce Stormwater Pollution & Lower Utility Bills' During Free Presentation" (Appendix A-2)

- LA Times Article, date 11/01/11, Featuring: Tons of L.A. River trash will be captured before it hits the sea. (Appendix A-3)
- Long Beach Gazettes Article, date 11/02/11, Featuring: City Okays More Colorado Lagoon Cleanup (Appendix A-4)
- LB Gazettes Article, date 03/15/12, Featuring: Colorado Lagoon Restoration Dredging On Schedule. (Appendix A-5)
- LB Press-Telegram Article, date 03/27/12, Featuring: Grant To Go To Colorado Lagoon's Restoration (Appendix A-6)
- LB Gazettes Article, date 03/28/12, Featuring Colorado Lagoon: Colorado Lagoon Project Receives $500,000. (Appendix A-7)
- LB Press-Telegram Article, date 05/26/12, Featuring: Cleanup Efforts Working Along Beaches. (Appendix A-8)
- LB Press-Telegram Article, date 06/11/12, Featuring: Water Gets A Quality Boost (Appendix A-9)
- LB Gazettes Article, date 08/15/12, Featuring: Colorado Lagoon Ready To Welcome Visitors Next Week. (Appendix A-10)
- LB Press-Telegram Article, date 08/17/12, Featuring: Long Beach Planners Approve Improvement To Chittick Field Facilities (Appendix A-11)
- LB Press-Telegram Article, date 08/21/12, Featuring: Long Beach Set To Reopen Colorado Lagoon (Appendix A-12)
- LB Press-Telegram Article, date 08/30/12, Featuring: A Cleaner LB Colorado Lagoon Reopens For Fun (Appendix A-13)
- LB Gazettes Article, date 08/30/12, Featuring: Lagoon Open For Business (Appendix A-14)
- LB Post Article, date 08/30/12, Featuring: Colorado Lagoon Grand Opening (Appendix A-15)
- City Infomercial, iClip, date September 2012, Featuring: Colorado Lagoon (Appendix A-16)
- LB Press-Telegram Article, date 09/26/12, Featuring: Officials To Celebrate Groundbreaking at Long Beach Chittick Field (Appendix A-17)
- LB Press-Telegram Article, Featuring: Time To Get Ball Rolling On Breakwater (Appendix A-18)
- Social networks, such as Facebook, Twitter, and YouTube, provide essential information to the residents of Long Beach. Consequently, every time there is new and/or updated information regarding Storm Water or Water Quality it is quickly and efficiently communicated through these networks. (Appendix A-19)

PUBLIC AGENCY ACTIVITIES

In addition to increased code enforcement, distribution of public construction guidelines, and maintenance of streets, storm drains, and landscapes, the City has emphasized community outreach efforts designed to reduce littering throughout the city. The City's Environmental Services Bureau has continued to implement a Citywide Litter Abatement and Awareness Campaign. This campaign and the City's other public agency activities are both numerous and extensive. Other notable Public Agency Activities include:

- Conducted 37 community and business corridor clean-ups.
- Involved 935 volunteer participants at neighborhood and business clean-up events.
- Collected 1,406 tons of litter from clean-up efforts.
- Gave away 525 car litter bags (containing litter and recycling promotional items) at neighborhood clean-up events, to various outreach programs, and to City Council Offices.
- Collected 1,406 tons of litter from alleys throughout the city through the "Alley Clean-Up" program, which involved 2,297 community service workers.
- Provided 1,331 litter and recycling containers at Special Events throughout the City.
- Maintained sponsorship of 17 street locations through the "Adopt-a-Street" program.

DEVELOPMENT PLANNING AND CONSTRUCTION

In FY 12, there were 4,482 investigations no enforcement actions required. The City's plan review process focuses on the impacts of development on storm water quality as early as possible during a project. The City mandates that storm water quality impacts must be fully addressed by the developer prior to issuance of any permits, which safeguards against the discharge of pollutants into the storm drain system and/or receiving waters. Chapter 18.95 of the Long Beach Municipal Code details the City's NPDES and Standard Urban Storm Water Mitigation Plan (SUSMP) regulations.

ENFORCEMENT OF THE CONSTRUCTION GENERAL PERMIT

Storm Water Management continues with its enforcement of the Construction General Permit by requiring all current construction projects to be updated electronically through the Storm Water Multi-Application & Reporting System (SMARTS). This requires the

submittal of the Storm Water Pollution Prevention Plan (SWPPP) with the submission of Notice of Intent (NOI). Upon notification by the State Water Resources Control Board (SWRCB), the Storm Water Management Team contacts the party identified on the notice and works with them to bring them into compliance.

ILLICIT DISCHARGES AND ILLICIT CONNECTIONS

Within the City limits, there are an estimated 383 miles of active storm water carriers, which include pipes, open channels, ditches, culverts, connector pipes and drains. Of those carriers, 180 miles are City-owned, 142 miles are Los Angeles County-owned, and 40 miles are Caltrans-owned with various other owners making up the remaining 21 miles. The City maintains 5.5 miles of channels and ditches. Los Angeles County has 32 miles of open flood control channels, i.e., Los Angeles River, San Gabriel River, Los Cerritos Channel, etc. Caltrans has 11 miles of channels and ditches. Inspectors and field staff from the Fire, Harbor, Health and Human Services, Development Services, Public Works, and Water Departments receive annual training on how to identify, report, and eliminate illicit discharges and play a vital role in prohibiting illicit discharges and eliminating illicit connections. If an illicit connection is detected, an advanced system of communication and follow-up is in place to ensure the removal of the connection. During this reporting period no illicit connections were found.

PUBLIC INFORMATION AND EMPLOYEE TRAINING

Communicating information about storm water and urban runoff pollution to residents, school children, commercial and industrial establishments, and City employees is a priority for the City. In FY 12, the SWEC made use of the City Media Production Team to produce iClip infomercials, the Long Beach Press-telegram and the Grunion Gazette community newspapers ran various articles, as well as communicating this information via the City's various social networks. Through these media events and programs such as Heal the Bay's Key to the Sea program, the Junior Health Inspector program, Lunch with the Lizard, the Traveling Recycling Education Center (TREC), and various community events, the City made well over the permit required 1.5 million impressions related to storm water pollution prevention issues and their solutions through the use of various media. New outreach materials and methods are constantly being explored while proven techniques are carried on.

Public information and employee training are fundamental to changing people's behaviors and stopping pollution at its source. The more people are aware that their actions have a specific effect on storm water quality and the environment in general, the more they will be the solution to pollution, rather than its cause.

CHALLENGES

The City of Long Beach continues to face a difficult financial situation due to the economic crisis and increase in operational costs. In FY 12, the Long Beach Storm Water Management Plan was implemented at an estimated cost of $48,800,665, which equates to an investment equivalent to $106 per capita.

In this uncertain economic environment, the program continues to face a number of challenges:

- Sanitary Sewer Overflows (SSO) and associated discharges into the Los Angeles River, Colorado Lagoon and Marine Stadium. This year, there were 15 SSOs, fortunately all of the 4,604 gallons of discharge were recovered and returned to the Sanitary Sewer System
- The economic recession has once again led to major budget cutbacks.
- The adoption of the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants Total Maximum Daily Loads, The Long Beach Beaches and Los Angeles River Estuary Total Maximum Daily Loads for Indicator Bacteria, and the implementation plan for the Coyote Creek TMDL for Trash/Metals/Bacteria.
- Uncertainty of cost associated with requirements with the preparation and requirements for the new NPDES Permit.
- Workload and staffing shortages at local, state, and federal levels.
- Lack of General Fund dollars available for grants with matching fund requirements, Capital Improvement Program (CIP) projects, and special studies aimed at improving water quality.
- Surcharge cost for new Low-flow Diversion Devices installed at the Appian Way and Belmont Los Angeles County Flood Control Pump Stations, and the Termino Avenue Drain LFD station.
- Continued maintenance cost for the structural BMPs at catch basins leading to the LA River as a result of the LA Gateway Cities Catch Basin Project.
- Cost replacement of AB-Tech sponges.
- Implementation cost for current and future TMDLs.
- Gateway Cities Council of Governments (GCCOG) participation fees.

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SECTION 1

1.0 PROGRAM MANAGEMENT

Section one details the City's strategy, regional efforts, and projects related to implementing the Long Beach Storm Water Management Program (LBSWMP). The Department of Public Works Storm Water/Environmental Compliance (SWEC) Division administers this citywide program. The objective of the LBSWMP is to improve the quality of storm water runoff by effectively prohibiting non-storm water discharges, implementation of the new Low Impact Development Practice as per the new City Municipal code, 18.74, promoting water conservation to reduce water runoff and by reducing the discharge of pollutants to the maximum extent practicable (MEP). While it is the SWEC's responsibility to coordinate the development, implementation, and revision of the LBSWMP, all City Departments are involved in the cooperative effort to implement the LBSWMP.

1.1 IMPLEMENTATION STRATEGY

The Citywide NPDES Task Force (Task Force) guides and supports the implementation of the LBSWMP. The Task Force is made up of representatives from multiple City Departments. Due to a decreased workforce and daily demands, the SWEC has emphasized using electronic communications to disseminate information, receive feedback, provide guidance, and discuss pertinent issues related to NPDES. Using the intranet, internet and other electronic communication devices decreased the response time to the City's hotline, (562) 570-DUMP reports. Task Force members concentrate on integrating the LBSWMP elements into the City's guidelines and standards. The Task Force addresses training, public education, public agency activities, development planning and construction, legal authority, industrial and commercial site visits and procedures to detect and remove illicit connections and improper disposal into the storm drain system. Part of this effort includes a process for identifying the appropriate City Department(s) needed to respond to storm water/environmental pollution issues.

In addition to the strategy explained above, the SWEC continues its reconstruction of its Website for a reopening date tentatively set for Summer 2013. The website will be used as an educational tool for city employees, residents, businesses and schools, as well as an informational resource for City Departments and a source for anyone needing information regarding the City's new NPDES MS4 Permit, a link to the State Water Board's SMARTS Program, LBSWMP and the Municipal Code as it is related to the City's guidance and enforcement of the Clean Water Act.

1.2 REGIONAL PARTICIPATION

The SWEC Staff and other City staff are actively involved in a great number of task forces, councils, organizations, and committees that focus on storm water, pollution prevention, education, and watershed activities.

The San Gabriel River Master Plan (SGRMP) - the SWEC attends these meetings to assist the SGRMP stakeholders in meeting the goals and objectives of the SGRMP TMDLK and preparation of a future Watershed Management Plan. Currently a technical committee known as the Coyote Creek TMDL Technical Committee has been formed to address the requirements of the TMDL and to prepare and execute an implementation plan.

The Los Angeles and San Gabriel Rivers Watershed Council (LASGRWC) - is a nonprofit organization that engages stakeholders in dialogues to promote watershed, environmental, and regulatory issues. The LASGRWC holds regular stakeholder meetings that not only cover organization business, but also include informative workshops.

The Dominguez Watershed Advisory Council (DWAC) – The SWEC Officer represents the City in its continued membership and supports implementation of a comprehensive Watershed Management Master Plan (WMMP) for the Dominguez Watershed. Staff from the Harbor Department and the SWEC attends these meetings to assist the DWAC in meeting its goals and objectives for the WMMP.

The Southern California Association of Governments (SCAG) - promotes economic growth, personal well-being, and livable communities through leadership, vision, and progress. The City of Long Beach continues to be a member of SCAG.

The Storm Water Monitoring Coalition (SMC) of Southern California - a collaborative working relationship of storm water regulators and municipal storm water management agencies, works to develop the technical information and tools needed to improve storm water decision-making. The City of Long Beach, a founding member and the only municipal representative, continues to be an active member. The City actively and financially participates as a member of the SMC.

The Los Angeles River, Reach 1, Metals TMDL Committee - The City actively and financially participates as a member of the Los Angeles River, Reach 1, Metals TMDL Committee. The Los Angeles Regional Water Quality Control Board developed the Los Angeles River and Tributaries Metals TMDL (LAR Metals TMDL) to address potential

impairments resulting from the concentrations of Cadmium, Copper, Lead, Selenium and Zinc occasionally exceeding the California Toxics Rule (CTR) standards. The identified beneficial use impairments include wildlife habitat, rare threatened or endangered species, warm freshwater habitat, wetlands, and groundwater recharge.

The NPDES Municipal Stormwater Permit Executive Advisory Committee (EAC) - actively addresses storm water issues among its stakeholders and with representatives from the Los Angeles Regional Water Quality Control Board. Long Beach SWEC Staff attends these meetings as well as the TMDL subcommittee meetings.

The Los Angeles River Watershed and County Best Management Practice (BMP) Task Forces - are ongoing forums to facilitate the selection, implementation, and financing of effective BMPs. Long Beach SWEC Staff attend and present applicable projects at these meetings to assist the BMP Task Force with achieving its goals and objectives.

The Water Resources Action Plan (WRAP) - The SWEC Officer continues to work with staff at the Ports of Long Beach and Los Angeles to support the Water Resources Action Plan (WRAP). The plan was developed to address water quality concerns in harbor waters, in order to assist with TMDLS and NPDES permit development, The FY 12 final report was published in October 2012 and can be found in Appendix B-4.

The East San Pedro Bay Ecosystem Restoration Study - The East San Pedro Bay Ecosystem Restoration Study remains in the Feasibility Study Phase due to reduced Federal funding levels for United States Army Corps of Engineers (USACE) general investigations. In 2012, a new model for USACE feasibility studies emerged. This model, known as the 3x3x3 model, is a national model that prescribes existing feasibility studies that have yet to begin, and future feasibility studies, must be refocused, and take no longer than three years to complete, cost no more than $3 million, and fit the core of the study report into a three inch binder. The 3x3x3 model is a significant change to how feasibility studies will be performed, dramatically reducing the scope in a yet-to-be-determined manner.

The City of Long Beach and USACE held an initial planning meeting in August 2012 to discuss the process of focusing the original $8 million, four-year study, into a $3 million, three-year study. As more information about the process of modifying the Feasibility study becomes available and the City has information about the steps required to begin the 3x3x3 Feasibility Study, City staff will return to the City Council and the community to discuss any changes to current scope of the approved feasibility study. Long Beach will continue advocating for a focus on (1) Restoring the ecosystem in the East San

Pedro Bay, (2) Improving recreational water quality; and (3) Increasing recreational opportunities in the East San Pedro Bay. The top priority for the City will be to protect existing infrastructure. Local funding for this project remains stable.

ON GOING AND COMPLETED PROJECTS/ACTIVITIES

Council of Governments Participation - In FY 12, the City of Long Beach continues with its participation with the Gateway Cities Council of Governments (GCCOG) in the development of coordinated implementation plans to address metals TMDLs. During FY 12, a new Memorandum of Agreement for Coyote Creek administration and cost sharing to undertake the implantation plan, monitoring program, and special studies between the GCCOG and the City of Long Beach was approved by the City Council on June 19, 2012. The goal of the MOA is to undertake and develop a monitoring and implementation program. These programs will include special studies to address scientific and technical issues resulting form establishment of the metals TMDL. The SWEC Officer represents the City in all the committees mentioned above.

1.3 CURRENT PROJECTS

In FY 12, the Long Beach SWEC managed and monitored several capital improvement projects aimed at reducing pollution throughout the City. The following projects were made possible through various grant awards and special revenue sources.

1.3.1 RESTORATION OF THE TERMINO AVENUE GREENBELT PROJECT

This area, known as the Greenbelt, was cleared to make way for the construction of the Termino Avenue Storm Drain Project, which was completed in September 2011. The restoration primarily consisted of restoring trees, California native landscape planting, and automatic irrigation system. A bio filtration system that uses storm water runoff transported by the Termino Avenue Strom Drain is being considered for irrigation in this area.

1.3.2 COLORADO LAGOON REMEDIATION AND RESTORATION

Phase I, Part 2 construction activities at the Colorado Lagoon focused on the removal of contaminated sediment from the Lagoon channel bottom, and transporting the dredged material from the Lagoon to the Port of Long Beach for disposal at the Middle Harbor Project Site. During this process, on-going testing of the sediment was conducted to ensure that the material was adequate for disposal at an aquatic confined disposal facility. Throughout the process, dredging and testing of sediment material had revealed low to non-detectable levels of lead, and did not prompt any sort of treatment for the batches tested.

Additional construction dealt with side slope re-grading. The re-grading of the slopes has provided a more natural transition from the land/beachside areas into the water. Dredging activities resulted in lower water depths and a lower channel bottom throughout the Lagoon, which made this a necessary component. Additionally, the side slope re-grading conducted will provide the most optimal environment for the planting of native vegetation and will allow the new plants to thrive.

Other notable construction activities included the demolition of the very old and abandoned Colorado Lagoon North Restroom, and the demolishing of the parking lot in the north beach area. Both of these activities have helped make the Lagoon a more attractive natural resource, but have also provided a foundation for true habitat and ecosystem restoration.

Water quality testing was reinitiated in August 2012, and has thus far revealed that the dredging activities in combination with previous efforts to install trash traps and a low flow diversion system have resulted in tremendous improvements in water quality. So far, weekly water quality testing of the City's beach and bay areas has revealed that the Colorado Lagoon has some of the cleanest recreational water Citywide.

1.3.3 LOS CERRITOS CHANNEL TMDL IMPLEMENTATION PLAN

The City of Long Beach continues work with the Cites of Bellflower, Paramount, Lakewood, Signal Hill, Downey and Caltrans on the preparation of the implementation plan for the Los Cerritos Channel Metals TMDL. The City co-chairs a Technical Committee with the City of Signal Hill. Recently during the months of September and October 2012, the seven Member Cities and Caltrans have approved a Memorandum of Understanding with the Los Angeles Gateway Integrated Regional Water Management Joint Powers Authority. The goal of the Committee is to continue work with EPA and the Los Angeles Regional Water Quality Control Board (LARWQCB) on the implementation Plan. Prior to the adoption of the Los Angeles County NPDES Permit on November 8, 2012, the committee has begun concentrating it's efforts to produce the implementation plan, a watershed management plan and the monitoring plan to facilitate achieving the objectives of the Metals TMDLs.

1.3.4 APPIAN WAY LOW-FLOW DIVERSION

The Design Phase of the Appian Way Low Flow Diversion is scheduled for completion in December 2012. Advertisement for construction is scheduled for early Spring 2013. This consists of the installation of a new mechanical pump, new pipelines, electrical equipment and controls, new utility vaults, new sanitary sewer mains and manholes. The diversion system will divert non-stormwater runoff into the sanitary sewer system there by preventing it from entering the adjacent Alamitos Bay.

1.3.5 West Side Storm Drain Pump Station

The construction of the upgrades to the Westside Storm Drain Pump Station, SD-3 is nearing completion. The scheduled completion date is December 2012. The work consisted of the upgrade of the sump pump, replacement of the 3 main pumps, installation of trash nets with frames and a 480V generator. These renovations to the pump station contribute greatly to improving water quality along the Los Angeles River.

1.3.6 DIVISION STREET SLIP LINNING

Work continues on the design of this project. Funding is being sought for construction of the slip liner in the Fiscal Year 14. The project consists of the installation of a Cured-in-Place Thermosetting Resin Pipe Liner to prevent groundwater intrusion into the storm drain lines. This will reduce the accumulation of water that is diverted to the sanitary sewers. The benefit for the City will be found in reduced fees imposed by the Sanitation Districts of Los Angeles County.

1.4 WATER QUALITY REPORTING

The City of Long Beach developed it's own End of Summer Beach Report (Appendix B-1) as well as it's End of Winder Report (Appendix B-2) to examine the City's progress of it's work on improving water quality at it's beaches, Colorado Lagoon and the Alamitos Bay. 14 Locations were examined through out the reporting periods and resulted in 100% improvement at all locations. These results were also verified in the Heal the Bay Report (HTB) showing that 5 A's, 9 B's, and only 1 C were given to Long Beach (Appendix B-3). As written in the HTB Report, "Overall, Long Beach's water quality improved drastically during summer dry weather this past year. During winter dry weather 73% of beaches received A or B grades, 30% better than the five-year average". The City will continue to produce both, the end of Summer Report as well as the End of Winter report at the same 14 locations.

2.0 MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

The City of Long Beach puts into practice public agency activities that reduce the discharge of pollutants into the storm sewers and local receiving waters to the maximum extent practicable. In order to effectively improve the quality of storm water, the City has the following in place:

- Storm Drain System Operations and Maintenance
- Trash and Greenwaste Control
- Code Enforcement
- Street Maintenance
- Street Sweeping Brush Adjustment
- Refuse Collection Adjustments
- Public Construction Activities
- Landscape Maintenance
- Training
- Water Conservation
- Low-Flow Diversion Devices

2.1 STORM DRAIN SYSTEM OPERATIONS AND MAINTENANCE

Within the City limits, there are about 383 miles of active storm water carriers, which include pipes, open channels, ditches, culverts, connector pipes, and drains. Of those carriers, 180 miles are City-owned, 142 miles are owned by Los Angeles County, and 40 miles are Caltrans-owned, with various other owners making up the remaining 21 miles. The City maintains 5.5 miles of channels and ditches, Los Angeles County has 32 miles of open flood control channels, and Caltrans has 11 miles of channels and ditches.

In addition, the City owns 23 pump stations, 4 Low Flow Diversion Devices, 5 beach outfall structures, approximately 3,800 catch basins, and is responsible for approximately 1,875 LA County owned catch basins, all of which are cleaned repeatedly throughout the year. The related maintenance costs for FY 11 were an estimate $700,000.

Waste characterization shows that the predominant types of debris include trash (a combination of plastics, polystyrene-foam, glass, and paper) and green waste. The most likely source of the trash is littering, whereas the most likely source of the green waste is a combination of non-anthropogenic sources and individuals who sweep, hose, or blow material into the storm drain.

Selected areas in the MS4 have been designated as high priority based on the amount of trash and debris normally collected. A Rain-Emergency Checklist identifies catch basins, grates, ARS devices, culverts/ditches, storm water pipes and cross drains that are checked immediately prior to a forecasted rain event. These areas are cleaned of any trash and debris prior to a storm event to ensure that these pollutants are not washed into the receiving waters. To ensure that no clogged systems contribute to flooding, a separate list is maintained of areas to be checked while it is raining. In addition, City staff is prepared to respond to reports of flooding and other concerns during rain events.

The Water Department operates and maintains the City's sanitary sewer system, as detailed in the Public Agency Activities section of the LBSWMP. Procedures are implemented to keep sewage from entering the storm drain system. Methods may include education, inspection, covering or blocking storm drain inlets and catch basins, or containing and diverting the sewage away from open channels and other storm drain facilities. One way the City is trying to prevent sewer overflows is through a joint outreach effort by the Storm Water/Environmental Compliance Division and the Water Department to educate restaurant owners and residents about the negative effects of pouring fats, oils, and grease (FOG) down kitchen sinks. FY12 there were 15 SSOs, which included 1- Category 1 SSO with a loss of 400 gallons and 14 - Category 2 SSOs with 4,204 gallons fully recovered and returned to the Sanitary Sewer System. That is a decrease of 14 SSOs from last year and a decrease of 11,255 gallons spilled.

Additionally, Public Works and the Health Department maintain a Vector Control & Trauma Scene Waste Cleanup Memorandum of Understanding (MOU). In FY12, MOU related expenses amounted to $52,666.

2.2 TRASH AND GREENWASTE CONTROL

Trash and green waste are controlled through various operations across several departments. These include:

- Litter Receptacles

- Neighborhood Cleanup Assistance
- Household Recycling
- Greenwaste Disposal
- Special Collection
- Used Oil Recycling
- Household Hazardous Waste Collection
- Trash Collection on the Beach and Along Water Bodies
- Automatic Retractable Screen (ARS) and Connector Pipe Screen (CPS) BPMs install through the Gateway Authority Catch Basin Project
- Trash net and VSS installations at selected stormwater pump stations
- Educational flyers and brochures distributed to the Public through payment billings mailed

The Environmental Services Bureau (ESB) provides various refuse, recycling, litter abatement and street sweeping programs. In fiscal year 2012 (FY 12), ESB added several programs to its existing ones, including the following:

- The City began a partnership with Recyclebank for a recycling incentive program. Once registered, residents are awarded points for recycling, which can then be redeemed for discounts and deals from local businesses and national brands (Appendix C-1).
- LB Exchange is a program that is designed to promote materials reuse by creating a link between local businesses and Long Beach non-profits and schools. Businesses can donate items such as furniture and appliances to these non-profit organizations (Appendix C-2).
- The City implemented mandatory commercial recycling, which requires all businesses in Long Beach to recycle.
- Plans for a Household Hazardous Waste facility are currently underway. The facility would allow residents of LA County to bring in household hazardous waste items for proper recycling or disposal. Items that will be accepted at this facility include (but are not limited to): batteries, chemicals, pharmaceuticals, fluorescent light bulbs.

Refuse/Recycling

During FY 12, ESB continued to provide a number of refuse and recycling services that included curbside collections, hazardous waste round-ups and special item pick-ups. In

addition, ESB played an active role in the community through various outreach and educational programs. In FY 12, ESB:

- Collected approximately 187,505 tons of waste from City managed routes and beaches.
- Provided all City serviced refuse accounts with two free bulky item collections per year, with any additional collections at a cost of $5.82 per item.
- Staff attended 7 neighborhood meetings and community events promoting recycling and litter abatement, with 215 residents attending.
- Made 6 school visits with the Traveling Recycling Education Center (TREC) achieving an outreach of 525 students on the mobile classroom.
- 88% of Long Beach's public schools, 68 total, are currently participating in the recycling program. Additionally, 6 private schools are participating in the recycling program.
- Conducted 13 composting workshops and special event composting demonstrations for a total of approximately 790 participants, and distributed approximately 200 composting bins to residents and schools throughout the City (Appendix C-3).
- Received a $124,311 block grant from the Department of Conservation (DOC) that was used to support litter abatement programs and various activities related to beverage container recycling. In addition, the DOC funds assisted the City's curbside residential program in collecting nearly 25,500 tons of recyclable material.
- Hosted a Los Angeles County Household Hazardous Waste Round-up that collected several types of hazardous waste including 22,050 pounds of e-waste and 3,950 pounds of various batteries (Appendix C-4).
- Collected approximately nearly 5,000 gallons of motor oil and over 1600 motor oil filters both curbside, and at a Los Angeles County Household Hazardous Waste Roundup as part of the City's motor oil recycling program.
- Received a block grant from CalRecycles (formerly known as the California Integrated Waste Management Board) for over $135,000 that was used to support the City's used motor oil recycling program. The program consists of curbside collection, 36 Used Oil Certified Collection Centers and various public outreach materials.
- Produced brochures to inform residents about the importance of recycling used motor oil and promote clean and healthy streets (Appendix C-5).
- ESB continued its Marina Recycling program, providing approximately 135 recycling bins to Alamitos and Shoreline Marinas, and a 2-yard recycling bin to Rainbow Marina.

- A multifamily recycling ordinance was implemented in FY 2009, requiring the City's private waste haulers to provide the option of recycling to multifamily units with ten or more units (Appendix C-6).
- A manure composting pilot program was created in FY11. An estimated 5 tons per month is diverted from this program.

Litter Abatement Campaign

ESB established a Litter Abatement and Awareness Campaign program (Litter-Free Long Beach) during FY 05. Below is a description of Campaign programs conducted during FY 12:

- Conducted 37 community and business corridor clean-ups.
- Involved 935 volunteer participants at neighborhood and business clean-up events.
- Collected 1406 tons of litter from clean-up efforts.
- Gave away 525 car litterbags (containing litter and recycling promotional items) at neighborhood clean-up events, to various outreach programs, and to City Council Offices.
- Promoted the "No Litter Zone" program through door-to-door efforts with 337 businesses participating in the program receiving a free 20-gallon trash can, liners, broom and dust pan for use to help keep their store fronts clean.
- Presented the "Lunch with a Lizard" school assembly program to 27 public elementary schools (Kindergarten – 3rd grades), teaching 11,263 students the importance of not littering.
- Collected 1406 tons of litter from alleys throughout the city through the "Alley Clean-Up" program, which involved 2,297 community service workers.
- Provided 1,331 litter and recycling containers at Special Events throughout the City.
- Maintained sponsorship of 17 street locations through the "Adopt-a-Street" program.
- Placed a full page Earth Day ad in the Downtown and Grunion Gazettes featuring the litter message of the winning poster of the "Litter Stinks" school poster contest.
- Placed 20 print ads in the *Press Telegram*, *Downtown* and *Grunion Gazettes*, *and School News* to promote the Litter Campaign.
- Continued a program for residents to contact and report businesses that leave unwanted handbills on residential property and create litter in Long Beach neighborhoods.

- Issued nearly 2,300 citations through the Long Beach Police Department.
- Produced and distributed a "No Junk Mail" brochure to enable residents to remove themselves from 'junk mail' advertising lists and pre-screened offer directories (Appendix C-7).
- Printed customized posters and distributed flyers promoting neighborhood clean-up events (English, Spanish, Khmer).
- Provided a series of informational brochures and flyers on litter abatement, recycling, hazardous waste and composting. (Appendix C-8)
- Produced promotional car decals, baseball caps, coasters, pencils, water bottles, reusable grocery bags, and rulers (Appendix C-9).
- ESB implemented a plastic bag ban in FY11, which prohibits the use of plastic bags at grocery stores throughout the City. Residents are encouraged to bring reusable tote bags, or can purchase paper bags for $0.10 each (Appendix C-10).

Appendix C-11 contains a copy of the 2011-2012 LB EcoGuide, which was mailed out to Long Beach residents.

2.2.1 LITTER RECEPTACLES

Keeping refuse from entering the storm drain system takes an enormous effort. Placing trash receptacles in convenient locations and servicing them on a regular basis is a consuming task. To ensure that people have an alternative to littering, the City has placed 93 litter receptacles along residential streets and 831 litter receptacles along commercial streets. A total of 1,630 tons of trash and debris were collected from litter receptacles on residential streets, and 14,675 tons were collected from commercial street receptacles.

The Beach Maintenance and Queensway Bay divisions service approximately 434 litter and trash receptacles on our beaches, marinas and the park areas of the Greater Queensway Bay. The beach receptacles (approx. 257) are emptied 7 times weekly during the summer and twice weekly in winter. Marina trash receptacles (approx. 85) are emptied 6 days per week. Queensway Bay litter receptacles (approx. 214) are emptied seven days a week and a Landscape contractor performs this task. Rainbow Harbor Grounds and Esplanade areas are emptied 1095 times a year. Rainbow Lagoon and South Shore Launch Ramp are emptied 730 times a year. Shoreline Marina and Golden Shore areas are emptied 365 days a year. Our ocean front beaches are raked 5-6 days per week depending on conditions. Floating debris is removed from the waters of Rainbow Harbor on a daily basis. Special events are provided with additional litter containers on an as needed basis and are collected on the day of the event. Beach trash 7 days a week.

2.2.2 NEIGHBORHOOD CLEANUP ASSISTANCE

The City's Department of Development Services assists resident volunteers by conducting Neighborhood Cleanup events. In FY 12, 981 tons of trash was removed during cleanup events at a cost of $35,178. The Department provides free trash dumpsters, trash bags, and gloves and lends tools for use during the cleanup events. Neighborhood groups are also given free use of community computers and photocopiers to produce flyers for the event. For further information, please visit the web site at: www.longbeach.gov/cd/neighborhood_services/clean_up_programs.asp.

2.2.3 HOUSEHOLD RECYCLING

The City's Environmental Services Bureau continues to improve the household recycling program. Residents are provided with 32-gallon, 64-gallon, or 96-gallon carts for commingled collection of recyclables in the categories of newspaper, cardboard, mixed paper, plastic, cans (aluminum, steel, and tin), glass, and empty paint and aerosol cans. In FY 12, 25,376 tons of recyclable material was collected through the curbside recycling program. Table 2-1 shows recyclables collected in FY 12. The multifamily recycling ordinance requires the City's private waste haulers to provide the option of recycling to multifamily units with ten or more units.

Table 2-1: CURBSIDE RECYCLING

WM Recycling Collection	25,376	Tons of recyclables collected from Curbside Recycling Program.
	16,364	Tons of newspaper collected.
	3,502	Tons of corrugated cardboard collected.
	4,902	Tons of commingled containers collected.
	3,900	Gallons of used motor oil.
	97	Number of oil filters.
	1,237	Tons of mixed paper collected.

2.2.4 GREENWASTE DISPOSAL

The City continues to require residents to tie tree limbs, shrubs, and trimmings into bundles and securely wrap materials for proper disposal. The Special Collection Program provides pickup for these materials. In FY 12, there were 79 requests for pickup of yard waste. The Environmental Services Bureau also offers tree cycling of

holiday trees. Residents may take trees to any of the several drop-off locations or put the tree out for free pickup on the specified date. As an added incentive to residents, the City offers seminars on composting and distributes literature that explains methods of green waste composting. (Appendix C-3)

The Departments of Parks, Recreation, and Marine and Public Works recycle grass and tree limbs from City grounds. In FY 12, the Public Works Street Maintenance Division recycled 8,402 tons of grass and tree limbs. City departments minimize the amount of green waste collected from City facilities by reuse. Grass clippings are evenly distributed over the areas that are being mowed (grass cycling). Green waste from trimming, pruning, and clearing is chipped or shredded and kept on site as mulch.

Green waste generated from our grounds and landscape maintenance operations in our parks is the responsibility of the contractors, and is disposed of at a legally permitted off-site location, most green waste from the trimmers and landscape contractor is chipped and kept on site. The City receives diversion credits for this green waste. Contractors maintain logs identifying its disposal activities, which are available to the City for inspection upon request. It should be noted that all grass clippings in our parks are not collected, all mowers used by contractors use recycling or mulching decks.

Green waste from our tree trimming operation is taken (by City vehicle) to a local transfer station for recycling. BMP's, such as surrounding the base of bulk materials with sand bags and covering with plastic tarps, are utilized to assure that exposed materials will not migrate from their temporary storage locations. Our Accounting Office maintains the disposal records.

Green waste generated from our grounds and landscape maintenance operations in the Queensway Bay Area is the City's responsibility, and is collected by the contractor and deposited in a container in the Golden Yard. A green waste contractor then removes the waste for recycling, leaving an empty container. City staff headquartered in the Golden Yard maintains the disposal records.

2.2.5 SPECIAL COLLECTION

Two well-publicized special item collection programs, the Oversized Items Pickup and Dumped Items Pickup, are designed to reduce bulky items from alleys and vacant lots throughout the City. The Environmental Services Bureau (ESB) distributes a trilingual (English, Spanish, and Khmer) promotional flyer to inform residents about the Oversized Items Pickup program (Appendix C-12). City-serviced refuse accounts receive two free bulky item collections per year, and additional collections are available at a cost of

$5.82 per item. Table 2-2 shows the number of collection requests for special item pickups.

Table 2-2: SPECIAL ITEM PICKUPS

Special Collections	11,427 request, 1,428 tons	# of requests and tons from Special Item Pick-up Program.
	7,790 request, N/A tons	# of requests and tons of furniture.
	297 request, N/A tons	# of requests and tons of tires.
	79 request, N/A tons	# of requests and tons of yard waste/tree clippings.
	239 containers	# of collected City provided trash bins (old).
	2,086 request	# of requests of Out Lates (missed collections).
	617 request, 100,709 lbs	# of requests and pounds of E-waste.
	369 request, N/A tons	# of requests and tons of appliances.
	3,604 request, N/A tons	# of requests and tons of other.

2.2.6 USED OIL RECYCLING

The City operates a curbside residential recycling program that includes collection of used motor oil and oil filters. Residents are provided with free used motor oil recycling containers at their request. Waste Management, Inc., the City's recycling contractor, collects the containers and leaves empty replacement containers. ESB staff attended numerous community events throughout the year to promote the Used Motor Oil Recycling program and distribute motor oil containers and funnels. ESB also gave away litterbags and shop towels that have information about recycling motor oil. In FY 12, approximately 5,000 gallons of used motor oil was collected along with approximately 1,600 used oil filters through the curbside-recycling program and at the Los Angeles County Household Hazardous Waste Roundup.

In addition, drop-off locations throughout the City, such as gas stations and auto parts stores, are posted on the Environmental Services Bureau Web site and listed in ancillary promotional materials. These certified drop-off centers are managed and maintained by the business owners and supplement the City's efforts.

2.2.7 HOUSEHOLD HAZARDOUS WASTE COLLECTION

ESB staff, in partnership with the Los Angeles County Department of Public Works and the Sanitation District of the County of Los Angeles, held a very successful Household

Hazardous Waste (HHW) Roundup that collected several types of hazardous materials including 22,050 pounds of e-waste and 3,950 pounds of batteries.

Table 2-3: HOUSEHOLD HAZARDOUS WASTE COLLECTION

County HHW Collection Event	03/24/12	Date of event
	1,000	Gallons of used motor oil.
	3,000	pounds of car batteries.
	750	pounds of oil filters.
	8,010	Gallons of paint.
	250	Gallons of antifreeze.
	3,950	Pounds of batteries.
	22,050	Pounds of E-waste.
	489	Number of computers (CRT units).
	22,050	Gallons of misc. waste (pesticides, pool chemicals, etc.)

2.2.8 TRASH COLLECTION ON THE BEACH AND ALONG WATER BODIES

The Department of Parks, Recreation, and Marine is responsible for the maintenance of recreation water bodies at Heartwell, Scherer, El Dorado Parks, the Colorado Lagoon and Rainbow Lagoon. Maintenance functions at Heartwell and Scherer Parks are performed by contract maintenance. Maintenance functions at El Dorado Park and Rainbow Lagoon are performed by both contract maintenance and by City staff. Maintenance functions at Colorado lagoon are performed by City Staff. At all locations, the contractor is required to remove trash, including floating and submerged debris from the lakes on a daily basis. All cleaning is required to be completed in accordance with the requirements of the CA Department of Fish and Game and the Regional Water Quality Control Board. The landscape contractors responsible for trash removal are not required per their contract to keep records of the amount of trash that is removed from the lakes or from the parks. However, City staff is required to inspect and document the daily removal of all trash and debris from the lakes. In addition to trash removal, the contractors or City staff is required to make periodic treatments for control of algae and aquatic growth, except for Rainbow Lagoon and Colorado Lagoon, which are ocean/tidal water. Staff monitors the lake activity and authorizes the use of treatment on an as-needed basis as necessary. Treatments are applied in accordance with manufacturer's instructions and best maintenance practices.

In addition to the park lakes and Rainbow Lagoon, the City actively maintains Rainbow Harbor (Queensway Bay), the Downtown Marina, and the beaches. A combination of contracted and City staff remove debris by dip net and clean filters in the Greater Queensway Bay area which includes; Rainbow Lagoon, Shoreline Marina, Rainbow Harbor and Marina and South Shore Launch Ramp.

The Long Beach Water Department also participates in beach cleanups to promote environmental stewardship and education. The Department organizes quarterly events at Bluff Park (Ocean Blvd) that are geared towards high school and college students, Scout members, and the general public. The Department provides free giveaways, trash bags, gloves, bottled water, volunteer service verification forms, and official recognition from the Long Beach Board of Water Commissioners. The largest event took place in September, with roughly 3,900 pounds of trash and debris collected by over 850 volunteers. The department was pleased to see that the message of "Bring Your Own" continues to be a success. Approximately 30-35% of the volunteers came with bags and buckets of their own. The department's goal is that people take what they have learned at Coastal Cleanup Day and make positive changes throughout the year.

2.3 CODE ENFORCEMENT

The City conducts several code enforcement activities that assist with controlling the discharge of pollutants into the storm drains and reduce the discharge of pollutants into Long Beach receiving waters to the maximum extent practicable. These include:

- Property Maintenance
- Oil Code Enforcement

2.3.1 PROPERTY MAINTENANCE

Property maintenance activities deal with eliminating unsightly conditions and governing the maintenance of buildings and surrounding property. Complaints of trash and debris in yards, overgrown vegetation, inoperative or abandoned vehicles, etc., are investigated and Municipal Code violation notices or citations are issued where warranted. Failure to comply may result in referral to the City Prosecutor or in a cleanup by City staff at the owner's expense. In FY 12, the Department of Development Services opened 8,714 cases and closed 9,002 cases.

2.3.2 OIL CODE ENFORCEMENT

In the 1970s, four islands were constructed in the Long Beach Harbor for the purpose of accessing oil under the harbor. Strict procedures are in place for preventing and dealing with oil spills. Monthly field inspections cover housekeeping practices, potential safety hazards, security, and a number of other issues. Employees are trained annually, and the department stays abreast of new technologies and industry progress by attending various committees and focus groups. All rainwater on the islands is captured and used to irrigate vegetation.

The Inspection Services Division of the Long Beach Development Services Department is responsible for enforcing City regulations governing the drilling of new wells and the maintenance of existing production sites. Annual permits are issued, and investigations are conducted to ensure compliance. In FY 12, there were 4,482 investigations related to oil operations, resulting in 0 enforcement actions.

2.4 STREET MAINTENANCE

The City's street sweeping service is one of the largest and most effective programs supporting storm water pollution prevention. The majority of streets and street medians in Long Beach are swept on a weekly basis, which greatly exceeds the permit requirement of twice per month. To increase the effectiveness of street sweeping, signs are posted and citations are issued so that vehicle owners leave streets vacant on street sweeping days. In addition, street sweeping and refuse collection routes have been better coordinated to provide more efficient service, such as having street sweeping occur after refuse collection on a given street. During FY 12, the Street Sweeping Division swept 151,743 miles and picked up 10,457 tons of material.

Though not typically allowed to be reported as a NPDES compliance measure and expense, during this reporting period thousands of tons of waste from City managed routes and beaches were collected at a cost of $48,800,665 (Appendix C-15).

A number of parking lots and structures are also routinely swept and degreased to prevent trash and hazardous materials from entering the storm drain system. The Department of Parks, Recreation, and Marine sweeps 36 lots five times each week at an estimated annual cost of $162,155. The Department of Public Works, Parking Operations Division, maintains another 7 parking structures consisting of 5,165 parking stalls and 13 parking lots consisting of 1,510 parking spaces. The majority is swept either once or twice each week at an annual cost of $122,035. In addition, the Department of Library Services contracts with a custodial company for parking lot

cleaning services. The department has ten branches/locations that are swept four times per week and one branch/location that is swept six times per week. Litter control at all library locations is accomplished by sweeping and picking up litter using manual labor, with an estimated annual cost in FY 12 of $5,589. Storm Water filtration maintenance and materials for the Mark Twain, LEED certified library, is done quarterly at an annual cost of $2,160.

2.4.1 STREET SWEEPING BRUSH ADJUSTMENTS

The SWEC continues to work with the Street Sweeping Division in finding a solution for its Street Sweeping Vehicle brushes to reach depressed pavement landings in front of catch basin to avoid the build up of trash debris piling up from the lack of contact of the brushes during sweeping. Newly installed Automating Retractable Screens (ARS) prevent the debris from entering the catch basins during street sweeping operations.

2.4.2 REFUSE COLLECTIONS ADJUSTMENTS

Currently The City's catch basins are cleaned and maintained through the City's Annual contract with United Storm Water, Inc. SWEC will be working with the City's Refuse Division and the Street Operation Division to develop plans and work methods to assist in the collection of debris from the Automatic Retractable Screen (ARS) devices in catch basins on a more frequent program. Examples of this program would included but not be limited to the raking of debris from the face of the ARS screens during trash pick up runs (once a week). Educational flyers will also be used to instruct the public about the function of the ARS devices and how a resident can help out their community by raking the face of the ARS screen at a catch basin near their property.

2.5 PUBLIC CONSTRUCTION ACTIVITIES

All departments involved in construction-type activities implement good housekeeping practices. They ensure that properly managed wastes are disposed of during street, road, and other maintenance activities. Employees who conduct maintenance activities are given appropriate BMP training about the potential pollutants that may be released as a result of street repair.

Public construction activities focus on City projects whose construction contracts are administered by one of many City departments. City design staff and consultants have the responsibility to prepare plans and specifications that include appropriate BMPs. The BMPs selected are based on rational criteria including magnitude and type of potential pollutant.

SECTION 2

The Department of Public Works Construction Management Division insures that the Best Management Practices specified in the project specifications are implemented as defined in the City's permit. During October 1 through April 1 of each year, the project inspectors conduct site inspections and complete the City inspector construction site checklist on a weekly basis. Between the months of April 1st through September 30th, construction inspectors monitor the City for any violations while driving from project to project. When a project is not in compliance with the contract documents or Public Works permit, the Public Works inspectors have the authority to enforce the contract or permit by issuing verbal warnings, written notices, withholding progress payments, or suspending the work. In FY 12, Public Works inspectors filed 489 NPDES Inspection Reports.

During this reporting period, the following public right-of-way projects were inspected:

- 2011 Fiscal Year Annual Citywide Sidewalk Improvements
- 2011 Fiscal Year Annual Citywide Street Improvements
- 2012 Fiscal Year Annual Citywide Street Improvements
- 2012 Fiscal Year Annual Citywide Sidewalk Improvements
- Improvements to Walnut Avenue between 10th Street and Anaheim Street
- Improvements to Wardlow Road between Cherry Avenue and Long Beach Blvd.
- Appian Way Street Improvements
- Traffic Signal Improvements at Atlantic Avenue and 15th Street
- Construction of Poly Gateway Mini Park
- Improvements to Long Beach Blvd: 10th Street to Anaheim Street
- Improvements to Lakewood Avenue and Spring Street Tunnels
- Improvements to Long Beach Blvd: Del Amo to 52nd Street

- Improvements to Air Carrier Ramp Phase III
- Improvements to Taxiway Gulf
- Improvements to North Air Carrier Ramp
- Improvements to Air Carrier Ramp Phase 1B
- Bluff Erosion at 5th Place
- Bluff Erosion at 7th Place
- Improvements to 2nd and Pacific Coast Highway
- Shoreline Advance Traffic Mitigation
- Pedestrian Paseo
- Westside Pump Station Phase II
- Improvements to Storm Drain Pump Station 13
- Improvements to Stearns Park
- Improvements to Broadway: Termino Avenue and Livingston Drive
- Improvements to Willow Avenue: Redondo Avenue and Grand
- Improvements to Colorado Lagoon Phase II
- Improvements to the San Gabriel Bike Trail
- Baker Mini Par
- Pier Point Landing Pump Station
- Fiscal Year 2012 ADA Ramps
- RSA Improvements to 7L-25R

2.6 LANDSCAPE MAINTENANCE

City Staff and Contractors continue to use chemical and non-chemical management practices to control invasive non-native plants when maintaining the facility grounds. We use California native plant species for new plantings to help conserve water. This informs and demonstrates to the general public about the use of drought tolerant native plants, as well as non-chemical solutions for weed and pest control for their home gardens.

The use of mulch continues to be practiced at the nature center to help abate the use of herbicide on the grounds. Staff and contractors continue to remove non-native and invasive plants, and any replacements are all California native species.

This year, staff and contractors, continue to use best management practices, which include integrated pest management using the least toxic chemicals to get the best result possible. Staff writes reports to the county on pesticide use and all of our applicators are certified through the Department of Pesticide Regulation.

2.6.1 PESTICIDE, HERBICIDE, AND FERTILIZER USAGE

Both City staff and contractor staff are responsible for the management of pesticides, herbicides, and fertilizers. The Department has one Certified Pest Control Advisors (PCA) and two (2) Qualified Applicators Certificates (QAC) on-staff to ensure the appropriate procedures and policies for pesticide, herbicide and fertilizer management. Additionally, the department possesses a Restricted Material Permit for those herbicides and pesticides that are on the State Agricultural Commissioner's restricted list, and routinely passes annual state inspections. The QAC purchases, stores, and distributes pesticides and herbicides to staff that are either Pest Control Applicators, or staff that has received annual training in the proper use and handling of pesticides and fertilizers. The PCA follows required state law that incorporates best management practices for the application of chemicals. This practice is called IPM (Integrated Pest Management). In addition, the QAC insures that the manufacturer's instructions are followed for storage and application. The PCA is required to keep accurate records of the quantities and use of specific chemicals are required by the state and the County of Los Angeles and sends a monthly report to the Agricultural Commission of Los Angeles that documents chemical usage. Staff is trained annually in the laws governing the use of pesticides and herbicides, in the BMP's (such as restricted uses around lakes and

waterways or prohibition of spraying when rain is forecast) related to the storage and use of such substances.

All of our grounds and landscape maintenance contractors must also possess a Pest Control Advisors License, and have certified Pest Control Applicators on staff. Additionally, they must possess a Los Angeles County Agricultural Permit. Our contractors must adhere to the same requirements identified above for City staff.

Furthermore, both areas employ Integrated Pest Management (IPM) practices to minimize the necessity for pesticide applications. Alternative measures include: cultural practices and biologically applications.

2.6.2 NATIVE VEGETATION PRACTICES

Native plant materials are of particular concern in several locations – El Dorado Nature Center, 34th Street & Orange Park, the Queensway Bay Area (which includes Golden Shore Marine Reserve), the Jack Dunster Marine Biological Reserve, 7th St. Greenbelt, and Sims Pond. Azteca, the grounds maintenance contractor, is responsible for the maintenance of the landscaping at the El Dorado Nature Center and a full-time city staff gardener monitors the work, and with the help of volunteers from the Habitat Stewards program. The Nature Center is a mixture of native and non-native plant material that was originally planted over 40 years ago. It is department policy to replace any material that must be removed (for various reasons such as disease or general decline) with native plants. In addition, any new plantings are designed with native plants only. The 17-acre expansion site at the Nature Center is exclusively native plant material. El Dorado Nature Center staff ensures that plant material selections are appropriate and sustainable. The plant material, once established, is irrigated on a 10-week rotation. Maintenance and Nature Center staff schedules more frequent irrigation during the summer and fire season when grasses are dry and the Santa Ana winds are present. Herbicides and pesticides are minimally used to eliminate invasive weeds and aquatic vegetation. Volunteers and staff use the practice of mulching as an alternative to chemical weed abatement. The Nature Center has instituted a volunteer Habitat Stewards program that has trained over 80 volunteers to help plant and care for native plants, which are installed according to the Center's Master plan.

In the Queensway Bay Area, native species have been planted in Shoreline Park (Lighthouse Point and Beach Garden) and in the restored wetland area commonly referred to as the "Golden Shore Marine Reserve". The selection of native species, which include perennials, grasses, and aquatic species, has been done with input from consultants (i.e., MBC Applied Environmental Science, Acorn Group) and from qualified

in-house staff. All invasive weeds are removed by hand, with no herbicides or pesticides. Removal of trash from Golden Shore Marine Reserve is done by hand with great care on a limited or as needed basis to prevent any human impact on the site. Staff from the Golden Yard performs the record keeping. Golden Shore, Sims Pond, 7th St. Greenbelt, and Jack Dunster Marine Biological Reserve is maintained by the Los Cerritos Wetland Stewards, who are experienced in maintaining delicate habitats. Only native and non-invasive plants from the appropriate plant community are used when replacing plants at these sites. Most invasive and non-native plants are removed by hand; chemicals are used at a minimum. Mulch is then applied to the site to prevent weeds from returning until the native plants are established, and it also helps with water conservation. In the last 5 years, 34 new sites have been developed that were designed with low volume irrigation systems, drought tolerant and native plants, bio swales, and other features to minimize any negative environmental impacts. Less trimming means it generates less green waste.

The contractor and city staff keeps maintenance practices, pesticide records and schedules for these sites.

The amount of trash and debris collected from the various sites this past year, are an estimated 3 tons alone from trash at Golden Shore Marine Reserve; Los Cerritos Wetlands were 4-5 tons (estimated).

Landscape contractors and contracted tree trimmers: green waste or biomass generated from trimming, pruning, and clearing is either chipped or shredded and kept on site as mulch.

Mostly the Los Cerritos Wetland Stewardship, who is experienced in maintaining delicate habitats, maintains Jack Dunster Marine Biological Reserve, Sims Pond, and the Greenbelt. Only native non-invasive plants that are on the original approved plant pallet are used. All invasive and non-native plants are removed by hand, using no herbicides or machinery. Mulch is then applied to the site to prevent plants from returning until the native plants have colonized.

2.6.3 MUNICIPAL SWIMMING POOL MAINTENANCE

The Belmont Plaza Pool is comprised of an indoor and outdoor tank. The indoor pool is drained every other year for maintenance. The pool water circulates, without the addition of chemicals until the water tests free of chlorine before the discharge, resulting in approximately 1.1 million gallons of pool water discharged into the sewer system over a period of a few days. The indoor pool is back-washed eight times annually while the

outdoor pool is back-washed weekly or bi-weekly depending on the season. The discharge volume for backwash is approximately 7,000 to 10,000 gallons for the indoor pool and 250 to 500 gallons for the outdoor pool. Two sets of records are kept: one in the pool office and the other in the pool filter room basement.

The King Park and Silverado Park Pools are back-washed according to need. During the summer months, both pools are back-washed approximately two times per week. During the winter months, the pools are back-washed approximately every 10-20 days. (The filtration systems for these pools are substantially different from those of the Belmont Plaza Pools.) During back-washed, approximately 5,000 gallons of water are discharged into the sewer lines. Records and information are kept and maintained at the individual pool sites.

2.7 TRAINING

All City staff whose job activities directly affect storm water quality, and those who respond to questions from the public related to storm water pollution prevention and education, receive a mandatory annual refresher training regarding the requirements of the storm water management program, BMP implementation, and identifying and reporting illicit connections and discharges. The majority of training is now conducted via the City's intranet and internet, giving employees easy access to professional training material. NPDES is also a quarterly topic of discussion at the Construction Division staff meetings. In FY 12, the construction inspection staff received 35 hours of training. The Storm Water/Environmental Compliance Division staff also routinely sent out Rain Alerts to appropriate City personnel regarding BMPs and NPDES requirements, especially before anticipated rain events (Appendix C-13).

2.8 WATER CONSERVATION

The Long Beach Water Department has had an active Water Conservation program for over 20 years. While its main purpose is to conserve the use of water so that its residents and businesses can be sustained during drought years, the practice and the LBWD enforcement of water conservation practices benefits the Storm Water/Environmental Compliance Division's efforts to limit dry weather runoff. For example LBWD limits irrigation of lawns, driveway wash downs and encourages car washing businesses to recycling water thereby reducing dry weather runoff, to name just a few of their water conservation practices. The reduction in Citywide water use during FY 12 was 15% less compared to the City's historical 10-year average (Appendix C-14).

2.9 LOW-FLOW DIVERSION DEVICES

The City is working in coordination with the Los Angeles County Department of Public Works (LACDPW) on the installation of Low Flow Diversion devices at its storm water pump stations in critical locations throughout the City. These devices divert the flow of dry weather water runoff into the sanitary sewer thereby preventing this flow of water from entering the City's receiving waters. This helps reduce the transport of trash, sediment and bacteria. Currently these devices can be found at three LACDPW facilities located in Long Beach, the Belmont Pump Station, the Alamitos Bay Pump Station, and the Colorado Lagoon. An upgrade to the LFD at Appian Way is in design and scheduled to go out for bid in the spring of 2013. Construction is planned for summer of 2013. A new LFD unlike the existing LFDs was installed in custom constructed manhole structures to divert flow from the newly constructed Termino Avenue storm drain system. The City of Long Beach was recently invited to submit a detailed application for 2012 Clean Beaches Initiative Grant. This grant will allow the City to install low-flow diversion devices at beach outfalls and make an enormous improvement to the water quality along the City's beaches.

3.0 MANAGEMENT PROGRAM FOR DEVELOPMENT PLANNING AND CONSTRUCTION

BACKGROUND

Local, regional, and national research programs have identified urban runoff discharged from municipal Separate Storm Sewer Systems (MS4) as one of the principal causes of water quality impacts in most urban areas. Urban runoff potentially contains a host of pollutants such as trash and debris, bacteria and viruses, oil and grease, sediments, nutrients, metals, and toxic chemicals.

These contaminants can adversely affect receiving and coastal waters, associated biota, and public health. Land development and construction activities significantly alter drainage patterns and contribute pollutants to urban runoff primarily through erosion and removal or change of existing natural vegetation. When homes, shops, work places, recreational areas, roads, parking lots, and structures are built, increased flows are discharged into local waterways. As the amount of impervious surface increases, water that once percolated into the soil now flows over the land surface. Accordingly, increases in impervious surfaces can increase the frequency and intensity of stormwater flows through a watershed. Flow from rainstorms and other water uses wash rapidly across the impervious landscape, scouring the surface of various kinds of urban pollutants such as automotive fluids, cleaning solvents, toxic or hazardous chemicals, detergents, sediment, metals, bacteria, pesticides, oil and grease, and food wastes. These pollutants, unfiltered and unfettered, flow through the MS4 infrastructure and ultimately contaminate receiving waters.

MANAGEMENT PROGRAM FOR DEVELOPMENT AND CONSTRUCTION

The Development Planning and Construction program is in place for developers and property owners to consider storm water quality management during the planning phase of their projects and implement appropriate controls during construction. This program applies equally to privately and publicly owned property. Projects within the public right of way are addressed in the Public Agency Activities Section (2.0). Applying this program to applicable development projects effectively prohibits non-storm water discharges and reduces the quantity of pollutants into the MS4 infrastructure. To achieve this objective, the City has implemented the following:

- The Development of the LID Best Management Practices Handbook
- California Environmental Quality Act (CEQA) guidelines
- General Plan considerations for watershed and storm water management
- Sustainable City Action Plan

- Chapter 18.95, "NPDES and SUSMP Regulations," of the Long Beach Municipal Code
- Training

3.1 Low Impact Development Best Management Practices (BMP) Hand-Book

HANDBOOK DEVELOPMENT

The 1st edition reflects the newly adopted Low Impact Development ("LID") requirements that will take effect February 2013. The handbook was created by the Department of Development Services, Department of Public Works, and the Office of Sustainability. The LID Best Management Practices ("BMP") Handbook was developed as part of the LID regulation adopted by the **City of Long Beach** on November 16, 2010 as Chapter 18.74 of the Long Beach Municipal Code approved by Ordinance No. ORD-10-0035.

PURPOSE

The purpose of this handbook is to assist developers in complying with the requirements of the LID ordinance. This handbook summarizes the City's project review and permitting process, identifies prescriptive or design measures, and references source and treatment control BMP information. It provides guidance for individuals involved in new development and redevelopment projects. The target audience for this handbook includes developers, designers, contractors, homeowners, and City staffs that are engaged in plan-checking, permitting, and inspections related to land development activities. This handbook also contains the necessary forms and worksheets required to be completed by the developers, designers, consultants, contractors, and homeowners for approval.

On November 16, 2010, the City adopted the LID regulations under Ordinance No. ORD-10-0035 with the stated purpose of:

- Requiring the use of LID standards and practices in future developments and redevelopments to encourage the beneficial use of rainwater and urban runoff;
- Reducing storm water/urban runoff while improving water quality;
- Promoting rainwater harvesting;
- Reducing offsite runoff and providing increased groundwater recharge;
- Reducing erosion and hydrologic impacts downstream; and
- Enhancing the recreational and aesthetic values in our communities.

3.2 CEQA

Under the CEQA Act of 1970, the City of Long Beach is required to consider the potential environmental impacts of proposed developments. Long Beach Development Services' Environmental Planner conducts this review. Environmental review is required for projects that cause a public official or body to take "discretionary" action in approving or denying a project. The environmental review documents serve as guide to the person or persons who must make a decision about the project. Projects may be processed as a Categorical Exemption (exempt from CEQA Act), a Negative Declaration (declares that there are no impacts or that impacts can be mitigated), or an Environmental Impact Report (done for large projects that are likely to have significant effects on the environment). The outcome of the environmental review is included in Council reports, and documents are attached in the case of Negative Declarations and Environmental Impact Reports.

3.3 GENERAL PLAN

In 2012, the Department of Development Services anticipates the adoption of a new mobility element. The new Mobility Element part of a larger comprehensive general plan update known as Long Beach 2030. This new general plan will integrate land use, mobility, economic development, and urban design to create a physical framework for the City.

Throughout the winter, the Department of Development Services conducted public workshops to identify and prioritize policies and programs in anticipation of the update. Through these planning activities, staff has coalesced ten principles for complete streets and active living. The principles are:

- Balance the needs of all modes of travel
- Be a bicycle friendly city
- Promote walking
- Promote transit
- Create dynamic and context-sensitive streets
- Protect and enhance the environment
- Create healthy and active neighborhoods
- Create transit-oriented developments along transit routes
- Ensure connectivity to activity centers and other modes
- Maximize public return on mobility investments

A draft of the new General Plan has been completed and is under review by City staff. Once the draft is approved, community meetings will be held to discuss the content of the plan. These are expected to occur during the first part of next year.

3.4 SUSTAINABLE CITY ACTION PLAN

The Office of Sustainability in the City Manager's Office developed a Sustainable City Action Plan (Appendix D-1) in 2011 and is still in effect. The plan contains a section on water that is of particular importance in the City's NPDES efforts. It contains the following four water initiatives:

- Low Impact Development Policy: Implementation of the low impact development ordinance will be effective January 15, 2013 and will incorporate this policy in the City's new MSS permit.
- Rain Catchment Program: Identify funding to facilitate another round of the City's Rain Barrel Program and identify City facilities for rain catchment system installations.
- Gray Water Pilot Project: Has installed 26 of the 36 intended installations and will be complete by June 2013.
- Gray Water Project Registration: Established an online process where local residents can register their gray water systems and provide best practices and information to the community.

Specifically, the sustainability goals are reduce the per capita use of potable water, exceeding the State mandate to achieve a demand reduction of 20 percent in per capita water use by the year 2020 and facilitate the development of 50 green roofs communitywide by 2016. Through the efforts of the Water Department, Long Beach has already made considerable progress in reducing water consumption. In terms of low impact development, the construction of a bioswale as part of the Colorado Lagoon restoration is a good first step. In the future, the City will seek funding opportunities to further implement this initiative.

3.5 CHAPTER 18.61, "NPDES AND SUSMP REGULATIONS," OF THE LONG BEACH MUNICIPAL CODE

The Long Beach Municipal Code includes a chapter specifically for NPDES / SUSMP requirements. This addresses requirements for BMPs, Storm Water Pollution Prevention Plans, and Standard Urban Storm Water Mitigation Plans. In FY 12, the Department of Development Services issued 5,037 permits requiring NPDES

compliance, of which 27 permits required further SUSMP compliance and 8 permits required further SWPPP compliance.

3.6 STATE CONSTRUCTION GENERAL PERMIT

All Projects enrolled in the State Construction General Permit (CGP) for Discharges of Stormwater Associated with Construction Activity, State Water Resources Control Board (State Water Board) have met the requirement to recertify their active projects as mandated on September 2, 2009. The State Water Board adopted Order 2009-0009 DWQ (new CGP), which took effect on July 1, 2010.

To certify a new NOI, the applicant must register and access the State Water Board's Storm Water Multi-Application & Reporting (SMARTS) and enter the WDID number and the Secret Code Number (SCN) provided by the State Water Board. As part of the Public Reporting Document (PRD) process the applicant will need to upload an electronic copy of the Stormwater Pollution Prevention Plan (SWPPP) onto SMARTS.

The SMARTS program regulates storm water discharges from locations such as industrial facilities, construction sites, and small linear projects. The SMARTS program is also responsible for processing, reviewing, updating, terminating Notices of Intent (NOIs), annual reports, and maintaining the billing status of each discharger.

SMARTS has been developed to provide an online tool to assist dischargers in submitting their NOIs, NECs, NOTs, and Annual Reports, as well as, viewing/printing receipt letters, monitoring the status of submitted documents, and viewing their application/renewal fee statements. The system will also allow the Regional Board and State Board staff to process and track the discharger submitted documents.

3.7 TRAINING

All City staff whose job activities directly affect storm water quality, and those who respond to questions from the public related to storm water pollution prevention and education, receive a mandatory annual refresher training regarding the requirements of the storm water management program, BMP implementation, and identifying and reporting illicit connections and discharges. The majority of training is now conducted via the City's intranet and internet, giving employees easy access to professional training material. NPDES is also a quarterly topic of discussion at the Construction Division staff meetings. In FY 12, the construction inspection staff received 35 hours of

training. The SWEC Staff routinely sends out Rain Alerts to appropriate City personnel regarding BMPs and NPDES requirements, especially before anticipated rain events.

4.0 MANAGEMENT PROGRAM FOR ILLICIT DISCHARGES AND ILLICIT CONNECTIONS

The general objective of this program is to improve the quality of storm water by reducing the pollutants entering the storm drain system that may negatively affect receiving water quality by effectively eliminating illicit discharges and prohibiting illicit connections.

Departments such as Fire, Harbor, Health and Human Services, Development Services, Public Works Street Operations and Construction Services, and Water play important roles in investigating possible illicit connections and discharges. They communicate their findings to the SWEC and other appropriate parties; oversee cleanups, and follow-up as needed. Incident documentation is recorded and maintained by the responsible department. Reports of suspected illicit connections and discharges might also come from the public via the Storm Water Management Program hotline, 562-570-DUMP (3867) and Web site, www.lbstormwater.org.

4.1 ILLICIT DISCHARGES

When the City is informed of an alleged illicit discharge, the Fire Department is the lead responder. The Fire Department evaluates the situation and, when necessary, will dispatch the Hazardous Materials (Haz Mat) unit of the Department of Health and Human Services. The Haz Mat unit will then verify the magnitude of the spill, identify the responsible party, and give instructions on how to proceed with the cleanup. The responsible party is then required to have the area cleaned up. Haz Mat will oversee the cleanup and decide when the situation has been adequately remedied. If the responsible party does not have an established account with a cleanup contractor, the City's contractor is used and the expense is charged to the responsible party. The responsible party may choose to do the cleanup personally if the amount is small. In this case, the responsible party may dispose of materials at a household hazardous waste roundup. These disposals must be verified by presenting a receipt to the Haz Mat Specialist. If no responsible party can be identified, the City will pay for the cleanup through a contractor, or if the discarded amount is small, the Haz Mat Specialist will personally conduct the cleanup.

It is important to note that calls coming in from the public expedite the response to illicit discharges that may have otherwise gone undiscovered. Calls and e-mails are responded to immediately through the SWEC and Public Service Street Operations. If a site investigation is warranted Street Operations will dispatch a storm water investigator

to assess the problem and take action. Most issues are resolved within one business day.

Annual refresher training for inspectors and field workers is conducted through the use of instructional videos and guest lecturers used in conjunction with a review of Department/Division procedures. This training specifically addresses how to identify and report illicit discharges. The SWEC Officer will also conduct training and review courses.

4.2 ILLICIT CONNECTIONS

An illicit connection is any man-made conveyance that is connected to the storm drain system through which prohibited flows are discharged. The City of Long Beach rarely issues permits for storm drain connections. The Public Works Construction Division maintains a database of permitted connections. Historically, the City has encouraged through-curb connections rather than direct pipe connections because these are the easiest and least expensive to survey for illicit connections and discharges. They are located above ground and can be easily observed by City staff. In addition, City staff checks the inside of catch basins and the sides of open channels during regular maintenance activities for any illicit connections. All open channels and catch basins owned by the City have been inspected for illicit connections.

Historically, Close Circuit Televising (CCTV) investigation of underground pipes for pipe-to-pipe illicit connections has been the most expensive and least effective means for illicit connection inspection. The City's storm drain maintenance contractor is required to perform CCTV inspections on 1/5th of the storm drain system pipes that are 36 inches in diameter or greater. Any suspected or confirmed illicit connections must be reported to the SWEC Officer. If the presence of an illicit connection is suspected, the storm drain is investigated and the necessary action is taken to eliminate the connection. Inspection of system pipes between 15 and 36 inches are being considered for future inspection of illicit connection. Funding must first be acquired by grants and/or other sources.

5.0 MANAGEMENT PROGRAM FOR PUBLIC INFORMATION AND EMPLOYEE TRAINING

The City of Long Beach takes a comprehensive approach to storm water and urban runoff educational outreach. The goal is to provide information about the impacts of storm water and urban runoff pollution and to encourage behavioral changes that will lead to reducing pollutants at the source. The four-targeted groups include:

- General public / city residents,
- Commercial / industrial establishments,
- School children, and
- City employees.

This effort is lead by the City's SWEC; however, many City departments are also active in educational outreach. Most outreach campaigns include urban runoff pollution prevention messages in their materials. Throughout the year, City staff participates in numerous activities to deliver the storm water message and supply the tools and guidance on how to be the solution to pollution.

The SWEC continues to develop materials that are applicable to more than one targeted audience or pollutant and explain the nature of non-point source pollution and its significant contribution to water quality impairment.

5.1 GENERAL PUBLIC / CITY RESIDENTS

The Long Beach SWEC continues to be the principal player in educating the public on ways to modify behavior that will lead to improved water quality. The information and reporting hotline, 562-570-DUMP (3867), and Web site, www.lbstormwater.org, are excellent educational tools that give the public a way to become active participants in the fight against pollution by being able to easily report illegal dumping via telephone or e-mail 24 hours a day, seven days a week.

The City prioritizes inter-agency cooperation when dealing with storm water issues. On a regular basis, the SWEC staff resolves issues with members of other City departments, especially Health and Human Services, Development Services, Public Works Construction Management Division, Water, Public Service-Street Operations, and Fire. On other occasions, the Division staff join forces with other government agencies, in particular the Los Angeles County Department of Public Works and the Sanitation Districts of Los Angeles County.

During special events, such as community meetings and watershed cleanups, the SWEC Staff is present to listen to constituent concerns and answer stormwater related questions from the attendees. In FY 12, Storm Water/Environmental Compliance Division staff reached out to over 17,850 people and distributed approximately 17,960 educational giveaways at the California Coastal Cleanup Day, the Long Beach Unified School District (LBUSD) Science Fair, Bixby Knolls Car Show, Colorado Lagoon Ribbon Cutting Ceremony, and LA River Clean Up (Appendices E-1, E-2, E-3, E-4, and E-5,). In addition, the City's Stormwater Program's Web site is a great vehicle for educating the public and announcing important information about storm water projects.

Table 5-1: STORMWATER/ENVIRONMENTAL COMPLIANCE OUTREACH

Event	Attendees	Giveaways
California Coastal Cleanup	850	850
LBUSD Science Fair	4,000	4,000
Bixby Knolls Car Show	10,000	10,000
Colorado Lagoon Ceremony	1,000	1,000
LA River Cleanup	2,000	2,000
Total	**17,850**	**17,850**

California Coastal Cleanup

Bixby Knolls Car Show

MANAGEMENT PROGRAM FOR PUBLIC INFORMATION AND EMPLOYEE TRAINING

SECTION 5

Colorado Lagoon Ribbon Cutting Ceremony

LA River Cleanup

LBUSD Science Fair

The City of Long Beach's diverse population creates a unique challenge for conveying storm water information to recipients of outreach and public education efforts. The SWEC is always looking for new opportunities to deliver the message. Promotional items such as reusable bags, magnets, pencils, stickers, rulers, and pamphlets are made available and informational literature is printed in several different languages (English, Spanish and Khmer).

The Environmental Services Bureau (ESB) staff participated in 35 events and meetings to promote environmental programs in FY 12. These included neighborhood association meetings; safety, community, and environmental fairs; and composting workshops.

Table 5-2: ENVIRONMENTAL SERVICES BUREAU OUTREACH

Outreach and Education	6	# of schools visited by TREC Program.
	2	# of schools starting a recycling program.
	7	Community, Safety, Env. Fair attended.
	7	Neighborhood Association Meeting attended.
	13	Composting Workshop given.

ESB displays street pole banners with the "Litter Free Long Beach" slogan and banners promoting motor oil recycling that will assist for cleaner beaches and waterways. ESB also advertises in local newspapers and has numerous flyers, posters, and campaign giveaways. In addition, ESB has an informational and reporting hotline, 562-570-2876, which is staffed by five employees (2 non-career and 3 full time), Monday through Friday. After-hours callers are advised to use the website at; www.longbeach-recycles.org but also have the option to leave a message in the hotline voicemail box, which has a next business day response time.

Long Beach Development Services continues to educate contractors, developers, and homeowners regarding Storm Water Best Management Practices that can significantly reduce pollution from construction activity and help make compliance with storm water regulations easier. In addition, permit applicants have access to staff and various brochures, pamphlets, and handouts relating to permit requirements at the Permit Center, located on the fourth floor of City Hall and via the City's website.

Water Conservation remains a priority of the Long Beach Water Department (LBWD) and its governing body, the City of Long Beach Board of Water Commissioners, because it is a cost-effective means of enhancing the City's supply reliability. Enhancing these supplies is essential because water supplies into Southern California have been permanently reduced; yet an unreliable supply has the potential to harm the community and its economy.

LBWD's highly effective conservation programs have resulted in 15% reduction in Citywide water use during the past 12 months compared to the City's historical 10 year average.

The primary conservation programs include substantial amounts of public outreach and education, prohibiting certain uses of water and enforcement of those prohibitions, rebates for water-conserving devices, and a very successful turf-elimination program.

In addition to enhancing the reliability of the City's supplies, these programs continue to produce important secondary benefits, one of which is a reduction in urban runoff. For example, the emphasis of the public education program is reducing landscape irrigation, which necessarily means a reduction in runoff; among the uses of water that are prohibited at all times are excessive landscape irrigation and hosing off hardscape such as driveways and sidewalks; rebates continue to be available in 2012 for water-conserving devices which significantly reduce urban runoff such as weather-based irrigation controllers and rotating sprinkler nozzles; and, finally, "Lawn-to-Garden" provides $2.50 for each square foot of grass lawn that is removed and replaced with beautiful landscape designed to thrive in our semi-arid region, eliminating turf significantly reduces not just runoff, but the harmful constituents of the runoff such as fertilizers, pesticides and herbicides. Promotional efforts for these programs include advertising in the Long Beach 90H20*,* a publication mailed to all City residents in their monthly utility bill. (Appendix C-14)

Implementation of conservation BMPs is ongoing and a variety of educational outreach programs are integral parts of the Water Department's master plan. The "Water Ambassador" volunteers of the Water Department routinely attend events throughout the year to promote water conservation and water quality issues. Landscape/gardening education classes, which address issues such as water conservation and fertilizer/pesticide use, are sponsored by the Water Department. These are examples of how the City of Long Beach exceeds its NPDES permit requirement (Part 3,I, A, 2,f, Water Conservation Practices).

El Dorado Nature Center, through the Long Beach Department of Parks, Recreation and Marine, serves as an important arm of the City's public information and education program for NPDES. The following are brief descriptions of educational, outreach and volunteer programs that address issues of non-point source pollution and storm water management as defined by our permit.

The City of Long Beach's Adopt-A-Beach program is an ongoing conservation and volunteer plan that works in conjunction with the California Coastal Commission. The program allows schools, clubs, businesses, churches, community associations and other groups to partner with the City by agreeing to clean up a quarter mile section of the Long Beach shoreline at least four times annually. People of all ages and diverse

backgrounds have become part of the solution to ocean pollution, increasing public awareness that trash on the land inevitably becomes trash on the beach and in the ocean. During the 2011-2012 fiscal year, the Adopt-A-Beach program saw additional volunteer groups holding regular monthly cleanups for not only their members, but the general community as well. This year more than 6,000 volunteers donated over 12,200 hours of service removing approximately 18,000 lbs of debris from the coastline.

In addition to the on-going Adopt-A-Beach program (Appendix E-6), El Dorado Nature Center held two special event cleanups for 2012. The first was the annual Earth Day Cleanup held on April 21, 2012. Over 200 volunteers came out to give back to the environment, and help remove over 720 pounds of trash from the beach. The second was the 28th Annual California Coastal Cleanup Day held on September 15. This year in Long Beach, 860 volunteers helped to remove over 3,900 pounds of debris from local shores and waterways. The City of Long Beach hosted cleanups at six beach sites, including a new site held at the Alamitos Bay marina where volunteers from the local yacht club took their boats out to help cleanup. The continued theme of California Coastal Cleanup Day was “Bring Your Own”. Participants were encouraged to bring their own bag or bucket to help cut the use of plastic bag waste. This year El Dorado Nature Center was fortunate to have partnered with the Port of Long Beach, who donated 500 reusable buckets to the event.

During the 2011-2012 year, El Dorado Nature Center continued to maintain and educate volunteers about the value of wetland habitats, and the dangers of storm water runoff to these fragile ecosystems. Through the monthly wetland cleanups held at Golden Shore Marine Reserve over 200 volunteers this year removed approximately 1,800 pounds of debris that flowed directly into the wetland via the Los Angeles River. Volunteers were also given first hand educational experience on the dangers of storm water runoff by helping to control the debris that entered the waterways during the rainy season.

El Dorado Nature Center also continued to provide its Movable Museum program, “Protect Our Watery World” (POWW). This year volunteers educated 500 students for local area elementary schools on non-point source pollution, the durability of trash in the marine environment and the harmful effects of trash on ocean animals.

Finally, El Dorado Nature Center increased promotion and implementation of the newest Discovery Tour “Explore the Shore” (Appendix E-7) held at two Long Beach shore locations. Created to align with the 5th grade California Science and Math standards, participants in these programs not only get hands-on inquiry based lessons, but an opportunity to use the scientific method to calculate approximately how much

debris is on the coast of Long Beach. Students and teachers also participate in a debris removal and brainstorm solutions for ocean pollution. During the 2011-2012 fiscal year staff educated 400 students from local elementary schools.

5.2 COMMERCIAL / INDUSTRIAL ESTABLISHMENTS

The City's Department of Health and Human Services (DHHS) continues to conduct educational site visits to distribute and discuss applicable BMP and educational materials to business owners/facility operators. The visits include information about the City's Municipal NPDES permit and requirements regarding Notices of Intent (NOI) and Storm Water Pollution Prevention Plans (SWPPP). DHHS has enhanced its database that is used to track visits and other information. Additionally, we have continued our outreach to local businesses, especially in areas where the potential for illicit discharge is greater, e.g. areas with a high concentration of restaurants and other food facilities.

5.3 SCHOOL CHILDREN

The Storm Water/Environmental Compliance Division contributed $5,000 in FY 12 to support ***Heal the Bay's Key to the Sea*** marine education program (Appendix E-8). The program provides students, teachers, and informal educators with access to environmental education curriculum and hands-on learning opportunities. The program offers professional development workshops for educators, field trips, and bus stipends for field trips to: Cabrillo Marine Aquarium, Roundhouse Marine Studies Lab & Aquarium, SEA Lab, and Santa Monica Pier Aquarium. This year, the program was successful in reaching 1,294 K-5th grade students in Title I schools in the Long Beach Unified School District:

Table 5-3: KEY TO THE SEA

School	Students
Barton	45
Grant	123
Jane Addams	326
Lincoln	112
Lowell	83
Mark Twain	110
Patrick Henry	80
Roosevelt	159
Willard	191
Total (9)	**1,294**

TREC, the Traveling Recycling Education Center, is used by the Environmental Services Bureau (ESB) staff to spread the recycling and anti-littering message to the Long Beach community at public events and to students of LBUSD. During FY 12, the TREC mobile classroom made a total of 6 visits to LBUSD schools, making 45-minute presentations.

ESB also presented the ***"Lunch with a Lizard"*** school assembly program to 27 Long Beach Unified School District elementary schools (Kindergarten – 3rd grades), teaching approximately 11,263 students the importance of not littering.

The Long Beach Health and Human Services Department's Bureau of Environmental Health continues to run ***The Junior Health Inspector Program,*** which teaches children to recognize the benefits of living in a healthy and safe home and ways to improve the environment in their community. Upon completion of the program, students are able to use techniques to reduce and eliminate hazards in the home. The health hazards include mold contamination, lead poisoning, storm water pollution, vector, household hazardous waste and unintentional injuries. The program began in March 2004 and reached 230 students in 8 LBUSD elementary schools in FY 12 for a total of 5,553 over the past 8 years.

The ***Aquarium Scholarship Fund*** provides complimentary visits and education lessons aligned with science standards to underprivileged schools, which lack access to cultural and scientific resources. The 40 interactive classroom and auditorium programs available to scholarship recipients emphasize hands-on, inquiry-based teaching by engaging students in activities that inspire learning in fun and creative ways. Props and animations are used to introduce participants to an array of science topics and stimulate curiosity and wonder about the ocean, its inhabitants, and the environment around them. The $5,000 grant provided an extraordinary educational field trip experience to approximately 225 students from the City of Long Beach. Funds provided Aquarium admission and education program fees, bussing costs, and evaluation. (Appendix E-9)

The overall goal of the *Aquarium Scholarship* is to provide extraordinary learning experiences that promote science and environmental literacy by using creative informal teaching strategies. Specifically, the goals of the program are to 1) increase student interest in and enthusiasm for science and the environment; 2) increase student access to natural environments and interactions with nature; 3) increase opportunities for students to learn through hands-on techniques; and 4) increase student access to live animals. These goals are achieved through the following specific objectives by providing:

- Free Aquarium admission and transportation to the Aquarium.
- An introduction to marine life and habitats of three contrasting regions of the Pacific Ocean--Tropical Pacific, Northern Pacific and Southern California/Baja.
- An age-appropriate 50-minute classroom program or auditorium program led by a professionally trained Aquarium educator.
- Opportunities to touch and interact with a variety of marine life including sharks, rays, sea anemones, sea stars, and abalone.
- Chaperone field trip guides, scavenger hunts, and follow-up lesson plans for teachers to further connect the field trip experience with their classroom curriculum.
- One-on-one interactions with Aquarium staff through various interpretation stations, such as the Shark Cart, located throughout the Aquarium's exhibits.

5.4 CITY EMPLOYEES

City employees are educated about storm water issues through web-based trainings, flyers, displays, internet, the City's LBTV8 programs, and other viable means. The Storm Water/Environmental Compliance Division pays to send employees to appropriate external training workshops.

Many Departments incorporate NPDES training into their regular training and safety meetings. The City has web-based Storm Water Training Material, Storm Watch. This video training program describes the fundamental concepts and practices of storm water pollution prevention for municipal operations, and the negative effects of pollution on people, wild life, and the environment. The primary focus of the video is on Best Management Practices. Viewers have the option of taking a quiz after watching the

video. A renovation of the Storm Water Management website will also serve as a training tool as well as an informational reference for City employees, residents and businesses.

5.5 STORM WATER/ENVIRONMENTAL COMPLIANCE DIVISION WEBSITE

The SWEC is in the process of reconstructing its Website with an opening launch date tentatively planned for the summer of 2013. The website will be used as an educational tool, an informational reference site for the City residence and businesses providing the City's NPDES requirements and finally to be used by other Departments, such as, Development Services for guidance and enforcement of the Clean Water Act and a reference for the Municipal Code and other City use.

5.6 Port of Long Beach Litter Control Program

Long Beach Harbor supports a complex ecosystem that operates in balance with the heavy industrial use from the Port of Long Beach. Unfortunately, this ecosystem is negatively impacted from litter, trash and debris generated from the intensive use of the area. Trash that enters the harbor accumulates in dead end slips, on the harbor bottom, or floats out to sea, negatively impacting navigation, marine life, local beaches, and human recreation. Large volumes of litter can contribute to a negative public perception of the harbor complex, and may also attract the unwanted attention of regulatory agencies.

The POLB Environmental Planning, Communications, Maintenance and Trade Divisions, as well as terminal operators and other relevant industry groups have been collaborating to develop the Program. The first Port Partners Roundtable was convened with representatives from the POLB, the ILWU, PMSA, PHL, CTA, HTA, and multiple POLB terminal operators to address the issue. The outcome of the meeting was that the POLB would develop the elements of the program for approval by the larger group.

The POLB has developed a three-tiered approach to the Program. Tier I will address the local source of trash and debris in harbor waters with a multi-media anti-litter education and outreach campaign. The campaign's objective is to prevent litter from accumulating in the harbor by changing behavior patterns. Tier II's objective is to prevent trash and debris from entering the harbor by supplying a greater number of innovative trash receptacles on port terminals and retrofitting storm water catch basins

to prevent trash from entering POLB's storm water infrastructure. Tier III's objective is to increase litter removal efforts in the harbor waters and includes a pilot project installing a marine trash skimmer to collect litter and debris from the harbor and potential operational and structural upgrades to the Port's vessel used for litter collection, the "Big Dipper". The Program is envisioned to be department wide, with individual POLB divisions taking responsibility for certain aspects of the program. Each division would adjust its budget according to the level of effort required to meets its obligations under the Program.

Description of Current Issues

The POLB is taking a three-tiered approach to the Program. Tier I will address the local source of trash and debris with a comprehensive anti-litter education and outreach campaign. The campaign employs a "local heroes" theme developed by the POLB Communication Division to further foster a sense of pride and ownership in the stakeholders of the harbor and its unique working environment. The campaign features photos of actual port truckers, laborers, and terminal workers with anti-litter quotes from these featured workers.

The campaign will incorporate the following elements:

- Trash Cans with Interchangeable Message Boards: New trashcans equipped with interchangeable message boards will be supplied by the Port to be used at port container terminals and in public right of ways. These trashcans will provide more convenient opportunities for truckers, terminal workers, and labor to dispose of their trash. These trashcans are branded to carry the messages and logos of the litter control campaign, identifying them with the Program. They would be distributed to container terminals and would be emptied by longshore labor. Those placed in public areas would be emptied by POLB Maintenance staff (see Figures 1 and 2).
- Campaign Banners**:** Vinyl banners and posters employing the "local heroes" campaign have been placed in both truck gates and longshore parking lots to maximize visibility for the target audience. These banners will serve as a constant reminder of the Program and will be branded with the logos to integrate them with the larger Program. The campaign banners were designed by the Communications Division and installed by POLB Maintenance staff. (see Figure 3 and 4)
- Anti-Litter Signs: Bi-lingual signs developed by the POLB Engineering Division citing the Municipal Code warning of the penalties associated with littering have

been posted in litter impacted areas of the Port by the Maintenance Division. (see Figure 5 and 6)

Banners and other campaign materials would be replaced with new messages and images approximately annually to ensure the Program materials are fresh and current.

Tier II's objective is to prevent trash and debris from entering the harbor by supplying innovative trash receptacles and retrofitting storm water catch basins preventing trash from entering POLB's storm water infrastructure. Storm water infrastructure systems are a major conveyance of trash and litter into coastal waterways. Trash and debris finds its way into these structures throughout the year and gets flushed out into receiving water bodies during storm events. The automatic retractable screen (ARS) is a simple, cost-effective solution, which prevents trash and debris from entering curb-inlet type catch basins. The device has been proven successful in the City of Long Beach as well as the Port's WRAP Technology Advancement Program (TAP) (see attached WRAP TAP Report for more details). Five solar power compacting trashcans are also currently being tested throughout the port. These cans hold a higher volume of trash resulting in fewer trash pickups, reduced overflow, cost and labor savings, and greenhouse gas reductions (see Figure 7).

Tier III's objective is to increase litter removal efforts in the harbor waters. The Environmental Planning Division is collaborating with the Maintenance Division to develop upgrades to the "Big Dipper", the Port's vessel used for litter collection, and optimize its effectiveness. These two divisions are also testing marine trash skimmer to collect litter and debris from the harbor. The skimmer attaches to a dock, partially submerged, collects floating marine debris, consolidates it and holds if until the unit is emptied (see Figure 8). With the installation of these units the marine debris can be easily removed before it can sink or float out into the bay and offshore areas. Berth B82 was selected as an appropriate area to test the trash skimmer because it's a trash hotspot, its accessible, has an existing power source, and the test will not interfere with terminal operations.

The Port has begun the initial roll-out of the outreach campaign and will be contacting the key stakeholders including labor, marine terminal operators, trucking firms, and rail operators to request their cooperation and assistance with this program.

Figure 1 and 2: Trucking and labor themed trash receptacles

Figure 3 – Trucking themed banner placed at terminal truck queues

Figure 4: Labor themed banner placed in longshore parking areas

Figure 5 and 6: Anti-littering signage placed in high litter generating areas

Figure 7: Solar powered compacting trash can

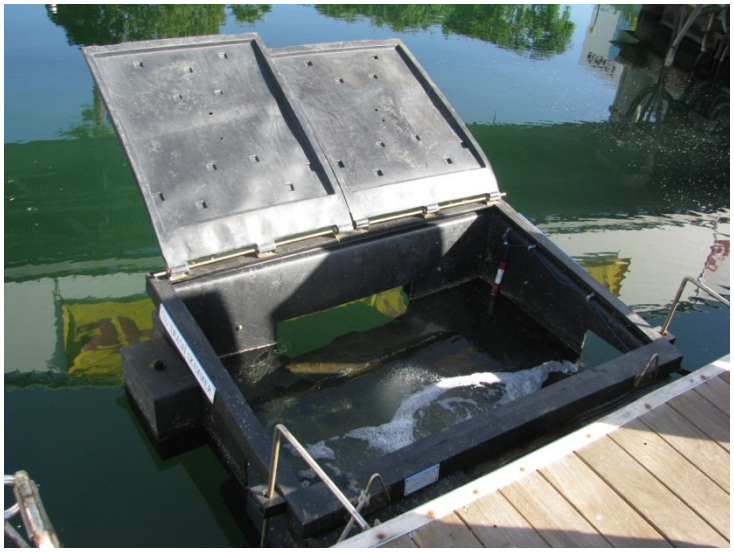

Figure 8: Marina Trash Skimmer

SECTION 5

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6 ASSESSMENT

The Long Beach Storm Water Management Program (LBSWMP) continues to be implemented, revised, and expanded as needed to ensure the effective reduction of urban and storm water pollution. The effectiveness of these efforts, as detailed in this report, is confirmed by qualitative and quantitative methods. The methods include surveys, pre and post assessment, feedback received via hotlines and Internet sites, a hands-on interactive NPDES Task Force, one-on-one interaction with Nine (9) Council members and their staff, and dry and wet weather monitoring. Four major reporting and informational hotlines remain available to the public 24 hours per day: 570-DUMP (Storm water), 570-2700 (Street Operations), 570-2876 (Refuse), and 570-4199 (Beach Advisory). Despite large fiscal deficits in FY12, the City spent $48,800,665 ($106 per capita) on NPDES-related expenditures.

The successes of the Long Beach Storm Water Programs are directly attributable to the fully implemented LBSWMP and the level of commitment from the City Manager (Appendix A-1), City Council, the Mayor and all City staff. The full implementation of the requirements of the municipal MS4 permit is a prime example of how City Employees are “Working Together To Serve.” The programs highlighted in this report demonstrate a consistent effort to perform at a level above and beyond what’s required.

6.1 ASSESSMENT OF MANAGEMENT PROGRAM FOR PUBLIC AGENCY ACTIVITIES

Overall, the City spent $40,345,921 (83 percent of LBSWMP expenditures) for expenses associated with Public Agency Activities.

The Litter Abatement and Awareness Campaign, targeted towards changing residents’ behavior, continues to be very successful. Neighborhood cleanup events are held as part of this campaign. The number of volunteers for FY 12 was 935. The campaign also sponsored 37 community and business corridor cleanups this year. Another achievement included collecting 1,406 tons of litter from alleys throughout the City through the “Alley Clean-Up” program.

This year a household hazardous waste roundup was conducted and the collection results reflected the efforts of educating the public on the importance of hazardous waste. There was an increase of certain types of materials collected compared to last year. For example, there were 22,050 pounds of e-waste collected and 3,950 pounds

of batteries collected. In addition, participants turned in 1,000 gallons of used motor oil, 8,010 gallons of paint, and 489 computers. People's habits continue to change and are mindful of not being wasteful which in turn helps to reduce potential waste.

The Department of Parks, Recreation, and Marine and the Long Beach Water Department continues to be vital components in preventing storm water pollution. These Departments helped make the 28th Annual Coastal Cleanup a great success with approximately 850 volunteers that collected 3,900 pounds of trash.

In FY 12, street sweeping continued to prove itself as an effective BMP with the collection of 10,457 tons of materials. Although, "Refuse Collection" is not recognized as a direct "NPDES" expense or measure, it deserves recognition. In FY 12, a total of 156,537 miles were swept.

Public Works inspectors are assigned to active construction sites and are routinely in the field to make sure construction work is conducted as specified in the contract or Public Works permit and take enforcement action as needed. In FY 12, Public Works inspectors filed 489 NPDES Inspection Reports.

6.2 ASSESSMENT OF MANAGEMENT PROGRAM FOR DEVELOPMENT PLANNING AND CONSTRUCTION

Development Planning and Construction costs for FY 12 were $833,710. These cost included: reviewing Standard Urban Stormwater Mitigation Plans (SUSMP), reviewing CEQA Stormwater documents, and construction inspections.

6.3 ASSESSMENT OF MANAGEMENT PROGRAM FOR ILLICIT DISCHARGES AND ILLICIT CONNECTIONS

The expenditures associated with Illicit Connections and Illicit Discharges detection decreased in FY 12 compared to FY 10. City departments remain committed to investigating, and if found, eliminating illicit discharges and connections. Notice of suspected illicit discharges and connections come from many sources, including the public through the 570-DUMP hotline, www.lbstormwater.org website, and by directly reporting to City employees. Calls and e-mails are responded to immediately with collaboration among departments.

6.4 ASSESSMENT OF MANAGEMENT PROGRAM FOR EDUCATION AND PUBLIC INFORMATION

Expenditures related to this program element remain consistent to those of FY 11. This minimal variance can be a result of good educational programs that were put in place over the past several years that does not incur start up cost of new programs but a continuation of good effective programs at lower cost to the City. As an example, the Water Department continues to record less water usage, which results in less runoff reduction.

This program element is one of the most important components of the LBSWMP because its goals include awareness and behavioral changes leading to tangible improvements in our local environment.

6.5 ASSESSMENT OF WATER QUALITY MONITORING

CITY OF LONG BEACH STORMWATER MONITORING REPORT 2010/2011

This report provides a summary of the results of the twelfth year of monitoring conducted under the terms of Order No. 99-060 National Pollutant Discharge Elimination Systems Municipal Permit No. CAS004003 (CI 8052) for City of Long Beach. Included in this report is a synthesis of key elements of the data set as developed over the past 12 years. The following section provides a summary of the background and purpose of the monitoring program. This is followed by a summary of key findings based upon the full duration of monitoring starting in early 2000 and going through May 2012.

BACKGROUND AND PURPOSE

Under the terms of Order No. 99-060, the City of Long Beach was required to conduct a water quality monitoring program for storm water and dry weather discharges through the City's municipal separate storm sewer system (MS4) beginning in the 1999/2000 wet weather season. The permit was initially issued for the term of five years. At the end of the initial five years the City was directed by the Regional Board to continue operating under the 1999 permit until further notice. Current guidance from Regional Board staff indicates that a new permit is expected to be issued in the near future (2012 or 2013). The Regional Board is currently updating the Los Angeles County permit and reissuance of a new NPDES permit for the City of Long Beach is expected to follow shortly thereafter. It is expected that the new permit will be similar to the permit

currently being negotiated with Los Angeles County but will not be as extensive due to the substantial differences in watersheds.

Major elements of the current monitoring and reporting program include 1) mass emission monitoring during storm events, 2) monitoring of dry weather discharges at each mass emission site, and 3) special studies. Special studies are intended to improve assessment of impacts on receiving water, identify sources and sinks for contaminants, and assess compliance with TMDL targets and water quality objectives. The City has been very proactive in the development of a variety of special studies that were identified as priority projects for addressing specific concerns. Data from the monitoring program is intended to support decisions necessary to refine BMPs for the reduction of pollutant loading and the protection and enhancement of beneficial use of the receiving waters.

Mass emission monitoring is specified to be conducted at four sites during four wet weather storm events each year. Monitoring sites specified in the permit are as follows:

- Dominguez Gap Pump Station
- Bouton Creek
- Belmont Pump Station
- Los Cerritos Channel

Mass emission monitoring program is intended to characterize storm water discharges, identify contaminants of concern and develop pollutant load estimates for each major watershed. Monitoring is required to be conducted during the first significant rainfall event of the season. Flow-rated, whole storm composite samples are obtained at each site and analyzed for major constituents of concern which include conventional constituents, total and dissolved metals, organochlorine pesticides, organophosphate pesticides and, most recently, pyrethroid pesticides. Toxicity testing using sea urchin fertilization tests and water flea survival and reproduction is conducted on composite storm samples from three of the four mass emission sites. Phase 1 Toxicity Identification Evaluations (TIEs) are required to be performed on all samples that exhibit toxicity in excess of predetermined trigger values. The TIE process is used to determine the likely contaminants contributing to the observed toxicity.

Dry weather monitoring consists of inspections conducted at each mass emission site and the collection and analysis of dry weather discharges over 24-hour periods. Monitoring is required to be conducted twice during each dry season. Sampling is typically conducted in September just prior to the storm season and in May after several weeks of no rain. This element of the program is intended to identify pollutants of

concern and associated toxicity at the mass emission sites during the dry season. Dry weather discharge samples are subjected to the same chemical analysis and toxicity testing procedures as used for storm water monitoring.

The purpose of this report is to transmit the results of the monitoring conducted in accordance with the City of Long Beach's NPDES permit. Results are summarized for the current monitoring season (2011/2012) and compared with results from the full twelve years of monitoring.

SUMMARY OF RESULTS

The 2011/2012 season had below normal rainfall and considerably less rainfall than the 2010/2011 season. This season's cumulative rainfall of 7.53 inches at the airport is well below the normal wet season average of 12.27 inches and below the average of 10.32 inches since the inception of this program in 1999.

Two dry weather inspections/monitoring events were conducted during the 2011/2012 monitoring year. These surveys are conducted during the summer dry weather period at each of three mass emission stations. Dry weather sampling has not been conducted at the Belmont Pump Station since all dry weather flows were diverted to the sanitary system in 2009. Although the Dominguez Gap Pump Station was always inspected during dry weather surveys, discharges were never observed until completion of the wetland treatment system. This is only the third year that we have sampled dry weather discharges from the Dominguez Pump Station but it is important to note that dry weather flows consist predominantly of water that is drawn from the Los Angeles River and passed through the Dominguez Gap wetlands to provide both treatment and to enhance the constructed wetland habitat. Due to the methods of operation, dry weather monitoring was limited to the spring dry weather survey. No water was being discharged when the site was first visited for the fall dry weather monitoring effort.

The first dry weather survey was conducted on September 13-14, 2011 about two weeks prior to the first storm event of the year. The second dry weather survey was conducted on May 1-2, 2012 after more than two weeks of dry weather conditions.

Despite the low seasonal rainfall, the maximum number of storm events (four) was monitored at three of the four stations this season. Two monitoring events were captured at the Dominguez Gap Pump Station. A major objective for this site is to avoid discharges during storm events through better management of water levels within the wetlands such that a maximum amount of time is provided for infiltration and settling before actively lowering the level for subsequent storm events. It is likely that further

improvements in water level management could have prevented or at least substantially minimized storm water discharges during this past year. Water levels maintained in the sump and daily rainfall patterns were reviewed to allow examination of possible alternatives.

In addition to storm events sampled for the full suite of analyses, three events at Belmont Pump, three events at Bouton Creek, and two events at Los Cerritos Channel were sampled for total suspended solids (TSS) only. TSS events were conducted only when there was not sufficient rainfall and sample volume to conduct the majority of the analyses or after the required four events were completed that included the full suite of analyses.

For the purpose of this report, water quality criteria or objectives were used to provide reference points or benchmarks for assessing the relative importance of various storm water contaminants. Specific receiving water studies would be necessary to quantify the presence and magnitude of any real impact on receiving water quality and beneficial uses. The 2005 California Ocean Plan (SWRCB, 2006), the Los Angeles Region Basin Plan (CRWQCB, Los Angeles Region, 1994), California Department of Fish and Game (Siepmann and Finlayson, 2002) criteria for chlorpyrifos and diazinon, and both saltwater and freshwater criteria from the California Toxics Rule (USEPA, 2000) were used as benchmarks as requested by Regional Board staff. In addition, National Recommended Water Quality Criteria (USEPA, 2009) were used as benchmarks for compounds such as malathion that are not considered to be priority pollutants. Additional benchmarks were included based upon recently proposed methodology for derivation of water quality criteria developed by the University of California at Davis (Fojut et al. 2012). Available toxicity reference data (Werner and Oram, 2008) were also used to provide comparisons of storm water concentrations with contaminant concentrations shown to exert a toxic response. This evaluation is intended to provide a framework for evaluating constituents of concern and allow for identification of watersheds that could benefit from additional BMPs or source identification/reduction efforts.

WET WEATHER CHEMICAL AND BACTERIAL RESULTS

Benchmark reference values have been often exceeded for dissolved forms of copper, lead and zinc throughout the life of the permit (Kinnetic Laboratories, Inc., 2011). For storm water discharges, the CTR freshwater acute criteria are the most applicable benchmarks for all sites. Copper and zinc have continued to exceed benchmark criteria on a frequent basis at all but the Dominguez Gap Pump Station site. Dissolved copper exceeded the CTR freshwater criteria in 71% of all storm water samples this wet

season. Stormwater discharged from the Dominguez Gap Pump Station slightly exceeded the CTR saltwater criterion during one of two monitored events. Concentrations of dissolved zinc exceeded the CTR freshwater acute criterion in 50% of the samples, which included one event at the Belmont Pump Station, two during events at the Bouton Creek site and all four events in the Los Cerritos Channel. The acute lead criterion used, as a benchmark for shorter-term storm water discharges was never exceeded.

Other than bacteria, few other constituents have exceeded benchmark values. MBAS minimally exceeded the Basin Plan criteria of 0.5 mg/L in the Los Cerritos Channel during the first storm event and pH was just above the upper limit (8.5) in samples taken from one event in Bouton Creek.

Chlorinated pesticides are typically not measured at high concentrations in storm water due to both strong associations with sediment and the fact that most have been banned for over 20 years. Despite this fact, chlordane compounds are still detected in a large percentage of the samples. Discharges from the Belmont Pump Station have most commonly had the highest levels of these compounds. This year chlordane was again detected in a storm water sample from the Belmont Pump but the concentration did not exceed the acute CTR criterion. The consistency of chlorinated compounds in discharges from this watershed remains a concern. The continued detection of low concentrations of chlordane compounds suggest that either some limited use of chlordane may be occurring or the degradation of legacy applications of chlordane has not occurred at rates that one would expect. These low levels may also be continuing to contribute loads to the receiving water sediments. One of the primary components of technical chlordane, alpha-chlordane, is one of the compounds that is incorporated into the chemical testing conducted for California's Sediment Quality Objectives. In addition, sediments within the estuary of the Los Cerritos Channel are currently listed.

This year was the first full year where pyrethroid pesticides were analyzed for all events. The highest concentrations of pyrethroid pesticides were encountered in storm water from the Belmont Pump Station. This was consistent for all seven pyrethroid pesticides detected. Pyrethroids were also present at high levels in storm water from the Los Cerritos Channel. Pyrethroids were detected in storm water from both Bouton Creek and the Dominguez Gap Pump Station but at far lower concentrations.

Wet weather flows in the Los Cerritos Channel are subject to TMDL limits for total recoverable copper, lead and zinc. Lead remained well below TMDL limits but both copper and zinc exceeded TMDL limits during each of the four storm events. Copper

loads were exceeded by a factor of 1.9 to 8 times the limit while zinc loads were by a factor of 1.4 to 5.9 times the limit.

Stormwater discharged to the Los Angeles River from the Dominguez Gap Pump Station continues to contain lower concentrations of most major constituents of concern. After the 2010/2011 season, total cadmium, dissolved and total copper, and dissolved and total zinc were all found to be significantly lower ($p<0.05$) than measured at the three other mass emission sites. In the case of lead, no significant differences were evident among stations for dissolved lead but storm water discharges from both the Dominguez Gap Pump Station and Bouton Creek had significantly lower concentrations of total lead than measured at the Belmont Pump Station and the Los Cerritos Channel. The concentrations of total recoverable copper, lead, and zinc measured in the two storm events at the Dominguez Gap Pump Station were low (19 and 20 ug/L for copper, 11 and 15 ug/L for lead; 95 and 110 ug/L for zinc) yet copper concentrations still exceeded the 17 ug/L TMDL wet weather target for Los Angeles River Reach 1. The total recoverable concentrations of lead and zinc were far below the respective TMDL target limitations of 62 ug/L for lead and the 159 ug/L for zinc. Although the total recoverable limit was exceeded for copper, neither storm event would have exceeded the limits if the corresponding dissolved criterion of 11 ug/L were used.

Although the Dominguez Gap Pump Station and associated wetlands have shown significant water quality benefits, the potential for further improvement water quality exist through better management of water levels to further reducing mass emissions of metals to the Los Angeles River. Water levels in the wetlands are preferably maintained at 7-8 feet during the wet season. This has been shown to provide capacity for at least one inch of runoff. After storm events, the benefits of retaining the storm water as long as possible would ideally be balanced with the need to maintain capacity for subsequent storm events. We recommend allowing the storm water to infiltrate and settle as long as possible. However, if another storm is predicted, water levels should be manually pumped down to a level of 7-8 feet in the sump to provide capacity for the following storm(s). We are continuing to work with the Los Angeles County Department of Public Works in order to reach a common ground as to maintenance practices that will balance both wetland and storm water benefits and comply with the EIR.

DRY WEATHER CHEMICAL AND BACTERIAL RESULTS

The City's NPDES Permit requires two dry weather inspections and sampling events to be conducted at each of the four mass emission stations during the summer dry weather period.

Site inspections are conducted at all sites to determine if water is present and whether water is flowing or just ponded. If flowing water is evident at any one of the mass emission sites, in situ water quality measurements, flow estimates, and composite water samples are taken along with general observations of site conditions.

For the past several seasons the Belmont Pump Station dry weather flows have been diverted to the sanitary sewer system either by means of a temporary pump or by the permanent low-flow diverter system completed in December 2009. During the same general time period, the Dominguez Gap infiltration basin has been modified into a wetland treatment system designed to provide a range of both environmental and recreational benefits. During dry weather periods, flow through the wetlands is intended to be maintained by a summer pump.

Dry weather flows in Bouton Creek and the Los Cerritos Channel notably declined in recent years. The dry weather flows at these sites appear to have stabilized at these lower levels. Prior to the 2009/2010 monitoring season, dry weather flows in Bouton Creek were not sufficient to flush seawater from the creek for three consecutive events. As a result, the location for dry weather monitoring was relocated 1,250 feet upstream from the primary site location at the LADPW Alamitos Yard. Field observations and measurements taken at the new site indicate that this new location will be permanently maintained for purposes of the dry season measurements. Outfalls located along the creek from Alamitos Yard to CSULB were observed to determine if any major dry weather discharges were missed by moving the site upstream. No discharges were identified from downstream storm drains during these tests.

Copper measured in dry weather flows from the Los Cerritos Channel were found to be well within the established dry weather TMDL limits. Although the concentration of total recoverable copper was near the TMDL limit, loads were far below the TMDL limitation due to the much-reduced dry weather flows in the Los Cerritos Channel.

Overall, data continue to demonstrate consistent, high quality discharges from the Dominguez Gap Pump Station. Both the wetlands and detention provided by this site are credited with providing storm water treatment that allows discharges to the Los Angeles River to meet acceptable water quality standards under most conditions. In fact, dry weather discharges from the Dominguez Gap Pump Station are consistently shown to improve water quality in the Los Angeles River water that is passed through the wetlands during the dry season. Metals in these discharges meet the receiving water quality criteria and are demonstratively better than water quality measurements taken at the Los Angeles River Wardlow monitoring site by the Coordinated Monitoring Program.

The treatment provided by the wetlands and detention of dry weather discharges has also resulted in water that has consistently met bacterial water quality standards. Although there was no discharge during the first dry weather survey, bacterial water quality during the second weather survey at the Dominguez Gap Pump Station remained within bacterial water quality standards for the receiving waters. The overall water quality met all applicable standards including trace metal concentrations required by the Los Angeles River metals TMDL.

TEMPORAL TRENDS IN CONSTITUENTS OF CONCERN

Most long-term trends tend to be obscured by factors that are not evident when exclusively looking at changes in concentrations. Unlike the abrupt decline in diazinon and chlorpyrifos that was occurred soon after removing these pesticides from the market, changes have been relatively gradual. In some cases, it has taken a full decade to observe clear visual trends based upon the long-term graphics.

- No trends are evident in the concentrations of total and dissolved copper measured at each site during either wet or dry weather.
- Concentrations of both total and dissolved lead have been decreasing slowly at all sites since the start of the storm water program in 2000.
- Although changes are not as distinct, total and dissolved zinc show some signs of decreasing particularly in the Los Cerritos Channel.
- Malathion, another organophosphate pesticide, showed signs of increasing at the Belmont Pump Station but concentrations are now typically below the proposed acute criterion proposed by UC Davis.
- The frequent detection of elevated concentrations of malathion have predominately occurred in the Belmont Pump Station and, to a lesser degree, in the Los Cerritos Channel sub watersheds. This pesticide only elevated in a single sample from the Bouton Creek sub watershed and in three samples from the Dominguez Gap Pump Station sub watershed.
- Fecal indicator bacteria (FIB) typically exceed Basin Plan water quality criteria during wet season monitoring and show no evidence of increasing or decreasing contamination. Lower concentrations of fecal indicator bacteria are present in dry weather discharges (Appendix C). As a general rule, concentrations of FIBs measured in dry weather flows occasionally meet water quality criteria.
- Fecal indicator bacteria measured in dry weather flows at the Los Cerritos Channel site are now showing signs of decreasing. Total coliforms, fecal coliforms, and entercoccus are trending lower and are more frequently meeting water quality objectives during dry weather monitoring.

- In contrast, FIBs at the Bouton Creek site, particularly total and fecal coliform, are consistently exceeding water quality criteria compared to historical measurements that met objectives about 50% of the time.
- The changes in FIBs measured during dry weather surveys suggest that the lower flow rates in the Los Cerritos Channel are providing more time for exposure to the effects of UV light while the opposite is true in Bouton Creek. The new site is located at the point where flows are emerging from an enclosed conveyance and thus have less exposure to UV light.
- The first five dry weather monitoring events conducted at the Dominguez Gap Pump Station all had FIB concentrations that were below applicable water quality criteria.
- Long-term trends at the Dominguez Gap Pump Station are currently difficult to assess. Over the first six to seven years of the monitoring effort storm water discharges at the Dominguez Gap Pump Station were uncommon and, when they occurred, concentrations of TSS and metals were among the lowest encountered at the four mass emission sites. Some of the highest concentrations of TSS, metals and other contaminants occurred during storm events monitored when the wetland treatment system was under construction or not well developed. Since that time, water quality appears to be continually improving and further improvements are expected as operational aspects of the basin are improved.

TOXICITY RESULTS

A general trend of reduced toxicity had been observed in recent years at all sites. Although no significant daphnid mortality was observed at any of the three sites, toxicity was evident in 75% of the tests conducted using the sea urchin fertilization test. The magnitude of the toxicity was sufficient to trigger a Toxicity Identification Evaluation (TIE) on one sample from the Belmont Pump Station in association the fourth storm event. Baseline testing performed for the TIE indicated that a significant amount of toxicity was lost prior to the TIE. Although the toxicity of the sample decreased substantially, data still suggested a cationic metal as the most likely toxicant. The reason for the loss in toxicity could not be determined although rapid loss of toxicity if often attributed to loss of volatiles.

Comparisons of the actual toxicity versus expected toxicity calculated from the concentrations of key toxicants provided conflicting evidence. Concentrations of dissolved metals, particularly zinc, measured in storm water samples during the first monitored event were present in concentrations that would be expected to cause

toxicity. In contrast, dissolved metals present in the Belmont Pump TIE sample were not sufficient to have explained the observed toxicity.

Dry weather samples continue to show a lack of toxicity based upon both the daphnid and sea urchin fertilization test.

RECOMMENDED PROGRAMATIC CHANGES

A few adjustments to the NPDES monitoring program are recommended based upon the results of the 2011/2012 monitoring period as well as work conducted over the past twelve years.

- Pyrethroid pesticides are recommended for continued monitoring at all mass emission sites. Monitoring of these compounds was implemented midyear during the 2010/2011 season and continued through this past monitoring year. The results of this initial period indicated that pyrethroids were present in relatively high levels compared to other programs in Southern California. Concentrations measured are well within the ranges where one might expect toxicity to occur in the water column yet the mitigating effects of high concentrations of suspended sediment and dissolved organic carbon may effectively limit toxicity during storm events. We highly recommend maintaining this group of pesticides as part of the standard analytical suite.
- In addition to the pyrethroids, another emerging constituent of concern is fipronil and its metabolites. This broad use insecticide belongs to the phenylpyrazole chemical family. Fipronil is used to control ants, beetles, cockroaches, fleas, ticks, termites, mole crickets, thrips, rootworms, weevils, and other insects. Use of this pesticide for structural pest control has increased dramatically since 2001 and has been documented in storm water runoff at concentrations well above those considered lethal for daphnids. Due to the concern that this pesticide has the potential to be the next major pollutant of concern and potential for increasing use if pyrethroids become limited, it would be valuable to incorporate this contaminant in routine screening. Recent studies by Ensminger and Kelley (2011) indicate that fipronil and its metabolites are now being frequently detected in urban storm water.
- Install sensors to monitor run time for the sump pump at Dominguez Pump in order to estimate discharges through the dry season. A request has been submitted to the County to provide open contacts that can be integrated with the storm water monitoring equipment at this site.

- Work should continue to coordinate with Los Angeles County Public Works to improve operation of the wetlands and pump station during the wet season to maximize retention, infiltration, and settling before any necessary pumped discharges to the Los Angeles River. This should include pursuit of a permit to monitor operation of the sump pump in order to better estimate long-term discharge volumes during dry weather. This effort should emphasize compliance with the Project's EIR.
- In addition it is recommended that the City focus on the Belmont Pump Station sub watershed to encourage use of IPM (integrated pest management) to minimize use of pesticides. The City of Long Beach Stormwater Program is already in the process of developing an educational program to inform the Public and Businesses in the area about the effects and consequences of the use of pesticides through mailers, additional flyers, in the new Storm Water Face Book page. They are also creating a City TV broadcast and developing information for schools in the area to get students to inform their parents.

With the expectation of a new NPDES permit being issued in the near future, we would also suggest that the Regional Board consider alternative approaches to the monitoring program to improve the overall efficacy. After 12 years of monitoring the mass emission sites for storm events four times a year and monitoring dry weather flows twice a year the program results are just starting to show evidence of relatively slow changes in the water quality of these discharges. Copper, one of the key contaminants of concern, is expected to take at least another decade before measurable responses to reductions in the copper content of brake pads can be documented. Many of the current constituents of concern are also persistent compounds that strongly associate with particulates and that have the potential to accumulate in the receiving water sediments. These analytes are often poorly quantified in storm water using conventional analytical strategies.

Adjustment of routine mass emission monitoring efforts to alternate every permit cycle (5 years) would still allow these long-term changes to be documented. During cycles when routine mass emission monitoring efforts are not being conducted, efforts would be directed toward documenting the distribution of contaminants in the receiving water sediment and biota. These studies would be used to determine if storm water discharges are having a detrimental effect and identify sub watersheds that are the most likely sources of the contaminants. If warranted, the results would be used to modify the mass emission monitoring efforts during the next cycle. Some mass emission monitoring would be necessary to address ongoing TMDLs but work would be limited to the specific analyts of concern.

6.6 SPECIFIC HIGHLIGHTS AND ACCOMPLISHMENTS DURING THIS REPORTING PERIOD

Despite the financial crisis and the reduction in staff, the City of Long Beach has been able to accomplish the following Work in FY11/12:

- Assistance in the formation of the Los Angeles Gateway Region, Integrated Regional Water Management Joint Powers Authority Coyote Creek TMDL Technical Committee,
- Capital improvements at the Colorado Lagoon that have resulted in excellent water quality at the lagoon. Phase I of the capital improvements for the lagoon are nearly completed and the site officially re-opened to swimmers August 23, 2012.

6.7 SUGGESTIONS TO IMPROVE LBSWMP

On November 8, 2012, the Los Angeles NPDES MS4 Permit was adopted. With the completion of this permit, the Los Angeles Regional Water Quality Control Board will begin work with the City of Long Beach on its NPDES MS4 Permit starting in December 2012. The Storm Water/Environmental Compliance Division is in the process of revisiting plans to develop implementation plans to specifically address future requirements and allocations of resources to meet the following TMDLs:

- The Dominguez Channel and Greater Los Angeles and Long Beach Harbors Toxic TMDL
- The Long Beach Beaches and Los Angeles River Estuary Bacteria TMDL
- The Los Angeles River, Reach 1 Trash and Metals TMDL
- The Los Cerritos Channel Metals TMDL
- The Coyote Creek Metals TMDL

The SWEC continues its work with the reconstruction of the Division Website. It will vastly contribute to Education to the Public as well as an informational reference site for the City residence and businesses providing the City's NPDES requirements. This website will also serve other Departments such as Development Services for guidance and enforcement of the Clean Water Act and a reference for the Municipal Code and other City use.

6.8 THE FUTURE

The City of Long Beach will continue to work on the following items in the future:

- Work on the City's New NPDES Permit with the LARWQCB, commencing in December 2012
- Completion of the LID Handbook and its implementation in February 2013
- Development and Implementation of the City's Underground Storage Tank (UST) Compliance Management System. The goal, to operate and maintain an environmentally safe UST program in accordance with State Water Resources Control Board regulations.
- Conversion of the of the Low Flow Diversion facilities at the 8th and Roswell location to a biofiltration system.
- Continue implementation of the USEPA TMDLS for,
    - The Dominguez Channel and Greater Los Angeles and Long Beach Harbors Waters Toxic Pollutants TMDL
    - The Long Beach Beaches and Los Angeles River Estuary Bacteria TMDL
    - The Los Angeles River, Reach 1 Trash and Metals TMDL
    - The Los Cerritos Channel Metals TMDL
    - The Coyote Creek Metals TMDL
- Preparation of Watershed Management Plans for the LA River, Reach 1 Watershed, the Los Cerritos Channel Watershed and the San Gabriel/Coyote Creek Watershed.
- Continue to work with LA River Watershed cities on the LA River Metals TMDL (Coordinated Monitoring Plan – Ambient Monitoring and the LA River Bacteria TMDL –Development)
- LA River Trash TMDL – Compliance reporting and enhancements.
- Continued assessment of Ab-Tech Sponge performance and development of a replacement program funding source.
- Acquisition of grant funding through the Clean Beach Initiative to construct and install Vortex Separation System facilities and Low Flow Diversion Devices directly upstream of the Cities five (5) beach storm drain outfall structures.
- Solicitation of RFPs to conduct a feasibility study for the possible construction of an Urban Runoff and Recover Facility similar to the City of Santa Monica Urban Runoff and Recovery Facility at a City Storm drain Pump Station, SD-2 located at the south Reach 1 of the Los Angeles River.
- Construction of the Dominguez Gap Wetlands
- Continued review, evaluation and contribution of Clean Water concerns and actions involving the 710 Freeway Expansion Project.

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APPENDICES