Appendices

Executive Summary

The City of Imperial Beach's (City) initial Jurisdictional Urban Runoff Management Program (JURMP) was adopted by the Imperial Beach City Council on February 11, 2002 in compliance with National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108758, Water Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, and the San Diego Unified Port District, hereafter referred to as the "Municipal Storm Water Permit." The Municipal Storm Water Permit was issued by the California Regional Water Quality Control Board, San Diego Region (Regional Board or "SDRWQCB"), under Order Number 2001-01 on February 21, 2001, to the County of San Diego, the 18 incorporated cities within the County of San Diego, the San Diego Unified Port District, and the San Diego Regional Airport Authority for their urban runoff discharges. The Municipal Storm Water Permit was renewed on January 24, 2007 as Order R9-2007-0001, and requires the City as one of 21 Copermittees[1] to provide an update to its JURMP to the Principal Permittee no later than January 24, 2008, subsequently amended by the SDRWQCB to March 24, 2008. This update describes all activities the City will undertake or is undertaking to implement the requirements of the Municipal Storm Water Permit, and each section is numbered to correlate to the section it refers to in the Municipal Storm Water Permit. The effective implementation date for this document and all of its requirements by the City of Imperial Beach is January 24, 2008 through January 24, 2013.

Urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of associated pollutants. When naturally vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. The runoff from a developed urban area is significantly greater in volume, velocity, and peak flow rate than it would be from a naturally vegetated area. The increased volume, velocity, rate, and duration not only contribute to downstream erosion, but also are detrimental to the physical habitat of streams and other receiving waters and contribute to degradation in the receiving waters. The discharge of urban runoff from a municipal separate storm sewer system (MS4) contributes waste and pollutants that adversely affect the quality of these waters. These MS4 differ from the sanitary sewer system in that they are not connected to a treatment facility of any type. The MS4 may have but is not limited to pipes, drainage ditches, swales, and also the curbs and gutters found in most municipalities. The most common categories of pollutants in urban runoff include total suspended solids; sediment (due to anthropogenic or "human" activities); pathogens (e.g., bacteria, virus, protozoa); heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products

[1] Copermittees include the City of Imperial Beach, the 17 additional incorporated cities in San Diego County, the County of San Diego itself, the San Diego Regional Airport Authority, and the San Diego Unified Port District.

and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (decaying vegetation and animal waste); and trash. Many of these pollutants come from sources that we use every day, from our automobiles and their associated parts, to restaurants and other businesses, and even include our pets. The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause impairment in water quality through contamination or nuisance conditions. Pollutants in urban runoff can threaten human health, and can bioaccumulate in tissues of invertebrates and fish, which may later be consumed by humans. They may also contribute to toxicity in aquatic organisms, impacting the overall quality of aquatic systems and beneficial uses of receiving waters. Receiving water bodies adjacent to the City that have been designated as impaired by the Regional Board and the U.S. Environmental Protection Agency pursuant to Clean Water Act section 303(d) include the Tijuana River and San Diego Bay.

This JURMP is a total account of how the City plans to protect and improve the water quality of rivers, bays, estuaries, and the ocean in the region. It has been developed and formatted as a user-friendly tool to guide City employees and other parties in implementing the requirements for discharges of urban runoff from the MS4. The City's JURMP is divided into 14 sections as follows:

1.0 Introduction
2.0 Non-Storm Water Discharges
3.0 Administrative and Legal Procedures
4.0 Development Planning
5.0 Construction
6.0 Municipal
7.0 Industrial and Commercial
8.0 Residential
9.0 Illicit Discharge Detection and Elimination
10.0 Education
11.0 Public Participation
12.0 Fiscal Analysis
13.0 Program Effectiveness Assessment
14.0 JURMP Modifications
15.0 Conclusions and Recommendations
16.0 References

The City is participating with the other Copermittees in the updating of the Model Standard Urban Storm Water Mitigation Plan (SUSMP) that defines minimum standards Low Impact Development (LID) and other BMP requirements which will be incorporated in the City's JURMP. The City will update its local SUSMP to implement the requirements pursuant to section D.1.d.(8)(a) of the Municipal Storm Water Permit, and an update of the SUSMP will be provided in Appendix C.

The City will continue to submit JURMP Annual Reports documenting the total activities undertaken by the City to comply with the requirements of the Municipal Storm Water Permit. The Annual Reports provide a comprehensive description, accounting, and assessment of all such activities undertaken by the City.

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Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Authorized Signatory	Title	Phone No.	Date
H.A. Levien	Public Works Director	(619) 628-1369	

1.0 Introduction

The City of Imperial Beach (City) is committed to maintaining and enhancing a "classic Southern California" beach-oriented community with a safe, small town, family atmosphere, rich in natural and cultural resources. Efforts have been and will continue to be made to reduce the impacts of urban activity on receiving water quality within City boundaries to the maximum extent practicable.

1.1 Background

The 1972 Clean Water Act, administered by the U.S. Environmental Protection Agency (EPA), established the National Pollutant Discharge Elimination System (NPDES) to regulate point-source pollutant discharges to waters of the United States. Point sources, being regulated under permit, allow for the monitoring, inspection, and enforcement of pertinent water quality regulations, whereas nonpoint sources are not regulated. The terms "point" and "nonpoint" source also indicate where a pollutant enters receiving waters, whether the entry point is a stream, lake, creek, or the ocean, or any other waterway. NPDES regulations and other federal, state, and local initiatives were initially very successful in reducing pollution from conventional point sources (i.e., sewage treatment plants and industrial facilities). However, pollution from non-point sources such as urban, suburban, and agricultural runoff remained largely unaddressed until the Clean Water Act amendments of 1987 expanded the NPDES program to fill this regulatory gap. Because of the intermittent, variable, and unpredictable nature of urban runoff discharges, the EPA reasoned that the problems caused by stormwater[1] and non-stormwater discharges would be better managed at the local level through the use of best management practices (BMPs) which would help prevent pollutants from entering municipal separate sanitary sewer systems (MS4s), also known as storm drain conveyances. The EPA delegates its regulatory authority to the State of California, which enforces the Clean Water Act through its State Water Resources Control Board and associated regional branches.

Point sources can generally be classified as either municipal or industrial, and refer to a pollutant entering receiving waters from a "discernable, confined and discrete conveyance." Examples of such conveyances include effluent pipes (including storm drains), ditches, channels, tunnels, rolling stock (i.e., railroad cars or vehicles),

[1] The terms "stormwater" and "storm water" are used interchangeably throughout this JURMP and are defined by the U.S. Environmental Protection Agency under the National Pollutant Discharge Elimination System (NPDES) Program as "Stormwater runoff, snow melt runoff, and surface runoff and drainage [40 CFR 122.26(b)(13)]." All facilities which discharge pollutants from any point source into waters of the United States are required (by the Clean Water Act) to obtain a permit. The permit provides two levels of control: technology-based limits (based on the ability of dischargers in the same industrial Office of Wastewater Management - Water Permitting category to treat wastewater) and water quality-based limits (if technology-based limits are not sufficient to provide protection of the water body). Improvements to the quality of water in this country can be directly linked to the implementation of the NPDES program and the control of pollutants discharged from both municipal and industrial point sources into waters of the United States. Individual and general permits set technology-based and water quality-based effluent limits to maintain environmental standards that ensure safe water for the enjoyment of all.

concentrated animal feeding operations, and boats. Point-source waste discharges are regulated by law, which mandates their control and requires that permits be obtained for their release. Municipal point sources include municipal operations, commercial activities, and residential or urban development. Industrial point sources comprise sources from general industry and the construction industry. Some major municipal operations such as wastewater treatment plants and landfills are regulated under separate permits, or Waste Discharge Requirements (WDRs) issued by the Regional Water Quality Control Board. The State Water Resources Control Board (SWRCB or State Board) administers the general industrial permit and construction permit; the Regional Boards administer permits for municipal point sources. The Regional Water Quality Control Boards, along with municipalities, are charged with the day-to-day enforcement of the permits.

The San Diego Regional Water Quality Control Board (SDRWQCB or Regional Board) has issued Waste Discharge Requirements, Order No. R9-2007-0001, National Pollution Discharge Elimination System Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority, (Order R9-2007-0001 or "Municipal Storm Water Permit") to the County of San Diego, the 18 incorporated cities within the County of San Diego, the San Diego Unified Port District, and the San Diego Regional Airport Authority for their urban runoff discharges. The Municipal Storm Water Permit was adopted on January 24, 2007, and requires the City as one of 21 Copermittees[2] to begin implementation of its updated Jurisdictional Urban Runoff Management Program (JURMP) no later than January 24, 2008, subsequently amended by the SDRWQCB to March 24, 2008. This revision of the JURMP organizes and describes the programs and activities that the City has implemented or plans to implement in fulfillment of the jurisdictional requirements of the permit and is submitted pursuant as specified under Sections D, I, and J of the Municipal Storm Water Permit, and is enforceable under Section O.2.

Order R9-2007-0001 is the third iteration of a permit originally issued by the SDRWQCB in 1990 in response to the 1987 Clean Water Act amendments. The scale, scope, and complexity of urban runoff management programs have increased significantly since 1990. The first re-issuance in 2001 resulted in a permit that imposed significantly tougher regulatory requirements on a host of affected parties, including municipalities, commercial and industrial businesses, land developers, construction contractors, and residents, among others. Order R9-2007-0001 builds upon the 2001 permit and further intensifies regulatory oversight in many areas, including effectiveness measurement and an increased emphasis on managing urban runoff at the watershed level. It endeavors to shift the focus from program implementation to water quality results by emphasizing the receiving waters in each watershed.

[2] Copermittees include the City of Imperial Beach, the 17 additional incorporated cities in San Diego County, the County of San Diego itself, the San Diego Regional Airport Authority, and the San Diego Unified Port District.

In order to comply with the Municipal Storm Water Permit and implement the JURMP, the Environmental Program Division of the Public Works Department is actively engaged in a number of activities that will cumulatively result in cleaner water quality. These activities include but are not limited to, public education, employee training, water quality monitoring, source identification, code enforcement, storm water best management practices (BMPs) development, and BMP implementation within the City of Imperial Beach's jurisdictional boundaries. In addition, the Environmental Program Division provides technical expertise and guidance to all City departments to ensure implementation and compliance with the Municipal Storm Water Permit. The Environmental Program Division represents the City on Municipal Storm Water Permit issues before the Regional Board. The Environmental Program Division prepares and transmits an annual report of all City activities. The Public Works Director is the responsible agent that certifies that the City is in compliance with all federal, state, and local laws.

1.2 Purpose and Objectives

The purpose of the JURMP is to organize and describe the urban runoff management program for the City of Imperial Beach. This is a dynamic work plan that will provide direction in addressing water quality issues within the jurisdiction and that will improve efforts to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP) and achieve water quality standards.[3]

The four primary objectives of the JURMP are to:

- Develop and expand methods to assess and improve water quality within the jurisdiction, and ultimately, in the watershed;
- Integrate watershed principals into land use planning;
- Enhance public understanding of sources of water pollution within the watershed; and
- Encourage and enhance stakeholder involvement within the watershed.

Many improvements were initiated under the previous Municipal Storm Water Permit and have been incorporated into the JURMP with each successive Annual Report submitted. The City is working with the other Copermittees in partnership at both the watershed and regional levels to address the water quality throughout the watersheds in which the City lies, and in the entire San Diego region[4]. This includes identifying and addressing highest priority water quality problems that occur in the City's watersheds that also occur within the jurisdiction, and developing urban runoff management activities that include education, public participation, and land use planning to effectively reduce or eliminate contributions to the pollution in efforts to improve water quality.

[3] California Regional Water Quality Control Board, San Diego Region, Order No. R9-2007-0001, January 24, 2007
[4] The City of Imperial Beach lies in the Tijuana River Watershed Management Area (WMA) to the south, and the Otay River/San Diego Bay WMA to the north.

While some efforts may be implemented at the regional level, others are better suited to be implemented on the smaller watershed level, and still others will necessitate being implemented at the jurisdictional level.

Activities that are regional and/or watershed level in nature that are to be implemented in compliance with any jurisdictional requirements of the Municipal Storm Water Permit (section D) will also describe how they achieve compliance with the subject jurisdictional requirements in which they are implemented. The Copermittees are developing a general strategy for integration the management, implementation, and reporting of regional, watershed, and jurisdictional activities. Per the Municipal Storm Water Permit (section J.5), this general strategy may also describe an Integrated Annual Report Format, or a schedule or process for developing this Format in the future. Upon approval of the Integrated Annual Report Format by the Regional Board, an Integrated Annual Report shall be submitted annually, which may substitute for the JURMP Annual Report, as approved by the Regional Board. The Principal Permittee shall be responsible for the generation and submittal of the Integrated Annual Reports, and the City shall be responsible for the information in the Integrated Annual Report pertaining to its jurisdictional, watershed, regional, and monitoring responsibilities.

1.3 Geographic Setting & Demographics

The City of Imperial Beach is 4.5 square miles in size, of which approximately 60% is urbanized area and 40% is reserved for open space, parkland, and other conservation-related uses. Jurisdictional boundaries include:

- To the east: the City of San Diego (Nestor Community)
- To the west: the Pacific Ocean
- To the north: a U.S. Naval Communications Station within the City of Coronado's jurisdiction, the Otay River, and the southern shore of San Diego Bay
- To the south: Ream Field (a U.S. Navy helicopter training facility) and the U.S.-Mexico international boundary.

San Diego Association of Governments (SANDAG) estimates the City of Imperial Beach's 2006 population at 27,709, with Hispanics (35%), blacks (34%), whites (20%), Hawaiian & Pacific (19%), and Asians (18%) comprising the predominant ethnic and racial groups. Almost 80% of Imperial Beach's residents are low or moderate income and more than 50% are under the age of 35. Based on demographic data reported on SANDAG's website, the 2007 estimated population characteristics of the City had experienced 3% growth from the prior 2000 reporting period, and a reported 2% growth from 1990. While a 17% growth from 1980 had been experienced in the report filed in 1990, this does not appear to be typical for this jurisdiction due in part to the limited

space for new construction. It is estimated total population will change 34% during the reporting period 2000-2030.[5]

1.4 Receiving Waters

The City falls within two major hydrologic units, or drainage basins (maps are located in Appendix O). The northern portion of the urbanized area drains to the Otay River or San Diego Bay within the Otay Hydrologic Unit. The southern portion of the urbanized area drains to the Tijuana River and the Tijuana Estuary within the Tijuana River Hydrologic Unit. Within both of these watersheds, a small portion of the coastal area drains directly to the Pacific Ocean via three ocean outfalls. Urban runoff and stormwater from Imperial Beach have the potential to pick up pollutants before discharging to receiving waters. What follows is a description of some of the most significant receiving waters and environmental resources in Imperial Beach that this JURMP is intended to protect.

1.4.1 Pacific Ocean

Imperial Beach boasts 3.5 miles of beach frontage and is a popular year-round destination for surfing and other ocean-related recreation. Annual beach attendance topped three million people during 2006. Imperial Beach is also host to the annual U.S. Open Sandcastle Competition, which draws thousands of visitors each July. The beachfront is managed in cooperation with the San Diego Unified Port District (Port).

The frequent necessity to close the Imperial Beach shoreline to human contact has long been a reality for purposes of protecting public health. It is widely known that the most significant source of bacteria impacting ocean water quality in Imperial Beach is the periodic input of sewage-contaminated flows from the Tijuana River and surrounding canyons in Mexico. Monitoring data for indicators of fecal contamination demonstrate a strong relationship between water quality in the Tijuana River, the Tijuana Estuary mouth, and the ocean shoreline at the south end of Seacoast Drive in Imperial Beach. Sewage contamination is most common during the winter months, when rainfall causes Tijuana River flows to exceed the capacity of the International Boundary and Water Commission's (IBWC) river diversion system at the U.S.-Mexico border. Under most dry weather conditions, the diversion system effectively redirects sewage-contaminated flows in the Tijuana River to the IBWC's International Wastewater Treatment Plant for advanced primary treatment and discharge several miles offshore. However, past experience has shown that frequent contamination of ocean beaches can be expected whenever flows in the Tijuana River enter the estuary during dry weather. Dry weather contamination may be caused by a number of events which include: 1) improper functioning of the IBWC river diversion system, 2) contamination emanating from surrounding canyons in Mexico downstream of the IBWC diverter, 3) contamination from inputs on the U.S.-side of the border, or 4) remnants of contamination from previous rainfall events.

[5] http://www.sandag.org/resources/demographics_and_other_data/demographics/fastfacts/impe.htm, (2/20/2008). See Appendix O.

1.4.2 Tijuana River National Estuarine Research Reserve

The Tijuana River Natural Estuarine Research Reserve (TRNERR) comprises 2,531 acres in the lower sections of the Tijuana River Watershed. Approximately 928 acres are located within Imperial Beach city limits. The remaining acreage is within the jurisdiction of the City of San Diego. The TRNERR Management Authority is responsible for establishing management policies for the whole reserve. The TRNERR includes the Tijuana Slough National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service, as well as Border Field State Park, which is managed by the California Department of Parks and Recreation. In addition to the Wildlife Refuge and the State Park, the TRNERR boundary contains land owned by the U.S. Navy, the City of San Diego, the County of San Diego, and privately held parcels.

The TRNERR is a coastal body of water that is influenced by both marine and river waters. During winter months, its waters are diluted by rainfall and stream flow; during the rest of the year it is an extension of the ocean. It supports a range of natural plant and animal communities that are especially adapted to withstand the variable salinities that occur when sea and fresh waters mix and provides habitat for a variety of rare and endangered species such as the Light-Footed Clapper Rail and the California Least Tern.

Eight major natural habitats exist within the TRNERR. They include transition from upland to wetland, riparian salt marsh, saltpan, brackish marsh, estuarine channels and tidal creeks, intertidal flats, and dunes and beach. Catastrophic events and human disturbances have substantially altered the estuary. However, with the exception of the brackish marsh habitat, which appears to be directly dependent on urban runoff, most of the habitats present today represent variations on what existed at the turn of the century.

1.4.3 San Diego National Wildlife Refuge Complex – South Bay Unit

Imperial Beach is bordered to the north by the South Bay Unit of the San Diego National Wildlife Refuge Complex. With over 90% of submerged lands, intertidal mudflats, and salt marshes eliminated in the north and central Bay, the South Bay refuge preserves the remaining wetlands, mudflats, and eel grass beds to ensure that the bay's thousands of migrating and resident shorebirds and waterfowl will survive. The approved refuge boundary is 3,940 acres. San Diego Bay supports numerous endangered and threatened species of plants and animals and is a vital link to other wildlife areas. Rare eel grass beds, thousands of resident and over-wintering waterfowl, seabirds, shorebirds, and the largest contiguous mud-flat in southern California make this refuge a supermarket for avifauna, and an important stop on the Pacific Flyway.[6]

[6] http://www.fws.gov/sandiegorefuges/South_bay.htm

1.4.4 Otay River

The Otay River Watershed is an approximately 145-square-mile watershed (92,920 acres)[7] characterized by a low-elevation coastal plain near the outlet of the river that rises gradually to steep mountainous areas inland. This rapidly urbanizing watershed drains into San Diego Bay, and is expected to double in population and housing by year 2030, contributing to the loss of undeveloped and agricultural land by approximately 40 percent. It includes unincorporated County land, as well as land within the jurisdictions of the Cities of Chula Vista, San Diego, Imperial Beach, Coronado, and National City.

The majority of approximately 80 miles of storm drain and drainage channels within the Otay River Watershed infrastructure is located on the lower part of the watershed, below the Otay Reservoir. Much of it was in place prior to the implementation of the prior Order R9-2001-0001, with minimal measures in place for the preservation of water quality. This required Copermittees to evaluate the feasibility of retrofitting existing structural flood control devices with treatment-control Best Management Practices (BMPs) where needed. Drainage infrastructure will continue to be a water quality stressor on the Otay River watershed.[8]

Table 1-1. Beneficial Use Designations for Receiving Waters in Imperial Beach

Beneficial Use	Pacific Ocean Shoreline (Tijuana Hydrologic Unit)	Pacific Ocean Shoreline (at Imperial Beach Pier)	Tijuana River Estuary	Tijuana River	Otay River	San Diego Bay
IND	E	E		P	P	E
NAV	E	E				E
REC1	E	E	E	P	P	E
REC2	E	E	E	E	E	E
COMM	E	E	E			E
BIOL	E	E	E			E
EST			E			E
WILD	E	E	E	E	E	E
RARE	E	E	E	E	E	E
MAR	E	E	E			E
AQUA	E	E				
MIGR	E	E	E			E
SPWN	E	E				

[7] The 160-square-mile Otay Hydrologic Unit (910.0), as defined by the State Water Resources Control Board, consists of the Coronado (910.1), Otay Valley (910.2), and Dulzura (910.3) Hydrologic Areas.
[8] Final Draft, Otay River Watershed Management Plan, Aspen Environmental Group, May 2006

Beneficial Use	Pacific Ocean Shoreline (Tijuana Hydrologic Unit)	Pacific Ocean Shoreline (at Imperial Beach Pier)	Tijuana River Estuary	Tijuana River	Otay River	San Diego Bay
WARM				E	E	
SHELL	E	E	E			E
AGR					E	

E = Existing Use
P = Potential Use

1.5 Overview of watersheds, receiving waters, 303[d] waters, coastal lagoons, and Environmentally Sensitive Areas

In 1998, selected receiving water bodies (such as segments of the Pacific Ocean, Tijuana River Estuary, and Tijuana River), which receive or convey urban runoff discharges, were designated as impaired by the SDRWQCB and USEPA pursuant to the Clean Water Act Section 303(d). Environmentally Sensitive Areas (ESAs) include but are not limited to all Clean Water Act Section 303(d) water bodies. ESAs also include areas designated as Areas of Special Biological Significance by the SDRWQCB; water bodies designated with RARE beneficial use by the SDRWQCB; areas designated as preserves or their equivalent under the Multi-Species Conservation Program within the Cities and County of San Diego; and any other environmentally sensitive areas which have been identified by the City of Imperial Beach. Receiving waters within ESAs require special consideration with respect to prioritizing sites. ESAs are defined as follows:

1.5.1 CWA Section 303(d) Impaired Water Bodies

303(d) Impaired Water Bodies are those which the SWRCB has determined do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. Section 303(d) of the 1972 Clean Water Act requires the State to establish priority rankings for water on the lists and develop action plans, known as Total Maximum Daily Loads (TMDL), to improve water quality. The Tijuana River, Tijuana River Estuary, and Pacific Ocean (Tijuana) are classified as 303(d) Impaired Water Bodies. A complete list of 303(d) Impaired Water Bodies can be found on the SWRCB web site (http://www.waterboards.ca.gov).

1.5.2 RARE (Rare, Threatened, or Endangered Species) Beneficial Use Water Bodies

The RARE beneficial use status applies to habitats necessary, at least in part, for the survival and successful maintenance of plant and animal species established under state or federal law as rare, threatened, or endangered. These water bodies are defined in the Water Quality Control Plan, San Diego Basin, Region 9 and include the San Diego Bay and the Otay River/Watershed.

Table 1-2 summarizes the ESAs within the City of Imperial Beach's sphere of influence. These ESAs will be evaluated when implementing this JURMP to protect these areas from potential water quality threats.

Table 1-2. Environmentally Sensitive Areas

Environmentally Sensitive Areas (Hydrologic Unit)	Pollutants	Receiving Waterbody/ Watershed
303(d) Designated Water Bodies*		
• Tijuana River Estuary* (911.11)	Eutrophic; high coliform; lead; nickel; pesticides; thallium; trash; sediment; and silt	D/B
• Tijuana River* (911.11)	Eutrophic; high coliform; organic enrichment/low dissolved oxygen; pesticides; solids; synthetic organics; trace elements; and trash	B/B
• Pacific Ocean, Tijuana (911.00)	High coliform count	C/B
RARE Designation in the Basin Plan		
• Tijuana River (911.110)	Not applicable	B/B
• Tijuana River Estuary (911.110)	Not applicable	D/B
• Otay River (910.20)	Not applicable	A/A
• San Diego Bay (910.20)	Not applicable	E/A
• Pacific Ocean, Tijuana (911.00)	Not applicable	C/B

*Proposed 303(d) listing of the Tijuana Estuary for Low Dissolved Oxygen in 2002 Update
A= Otay River/Watershed; B = Tijuana River/Watershed; C = Pacific Ocean; D = Tijuana Estuary; and E = San Diego Bay; Hydrologic units are defined in the Basin Plan.
The receiving water bodies of the Otay River and San Diego Bay in the vicinity of Imperial Beach are located in the Otay River Watershed (designated by the letter A). The receiving water bodies of the Tijuana River, Tijuana River Estuary, and Pacific Ocean in the Imperial Beach vicinity are designated as part of the Tijuana River Watershed (designated by the letter B).

The format of this JURMP is designed for ease of use by City departments and to facilitate review by the Regional Board. Each component of the JURMP directly correlates to components referenced in the Municipal Storm Water Permit.

A *Contact List* for the City that provides the departments and key phone numbers that support the reporting of illicit and/or illegal discharges, along with organizational charts for both the City of Imperial Beach and the Public Works Department, are provided for reference in Appendix B. Also included is a spreadsheet of departmental roles and responsibilities which identifies all departments within the jurisdiction that conduct urban runoff related activities, and their roles and responsibilities under the Municipal Storm Water Permit.

This JURMP is a total account of how the City plans to protect and improve the water quality of rivers, bays, estuaries, and the ocean in the region. It has been developed and formatted as a user-friendly tool to guide City employees and other parties in implementing the requirements for discharges of urban runoff from the MS4. The JURMP is divided into 13 chapters that include components for new development planning and construction, municipal functions of the City, commercial and residential, detection and elimination of illicit discharges, education efforts across all the areas, fiscal analysis, and an ongoing assessment of the effectiveness of the program.

The City is committed to improving storm water quality, and many of the improvements that were initiated under the previous Municipal Storm Water Permit have been incorporated into the JURMP with each successive Annual Report submitted. The City is working with the other Copermittees in partnership to address the water quality throughout the watershed. This includes identifying and addressing highest priority water quality problems in the watershed that also occur in the jurisdiction, and developing activities that include education, public participation, and land use planning to effectively reduce or eliminate contributions to the pollution in efforts to improve water quality.

The City of Imperial Beach is committed to the goal to protect and improve the water quality of rivers, bays, estuaries and the ocean. This JURMP maps the road to achieving that goal. Emphasis has been put on education, integrated implementation of urban runoff BMPs for new development and existing development, and inspection and enforcement at all facilities and areas of the City. This phase of the JURMP shifts activities toward a watershed approach, leading to a more prioritized effort of the specific areas of concern throughout the watersheds in cooperation with the other Copermittees.

2.0 Non-Storm Water Discharges

The purpose of this chapter is to identify opportunities to reduce the introduction of potential pollutants into the storm drain system during non-emergency fire fighting activities such as activities related to emergency response preparedness and maintenance of department facilities and equipment. Per the Municipal Storm Water Permit, section B, "Each Copermittee shall effectively prohibit all types of into its MS4 unless such discharges are either authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit; or not prohibited in accordance with Sections B.2 and B.3" of the Municipal Storm Water Permit. Details on how the City of Imperial Beach will minimize impacts from non-emergency fire fighting activities identified as non-storm water discharges[1] on receiving water quality are provided in this chapter.

The City of Imperial Beach has determined that none of the categories of non-storm water discharges identified in the Municipal Storm Water Permit section B.2. are significant sources of pollutants to waters of the U.S., and are identified as allowable non-storm water discharge categories listed in the City's Municipal Storm Water Ordinance (see Appendix B).

2.1 Non-Storm Water Discharges Not Prohibited

2.1.1. Categorically Allowed Discharges

The following categories of non-storm water discharges are exempt from discharge prohibitions established by the City's Storm Water Ordinance and are not subject to section 8.30.070. Dischargers must, however, comply with any Order issued pursuant to subsection 8.30.040 I. of the Storm Water Ordinance; and must install, implement and maintain the specifically applicable minimum BMPs, if any, set out in the City Urban Runoff Standards Manuals:

- discharges from potable water sources other than water main breaks;
- air conditioning condensation;
- flows from emergency fire fighting activities;
- springs;
- water line flushing.
- diverted stream flows (provided required permits are obtained);
- flows from riparian habitats and wetlands;
- foundation drains (not including active groundwater dewatering systems);
- individual residential washing of vehicles;
- irrigation water including recycled water used for irrigation;
- landscape irrigation;
- lawn watering;
- rising ground water;
- swimming pool and spa discharges (if dechlorinated to less than one PPM chlorine);

[1] SDRWQCB Order R9-2007-0001, page 13, Section B, Non-Storm Water Discharges (see Appendix M)

- uncontaminated ground water infiltration to storm drains;
- uncontaminated pumped ground water;
- water from crawl space pumps; and
- water from footing drains (not including active groundwater dewatering systems).

Exemptions to Protect Public Health and Safety – Discharges determined by any Authorized Enforcement Official or by Authorized Enforcement Staff to be necessary to protect public health and safety are exempt from discharge prohibitions established by the Storm Water Ordinance, provided any conditions on such discharges imposed by the Authorized Enforcement Official Authorized Enforcement Staff are satisfied. In emergency circumstances, the determination of an Authorized Enforcement Official or Authorized Enforcement Staff that a discharge is necessary may initially be oral but must be promptly confirmed in writing by an Authorized Enforcement Official or by Authorized Enforcement Staff. In non-emergency situations, a prior written determination is required to exempt a discharge.

On-site Wastewater Systems – Discharges to the subsurface from permitted properly functioning on-site wastewater systems are not prohibited by the Storm Water Ordinance.

Exemptions Not Absolute – Any discharge category described in subsection 8.30.060 A. of the Storm Water Ordinance that is a significant source of pollutant to waters of the United States shall be prohibited from entering the stormwater conveyance system, or shall be subjected to a requirement to implement additional BMPs to reduce pollutants in that discharge to the MEP. Such prohibitions shall be effective on a schedule specified by an Authorized Enforcement Official in a written notice to the Discharger. That schedule may take into account the nature and severity of any effects caused by the discharge; and the time required to design, engineer, fund, procure, construct and make appropriate BMPs operational.

The worksheet (Form 8-A) evaluates the Municipal Permit allowable Non-Storm Water Discharges and whether a Best Management Practice (BMP) is required in the City of Imperial Beach. The worksheet indicates that all of the Discharge Categories are not considered a significant source of pollutants. Only the swimming pool water that is NOT de-chlorinated properly is prohibited.

2.2 Emergency Fire Fighting Flows

Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require BMPs and need not be prohibited. As part of the Jurisdictional Urban Runoff Management Plan (JURMP), the City has developed and implemented a program to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) identified to be significant sources of pollutants to waters of the United States.

Non-emergency fire fighting activities, such as training activities that simulate emergency response, will be performed in a manner that eliminates discharges to the storm water

system whenever practicable, and minimizes discharges to the storm water conveyance system when elimination of discharges is practicably unavoidable. The following best management practices will be implemented as part of these activities:

1. Water flows will be directed to landscaped areas whenever possible.
2. When flowing water to an area where landscaping does not prevent runoff, the area selected shall be surveyed by the Officer in charge prior to training activities to ensure that debris will not enter into the storm water system as a result of the drill.
3. Areas that have debris, which could potentially enter the storm water system as a result of the drill activities, will not be used for training until debris has been removed. Referrals to the Department responsible for the debris removal will be made as needed.
4. Live fire training activities will be preplanned to allow integration of barriers to off-site runoff, which could contribute to storm water discharges.

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3.0 Administrative and Legal Procedures

3.1 Legal Authority

3.1.1 Certification of Legal Authority

The City is required to provide a certified statement by the chief legal counsel that the City has adequate legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and in the Municipal Storm Water Permit (see Appendix M).

The City of Imperial Beach has the legal authority to implement the requirements of the Municipal Storm Water Permit as stated in the "Certification of Adequate Legal Authority" located in Appendix B (letter from James P. Lough, City Attorney, to Hon. Susan Ritschel, Chair, Regional Water Quality Control Board, San Diego Region).

Enforcement, appeal, and administrative order/injunction processes are described in Section 9.0, "Illicit Discharge Detection and Elimination Component" and in the Urban Runoff Management and Discharge Control Ordinance, and Standard Urban Storm Water Mitigation Plan (SUSMP) ("Stormwater Ordinances," see Appendix B).

3.2 Department Roles and Responsibilities

The Municipal Storm Water Permit requires that City identify those departments that could potentially impact storm water quality through their activities. The City's organization chart and the organization chart for the Department of Public Works are presented as Figures 2-1 and 2-2 in Appendix B. The goal for all departments is zero pollutant discharge to the storm drain system or receiving waters. The Department Roles and Responsibilities, Table 2-1, indicates which departments have primary or supporting BMP responsibilities according to each of the sections of this JURMP.

In addition, the Environmental Program Division of the Public Works Department is the lead office for the City's efforts to reduce pollutants in urban runoff and storm water to the maximum extent practicable, and in overseeing compliance with the Municipal Storm Water Permit.

The City has updated and amended the stormwater ordinances[1] of the Imperial Beach Municipal Code (IBMC) through resolutions adopted by the City Council. The City has also amended the grading ordinance[2] of the IBMC. Copies of the resolutions and ordinances are provided in Appendix B.

[1] IBMC Chapter 8.30, "Urban Runoff Management and Discharge Control", and IBMC Chapter 8.32, "Standard Urban Stormwater Mitigation Plan (SUSMP)"
2 IBMC Chapter 15.54, "Grading Permits and Plans"

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4.0 Development Planning Component

The goal of this section is to reduce the impacts of new development and redevelopment in the City of Imperial Beach on water quality in the jurisdiction. This section is primarily applicable to the Community Development and Planning Department, the Capital Improvement Projects Division and the Environmental Program Division of the Department of Public Works, and the contracted engineering firm of BDS Engineering. This chapter discusses requirements that apply to the Development Planning Component, those areas and activities of the Jurisdictional Urban Runoff Management Program (JURMP) that encompass new development and redevelopment, and what compliance actions are proposed by the City of Imperial Beach.

Urban runoff needs to be addressed throughout the life of a development, from its planning and inception, through the construction of the development, and finally through its use, what is referred to as the “post-construction” phase, lasting through the entire lifecycle of the development. Any change to the land may result in increased pollutants that can impact receiving waters and their beneficial uses; therefore we strive to prevent pollution by reducing or eliminating pollutants at their source.

Per the Municipal Storm Water Permit (section D.1, see Appendix M), the JURMP must (1) reduce Development Project discharges of pollutants from the MS4 to the MEP; (2) prevent Development Project discharges from the MS4 from causing or contributing to a violation of water quality standards; and (3) manage increases in runoff discharge rates and durations from Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

The City ensures that the permitting of both new development and redevelopment projects occurs in an organized and orderly fashion that reflects the vision and needs of the community, assesses the environmental issues associated with the proposed projects, and meets all applicable regulatory standards. In order to protect local receiving waters, the City has put into place several local ordinances that outline the requirements for addressing urban runoff and water quality. All significant new development and redevelopment projects must incorporate appropriate BMPs at the planning phase to prove how they will minimize impervious surfaces on site, how flow and surface waters will be redirected to pervious areas to maximize infiltration, and how storm water runoff will be minimized.

4.1. General Plan

Per the Municipal Storm Water Permit, the City shall provide a description of the water quality and watershed protection principles and policies that direct land-use decisions and require implementation of consistent water quality protection measures for Development Projects under the City's General Plan, and a time schedule for when modifications are planned, if applicable.

The General Plan has been assessed and modified to ensure that the water quality and watershed protection principles and policies required are addressed. The amendment to the General Plan/Local Coastal Program to include these principles and policies was approved by the City Council in September 2002, below. The Coastal Commission has previously refused to certify this General Plan / Local Coastal Plan amendment including the water quality and watershed protection principles and policies. Staff will seek certification with this revision of the JURMP under the new Municipal Storm Water Permit.

4.2. Environmental Review Process

The City is required to review and revise as necessary its current environmental review processes to accurately evaluate water quality impacts and cumulative impacts, and identify appropriate measures to avoid, minimize and mitigate those impacts for all Development Projects.

Under the previous Municipal Storm Water Permit, the City updated its Environmental Checklist (Form 6-A) and Environmental Information Form (Form 6-B) under the California Environmental Quality Act (CEQA) to incorporate additional focused questions to be considered by Community Development staff during the Initial Study process under CEQA. Additional questions were added to the Environmental Checklist Form under section VIII. Hydrology and Water Quality (see new items f, g, h, j, and k) and items (c) and (d) have been revised. A new item (d) was added to section IX. Land Use and Planning. In addition, new items 33, 34, and 35 were added to the Environmental Information Form. A copy of these forms is provided in Appendix C.

4.3. Approval Process Criteria and Requirements for All Development Projects

The City is required to ensure that Development Project discharges of pollutants from the MS4 will be reduced to the MEP, will not cause or contribute to a violation of water quality standards, and will comply with the City's ordinances, permits, plans, and requirements, and with the Municipal Storm Water Permit. Per the Municipal Storm Water Permit, the City shall prescribe the necessary requirements for all proposed Development Projects during the planning process and prior to project approval and issuance of local permits.

The City requires all new development and redevelopment projects to implement measures to reduce pollutants and runoff to the MEP. Until recently, the City's project review process had required that any new construction or property modification with a valuation of more than $25,000 be subject to implementing public improvements. During the FY2006-07 reporting period, the valuation figure was increased to $50,000 to reflect rising home prices and to exclude very minor projects. Projects meeting the minimum valuation threshold are routed from the Community Development Department to the Public Works Department for review with regard to SUSMP applicability and potential storm water and urban runoff issues. Depending upon the nature of the project and the existing conditions on site, a combination of site design, source control, and/or treatment BMPs may be required as conditions of permit issuance.

Prior to project approval and issuance of local permits, the City of Imperial Beach requires each proposed project to implement measures to ensure that pollutants and runoff from the development will be reduced to the maximum extent practicable and will not cause or contribute to an exceedance of receiving water quality objectives. The City reviews all proposed projects, including City projects, to ensure that all development will be in compliance with the City's storm water ordinances, local permits, all other applicable ordinances and requirements, and the Municipal Storm Water Permit. The property owner or applicant must provide the following documents to the City of Imperial Beach before project work may begin: 1) checklist of selected BMPs and location of BMPs on project plans for review by the City, 2) certification of intent to maintain selected BMPs, and 3) Storm Water Management Plan.

The City's Environmental Information Form (see Form 6A in Appendix D) of the Uniform Application Packet has been amended to include a line item submittal requirement for a "Storm Water Requirements Questionnaire." This questionnaire has been added to the Uniform Application Packet and contains a set of questions that will determine whether each proposed project is subject to construction and/or post-construction storm water BMP requirements. This questionnaire is required to be completed and signed by the project proponent and included in the project submittal prior to deeming the project submittal complete.

Per the Municipal Storm Water Permit, project development requirements shall include, but not be limited to, implementation by the project proponent of the following:

4.3.1 Source Control BMPs

Projects are required by the Municipal Storm Water Permit to have source control BMPs that reduce storm water pollutants of concern in urban runoff, including storm drain system stenciling and signage, properly designed outdoor material storage areas, properly designed trash storage areas, and implementation of efficient irrigation systems.

- The City frequently requires non-priority development projects to install treatment BMPs. This determination depends entirely on the nature of the site, property layout, etc. Due to the small lot sizes in Imperial Beach, treatment BMP requirements usually consist of the installation and maintenance of storm drain inlet filters.

The City has developed a database to track the installation and maintenance of structural and source BMP controls. This tool allows the City to formalize the process for tracking controls, frequency of required maintenance, inspections, and verification of maintenance.

- The City requires project proponents ensure that the hot water tank discharge is piped to discharge to the sanitary sewer system or a landscaped area.

4.3.2 LID BMPs

The Municipal Storm Water Permit requires LID BMPs where feasible which maximize infiltration, provide retention, slow runoff, minimize impervious footprint, direct runoff from impervious areas into landscaping, and construct impervious surfaces to minimum widths necessary. Conditions of Construction Development Permit approval the City most commonly requires include:

- The City requires all development and redevelopment projects where applicable to divert runoff to pervious surface and relocate site features to drain into landscaped area.

- The amount of impervious surface runoff that must be routed to pervious areas has also been clarified, ensuring meaningful LID BMP implementation. The amount of runoff from impervious areas draining to pervious areas must correspond to the pervious area's capacity to infiltrate or treat runoff. This helps prevent a situation where only a small amount of runoff from impervious areas is routed to pervious areas, even though the pervious area's capacity for receipt of runoff is large.[1]

- Minimize impervious surfaces, which may involve reducing the amount of impervious surfaces on site by requiring the addition of landscaped areas or prohibiting an increase in impervious surface areas from the property's existing condition.

- No building roof or landscape water drains may be piped to the street or onto impervious surfaces that lead to the street.

[1] SDRWQCB, February 2, 2007. Discussion of Significant Modifications to the Directives of Order No. 2001-01 Found in Order No. R9-2007-0001.

4.3.3 Buffer Zones for Natural Water Bodies

Buffer zones for natural water bodies are required where feasible. Where buffer zones are infeasible, project proponents are required to implement other buffers such as trees, access restrictions, etc., where feasible.

4.3.4 Grading or Other Construction Activities Protective Measures

Measures necessary so that grading or other construction activities meet the provisions specified in section D.2 of the Municipal Storm Water Permit are required by the project proponent. Property owners are advised that they must institute BMPs to prevent contamination of storm drains, groundwater, and receiving waters during both construction and post-construction.

The City requirements include the following:

- All recyclable construction waste must be properly recycled and not disposed in the landfill.

- Water used on site must be prevented from entering the storm drain conveyance system (i.e., streets, gutters, alley, storm drain ditches, storm drain pipes).

- All wastewater resulting from cleaning construction tools and equipment must be contained on site and properly disposed in accordance with Federal, State, and City statutes, regulations, and ordinances.

- Erosion Control – All sediment on the construction site must be contained on the construction site and not permitted to enter the storm drain conveyance system. Applicant is to cover disturbed and exposed soil areas of the project with plastic-like material (or equivalent product) to prevent sediment removal into the storm drain system.

4.3.5 Proof of Ongoing Long-Term Maintenance

Project proponents are required to submit proof of a mechanism under which ongoing long-term maintenance of all structural post-construction BMPs will be conducted. Every development and redevelopment project in the City is required to provide verification of post-construction BMP maintenance provisions through a legal agreement, covenant, CEQA mitigation requirement, and/or Conditional Use Permit. Contain all construction water used in conjunction with the construction. Contained construction water is to be properly disposed in accordance with Federal, State, and City statutes, regulations, and ordinances.

4.4. Standard Urban Storm Water Mitigation Plans (SUSMPS) – Approval Process Criteria and Requirements for Priority Development Projects

The City will implement its updated local SUSMP which meets the requirements of the Municipal Storm Water Permit, section D.1.d, and (1) reduces Priority Development Project discharges of pollutants from the MS4 to the MEP; (2) prevents Priority Development Project[2] runoff discharges from the MS4 from causing or contributing to a violation of water quality standards; and (3) manages increases in runoff discharge rates and durations from Priority Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

The Municipal Storm Water Permit requires the City to place Low Impact Development (LID) BMP requirements on Priority Development Projects within its jurisdiction. Some of the LID BMPs are mandatory, while others are to be implemented where applicable and feasible. The LID BMPs listed in the Municipal Storm Water Permit are consistent with the site design BMPs currently required by the Copermittees in the Model SUSUMP. However, the Model SUSMP employs an open-ended approach to requirements for site design BMPs, requiring implementation of site design BMPs "where determined applicable and feasible by the Copermittee." Unfortunately, this approach has proven to be ineffective in integrating site design BMPs into new development project designs, and further program oversight is necessary.[3] Therefore, Priority Development Projects are required to employ LID BMPs. Several LID BMPs that have been exhibited to be applicable and feasible under certain conditions are mandatory. This includes routing of runoff from impervious areas to pervious areas and use of permeable surfaces for low traffic areas.[4] The City has already implemented these BMPs as conditions of project approval.

The City's SUSMP document (Chapter 8.32 of the Municipal Code), including a description of LID BMP requirements to be used, is provided in Appendix B. The City has provided guidance for City plan review staff on how to review and approve SUSMP projects, and has developed a user-friendly "*How-To Guide for SUSMP Compliance in the City of Imperial Beach*" document for local

[2] Priority Development Projects are defined in the Municipal Storm Water Permit, section D.1.d.(2), as a) all new Development Projects that fall under the project categories or locations listed in section D.1.d.(2), and b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site that falls under the project categories or locations listed in section D.1.d.(2). Please see the Municipal Storm Water Permit for additional guidance and definitions of projects (Appendix N).

[3] Tetra Tech, Inc., 2005. Program Evaluation Report – San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 3.

[4] SDRWQCB, February 2, 2007. Discussion of Significant Modifications to the Directives of Order No. 2001-01 Found in Order No. R9-2007-0001.

construction operators on how to design, implement and maintain BMPs to meet the SUSMP requirements (see Appendix C).

The City has updated its General Plan to include the new water quality and watershed protection policies through the Conservation & Open Space and Design Elements. This update was adopted by City Council in July 2002; it has not yet been ratified by the Coastal Commission (see Appendix C).

Examples of site design, source control and treatment BMPs are presented below. These BMPs may be used to minimize the introduction of pollutants that may result in impacts to the quality of receiving waters. With the adoption of the City's Standard Urban Storm Water Mitigation Plan (SUSMP), specific priority projects will be required to implement one or a combination of storm water BMPs as follows:

4.4.1 Site Design BMPs

Minimizing Impervious Areas

- Reduce sidewalk widths and incorporate landscaped buffer areas between sidewalks and streets.
- Design residential streets for the minimum required pavement widths.
- Minimize the number of residential street cul-de-sacs and incorporate landscaped areas to reduce their impervious cover.
- Use open space development that incorporates smaller lot sizes.
- Increase building density while decreasing the building footprint.
- Reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together.
- Reduce overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in spillover parking areas.

Increase Rainfall Infiltration

- Use permeable materials for private sidewalks, driveways, parking lots, and interior roadway surfaces (examples: hybrid lots, parking groves, permeable overflow parking, etc.)
- Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas, and avoid routing rooftop runoff to the roadway or the urban runoff conveyance system.

Maximize Rainfall Interception

- Maximizing canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs.

Minimize Directly Connected Impervious Areas (DCIAs)

- Draining rooftops into adjacent landscaping prior to discharging to the

storm drain.
- Draining parking lots into landscape areas co-designed as biofiltration areas.
- Draining roads, sidewalks, and impervious trails into adjacent landscaping.

Slope and Channel Protection
- Use of natural drainage systems to the maximum extent practicable
- Stabilized permanent channel crossings
- Planting native or drought tolerant vegetation on slopes
- Energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels.

Maximize Rainfall Interception
- Cisterns
- Foundation planting

Increase Rainfall Infiltration
- Dry wells

4.4.2 Source Control BMPs

- Storm drain system stenciling and signage
- Outdoor material and trash storage area designed to reduce or control rainfall runoff
- Efficient irrigation system

4.4.3 Treatment Control BMPs

Biofilters
- Grass swale
- Grass strip
- Wetland vegetation swale
- Bioretention

Detention Basins
- Extended/dry detention basin with grass lining
- Extended/dry detention basin with impervious lining
- Catch basin screens

Infiltration Basins
- Infiltration basin
- Infiltration trench
- Porous asphalt
- Porous concrete
- Porous modular concrete block

Wet Ponds and Wetlands
- Wet pond (permanent pool)
- Constructed wetland

Drainage Inserts
- Oil/Water separator
- Catch basin insert
- Storm drain inserts

Filtration Systems
- Media filtration
- Sand filtration

Continuous Flow Deflection/ Separation Systems
- Swirl Concentrator

The City of Imperial Beach has worked with the Copermittees to develop a Model SUSMP for the entire region, collectively adopted by the Copermittees and submitted for approval and adoption by the Regional Board. The City of Imperial Beach will update its jurisdictional, or "local", SUSMP (Chapter 8.32 of the Municipal Code) to comply with the requirements in the Model SUSMP, identifying specific post-construction site design, source control and treatment control storm water BMPs that must be implemented on certain larger development projects, called "Priority Projects." The local SUSMP will be implemented within six months of the Regional Board's adoption of the Model SUSMP. Any additional changes to the City's development regulations, brochures or guidelines will be revised to incorporate the local SUSMP prior to this implementation deadline. The City has also created the user-friendly "*A* '*How To' Guide for SUSMP Compliance in the City of Imperial Beach"* (see Appendix C).

4.5. Treatment Control BMPs and Treatment Control BMP Maintenance

Treatment control BMPs selected for implementation at Priority Development Projects are required to have a high or medium pollutant removal efficiency rating, unless it can be exhibited that implementation of such treatment control BMPs is infeasible. For example, the State Board finds that "Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose or the BMPs would not be technically feasible, or the cost would be prohibitive."[5]

[5] SWRCB, 1993. Memorandum: Definition of Maximum Extent Practicable.

The City is to ensure that approved treatment control BMPs are correctly constructed and maintained. This is to ensure that the treatment control BMPs are effective in removing pollutants from urban runoff leaving Priority Development Projects. Treatment control BMP maintenance has been identified as a critical aspect of addressing urban runoff from new development and significant redevelopment. The Municipal Storm Water Permit directs the City to develop a tracking system for treatment control BMPs and their maintenance (section D.1.d.(6)). The City has developed a database in which it tracks the conditions required on development and redevelopment projects, including SUSMP projects, and will update it to include the following data for operation and maintenance:

- Treatment control BMP type
- Location of BMP, including watershed
- Date of construction
- Party responsible for maintenance
- Maintenance certifications or verifications
- Inspections and inspection findings
- Corrective actions

A copy of the database, Public Works Conditions Required on Development and Redevelopment Projects, Including SUSMP Projects, is included in Appendix C of this JURMP. It will be updated to include the additional data for inclusion in the FY 2007-08 Annual Report of the JURMP.

4.6. BMP Verification

The City will inspect the constructed LID, source control, and treatment control BMPs prior to occupancy of each Priority Development Project subject to SUSMP requirements to verify they have been constructed in compliance with all specifications, plans, permits, ordinances, and the Municipal Storm Water Permit. This initial BMP verification inspection does not constitute an operation and maintenance inspection as defined above in section 4.5.

4.7 Hydromodification – Limitations on Increases of Runoff Discharge Rates and Durations

Per the Municipal Storm Water Permit, each Copermittee shall collaborate with the other Copermittees to develop and implement a Hydromodification Management Plan (HMP) to manage increases in runoff discharge rates and durations from all Priority Development Projects, where such increased rates and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force. The HMP, once approved by the Regional Board, shall be incorporated into the local SUSMP and implemented by each

Copermittee so that post-project runoff discharge rates and durations shall not exceed estimated pre-project discharge rates and durations where the increased discharge rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the discharge rates and durations.

The City participated in the Copermittee Workgroup responsible for establishing interim Hydromodification Management Plan (HMP) criteria that was implemented in January 2008, and a HMP that will be submitted to the Regional Water Quality Control Board for review in January 2009. After the Regional Board approves the HMP, the City will have 180 days to incorporate the requirements into the Storm Water Standards.

4.8 Enforcement of Development Sites

The City is required to enforce its storm water ordinances for all Development Projects and at all development sites as necessary to maintain compliance with the Municipal Storm Water Permit. The ordinances include appropriate sanctions to achieve compliance including non-monetary penalties, fines, bonding requirements, and/or permit or occupancy denials for non-compliance.

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5.0 Construction Component

The goal of this section is to reduce construction site discharges of pollutants from the Municipal Separate Storm Sewer System (MS4) to the Maximum Extent Practicable (MEP), and to prevent construction site discharges from the MS4 from causing or contributing to a violation of water quality standards. This section is primarily applicable to the Community Development and Planning Department and discusses requirements that apply to the Development Planning Component, those areas and activities of the Jurisdictional Urban Runoff Management Program (JURMP) that encompass construction activities, and what compliance actions are proposed by the City of Imperial Beach.

5.1 Grading Ordinance Update and Approval Process

The City is required to review and has updated its grading ordinances and other applicable ordinances as necessary to achieve full compliance with the Municipal Storm Water Permit (section D.2, see Appendix M), including requirements for the implementation of all designated BMPs and other measures. All City departments responsible for inspecting construction projects are responsible for ensuring that adequate storm water BMPs are installed and maintained by the owner or contractor. The Public Works Department is the primary department responsible for inspecting grading permits, and the Building Division in the Community Development and Planning Department is primarily responsible for inspecting building permits. The Environmental Program Division of the Public Works Department assists these departments in implementing the storm water requirements of the Municipal Storm Water Permit.

Prior to approval and issuance of local construction and grading permits, the City will:

5.1.1 Reduce Pollutants to Maximum Extent Possible (MEP)

The City will require all individual proposed construction sites to implement designated BMPs and other measures so that pollutants discharged from the site will be reduced to the MEP and will not cause or contribute to a violation of water quality standards.

5.1.2 Require and Review Project Storm Water Management Plan

Prior to permit issuance, require and review the project proponent's storm water management plan to verify compliance with its grading ordinance, other ordinances, and the Municipal Storm Water Permit.

5.1.3 Verify Project Coverage Under General Construction Permit

Verify that project proponents subject to California's statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities, (hereinafter General Construction Permit), have existing coverage under the General Construction Permit.

5.2 Source Identification

The City is required to maintain and update monthly a watershed-based inventory of all construction sites within its jurisdiction, and may use an automated database system, such

as Geographical Information System (GIS), to identify the construction sites. The watershed-based inventory of all construction sites within the jurisdiction will be maintained and updated on a monthly basis within the Environmental Division of the Public Works Department.

5.3 Construction and Grading Requirements for BMP Implementation

The City has implemented several construction and grading requirements to ensure BMPs are properly incorporated into the construction/building permits. These measures will help to ensure that pollutant discharges are reduced to the maximum extent practicable and water quality objectives are not violated during the construction phase. They include a Storm Water Requirements Applicability Checklist for Building, Grading, and Encroachment Permits (Form 7-A), preliminary Storm Water Management Plan (Form 7-B), and the Grading Ordinance (see Appendix D). All projects that require construction BMPs shall not be approved or recommended for approval by staff (where projects require discretionary approvals) until all applicable requirements have been satisfactorily incorporated into the project plans, specifications, and permit conditions.

Each Copermittee shall designate a minimum set of BMPs and other measures to be implemented at construction sites. The designated minimum set of BMPs shall include, at a minimum:

5.3.1. General Site Management Requirements

a. Require project proponent to use pollution preventive measures before, during, and following construction and grading, emphasizing erosion prevention as the most important measure for keeping sediment on site during construction;

b. Require project proponent to develop and implement a plan to manage storm water and non-storm water discharges from the site at all times;

c. Require project proponent to minimize areas that are cleared and graded to only the portion of the site that is necessary for construction;

d. Require project proponent to minimize exposure time of disturbed soil areas;

e. Require project proponent to minimize grading during the wet season and coincide grading with seasonal dry weather periods to the extent feasible. When grading does occur during the wet season, require project proponent to implement additional BMPs for any rain events which may occur, as necessary for compliance with the Permit;

f. Require project proponent to temporarily stabilize and reseed disturbed soil areas including all slopes as rapidly as possible;

g. Require project proponent to preserve riparian buffers and corridors where feasible, and/or to permanently revegetate or landscape as early as feasible;

h. Require project proponent to maintain all BMPs until removed from the site;

i. Require project proponent to utilize sediment controls as a supplement to erosion prevention for keeping sediment on-site during construction, and never as the single or primary method; and

j. Require project proponent to retain, reduce, and properly manage all pollutant discharges on site to the MEP standard.

5.3.2. Erosion and Sediment Controls

a. Erosion prevention, to be used as the most important measure for keeping sediment on site during construction, but never as the single method;

b. Sediment controls, to be used as a supplement to erosion prevention for keeping sediment on-site during construction;

c. Slope stabilization on all inactive slopes during the rainy season and during rain events in the dry season;

d. Slope stabilization on all active slopes during rain events regardless of the season; and

e. Permanent revegetation or landscaping as early as feasible.

5.3.3. Implementation of Advanced Treatment for Sediment

Construction sites that are determined by the City to be an exceptional threat to water quality are required to implement advanced treatment for sediment. In evaluating the threat to water quality, the following factors shall be considered:

a. Soil erosion potential or soil type;
b. The site's slopes;
c. Project size and type;
d. Sensitivity of receiving water bodies;
e. Proximity to receiving water bodies;
f. Non-storm water discharges;
g. Ineffectiveness of other BMPs; and
h. Any other relevant factors.

5.3.4. Implementation of Designated Minimum BMPs

The City shall implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with the Municipal Storm Water Permit at each construction site within its jurisdiction year-round. However, BMP implementation requirements can vary based on wet and dry seasons. Dry season BMP implementation must plan for and address rain events that may occur during the dry season.

5.3.5. Implementation of Additional Controls for CWA Section 303(d) Waters

The City shall implement, or require implementation of, additional controls for construction sites tributary to CWA section 303(d) water body segments impaired for sediment as necessary to comply with the Municipal Storm Water Permit. The City shall implement, or

require implementation of, additional controls for construction sites within or adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in section Attachment C of the Municipal Storm Water Permit).

5.4 Inspection of Construction Sites for Verification of BMPs

The City shall conduct construction site inspections for verification of compliance with its local ordinances for grading and storm water, permits for construction and grading, for compliance with the Municipal Storm Water Permit (section D.2.d (7)), and for implementation of designated BMPs.

5.4.1. Wet Season Inspection – High Priority Sites

During the wet season, the City shall inspect at least biweekly (every two weeks), all construction sites within its jurisdiction meeting the following criteria:

a. All sites 50 acres or more in size and grading will occur during the wet season;

b. All sites 1 acre or more, and tributary to a CWA section 303(d) water body segment impaired for sediment or within or directly adjacent to or discharging directly to a receiving water within an ESA; and

c. Other sites determined by the Copermittees or the Regional Board as a significant threat to water quality. In evaluating threat to water quality, the following factors shall be considered:
   i. soil erosion potential;
   ii. site slope;
   iii. project size and type;
   iv. sensitivity of receiving water bodies;
   v. proximity to receiving water bodies;
   vi. non-storm water discharges;
   vii. past record of non-compliance by the operators of the construction site; and
   viii. any other relevant factors.

The City has used these criteria to determine that those construction sites described above are considered to be high priority inspection sites within the jurisdiction of the City of Imperial Beach.

5.4.2. Wet Season Inspection – Medium Priority Sites

During the wet season, the City shall inspect at least monthly, all construction sites with one acre or more of soil disturbance not meeting the criteria specified above. The City has determined these sites that do not meet the criteria for High Priority Sites will be defined as medium priority sites for inspection purposes within the jurisdiction of the City of Imperial Beach.

5.4.3. Wet Season Inspection – Low Priority Sites

During the wet season, the City shall inspect, as needed, construction sites less than 1 acre in size. These sites are defined by the City to be low priority sites for inspection purposes within the jurisdiction of the City of Imperial Beach.

5.4.4. Dry Season Inspection – All Construction Sites

The City shall inspect all construction sites as needed during the dry season.

5.4.5. Inspection Frequency Tracking and Verification

Based upon site inspection findings, the City shall implement all follow-up actions (i.e., re-inspection, enforcement) necessary to comply with the Municipal Storm Water Permit.

5.4.6. Construction Site Inspection Procedures

The City of Imperial Beach has developed an inspection program to ensure compliance with its applicable Ordinances, Permits (building, grading, storm water etc.). Both public and private construction projects shall be inspected by municipal inspectors or other contracted staff with enforcement authority to verify that the construction activities are being performed in accordance with the project plans, building and grading permits, and applicable codes, regulations and ordinances. Inspections of construction sites shall include, but not be limited to the following actions:

a. Verification of project coverage under the General Construction Permit (Notice of Intent (NOI) and/or Waste Discharge Identification Number) during initial inspections;
b. Assessment of project compliance with the City's ordinances and permits related to urban runoff, including the implementation and maintenance of designated minimum BMP requirements;
c. Assessment of BMP effectiveness;
d. Visual observation of project for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff;
e. Education and outreach on storm water pollution prevention, as needed; and
f. Creation of a written or electronic inspection report.

5.4.7. Tracking Number of Inspections for Inspection Frequency

The City shall track the number of inspections for the inventoried construction sites throughout the reporting period to verify that the sites are inspected at the minimum frequencies required.

The list of construction sites in the City of Imperial Beach shown in Appendix D will be maintained current and will be validated annually prior to the start of the rainy season (October 1). The validated inventory will be included in the Annual Report.

5.5 Enforcement of Construction Sites

The City has developed and implemented an escalating enforcement process that achieves prompt corrective actions at construction sites for violations of the City's water quality protection permit requirements and ordinances. This enforcement process includes authorizing the City's construction site inspectors to take immediate enforcement actions when appropriate and necessary. The enforcement process includes appropriate sanctions such as stop work orders, non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

City of Imperial Beach inspectors will conduct follow-up inspections to determine if corrective actions have been taken in accordance with the City of Imperial Beach's ordinances and minimum BMP requirements. The City of Imperial Beach's Grading Ordinance is included in Appendix D.

5.5.1. Significant and/or Immediate Threat to Water Quality Observed

If a significant and/or immediate threat to water quality is observed by a City of Imperial Beach inspector, action will be taken to require the facility owner and/or operator to immediately cease the discharge. A Code Compliance Officer or, if unavailable, a County Sheriff will be contacted. The threat to water quality will be assessed by inspectors for runoff from a construction site that will not be reasonably controlled by the protective measures in place or if a failure of BMPs is resulting in the release of pollutants to a degree that may be degrading water quality.

5.5.2. Enforcement Steps

The typical progressive enforcement steps that each City of Imperial Beach inspector will apply to the inspection enforcement program are as follows:

(a) Written warnings;
(b) Notice of Violation (NOV);
(c) Stop Work Order
(d) Additional penalties and fines; and
(e) Civil and/or criminal court actions.

A discussion of these measures is provided below. These measures are just some of the tools the City may use to enforce its permit and ordinance requirements.

Written Warning – The City of Imperial Beach inspector issues a written warning when proof of discharge and a responsible party can be identified. Discharges that are less severe and smaller in nature generally receive a written warning. The City of Imperial Beach inspector will generally include educational information on the types of BMPs that should be implemented thereafter to avoid future violations.

Notice of Violation (NOV) – A Code Compliance Officer will be contacted when a proof of discharge and a responsible party can be identified and the discharge is more severe. An NOV states that an illegal discharge has occurred (or is occurring) and establishes an

abatement deadline. The Code Compliance Officer will generally include educational information BMPs that should be implemented thereafter to avoid future violations.

Stop Work Order / Notice of Abatement – Whenever any work is being done contrary to the provisions of the City's Storm Water Ordinance, or other laws implemented through enforcement of the Ordinance, an Authorized Enforcement Official may order the work stopped by notice in writing served on any person engaged in the doing or causing such work to be done, and any such person shall immediately stop such work until authorized by the Authorized Enforcement Official to proceed with the work.

Additional Penalties or Fines – After reviewing all the case information, the Code Compliance Official determines the appropriate civil penalty and corrective measures and issues a Notice and Order, which allows the violator 14 days to comply. The City may assess civil penalties up to $10,000 each day the violation continues, may recover the costs of enforcement, and may establish other appropriate corrective measures. In the event the violator does not comply with the Notice and Order within the 14-day time period, an appeal hearing is scheduled, after which the Hearing Officer issues an Administrative Enforcement Order. The violator may appeal the Hearing Officer's decision by filing a writ requesting a hearing before the Superior Court.

City Attorney Referral (civil or criminal prosecution) – As a final resort, the City of Imperial Beach may use civil and or criminal court actions under the State Porter Cologne Water Quality Act or the Federal Clean Water Act, which may result in significant fines levied upon the noncompliant responsible parties.

5.6 Reporting of Non-Compliant Sites

In addition to the notification requirements in section 5(e) of Attachment B of the Municipal Storm Water Permit (see Appendix N of this JURMP), the City shall notify the Regional Board when the Copermittee issues a stop work order or other high level enforcement to a construction site in their jurisdiction as a result of storm water violations.

The City of Imperial Beach will use the following criteria to determine if a noncompliance citation administered for programmatic or monitoring will be reported to the Regional Board. The intent is to discriminate between noncompliance that are strictly ministerial from those posing a valid threat to human health or the environment in relation to storm water quality and receiving water quality as defined by the federal antidegradation policy. This evaluation covers the likelihood of unreasonable degradation of receiving water quality and complies with SWRCB Resolution No. 68-16 and the federal antidegradation policy described in 40 CFR 131.12. The City of Imperial Beach will apply other regulations as appropriate for impacts to human health and the environment that would not affect storm water or receiving water.

The emphasis of the criterion is to identify the application the Municipal Storm Water Permit or other applicable environmental regulations to receiving water degradation. If the noncompliance of the project would cause a potential or an actual degradation of receiving waters, the City will report to the Regional Board.

Verbal notification by telephone to the Regional Board within 24 hours of the discovery of the non-compliant construction site will be conducted and documented in a telephone log. Written follow-up notification within 5 days of the discovery of the noncompliant site will be sent via facsimile to the Regional Board at (858) 571-6972 and certified mail. The City of Imperial Beach will develop an inventory based on complaint investigations and inspections of construction sites.

6.0 Existing Development Component – Municipal

The goal of this section is to prevent municipal discharges from the Municipal Separate Storm Sewer System (MS4) from causing or contributing to a violation of water quality standards. This section discusses requirements that apply to the Existing Development Component of the Jurisdictional Urban Runoff Management Program (JURMP) that encompass municipal development, describes the City's plan for managing urban runoff and storm water discharges from municipal facilities and related activities, and what compliance actions are proposed by the City of Imperial Beach as required by the Municipal Storm Water Permit section D.3.a (see Appendix M). It is primarily applicable to the Department of Public Works and its efforts to reduce municipal discharges of pollutants from the MS4 to the maximum extent practicable (MEP). The Environmental Program Division of the Public Works Department ensures the storm water requirements of the Municipal Storm Water Permit are implemented, and files an annual report of this JURMP with the Regional Board.

6.1 Source Identification

The City maintains and annually updates a prioritized inventory of municipal sites and activities with the potential to generate pollutants in runoff. The *Municipal Facility and Activity Source Inventory* lists all known municipal facilities and activities conducted on site in Imperial Beach that have the potential to contribute a significant pollutant load to the MS4 (see Appendix E). It identifies materials used, wastes generated, facility size, pollutant discharge potential, proximity to receiving water bodies, and whether the area/activity is tributary to a CWA section 303(d) water body segment and generates pollutants for which the water body segment is impaired is also identified. The inventory is managed in a Microsoft Access database, which provides connectivity with the City's GIS, and contains all of the information required by the Municipal Storm Water Permit for each facility and activity. An annual update will be included in each JURMP Annual Report submitted to the RWQCB.

Municipal facilities in Imperial Beach include office buildings, a corporate yard, a fire station, parking facilities, parks and recreational areas, streets (including street medians and greenways), alleys, the storm drain system (e.g., catch basins, drop inlets, underground pipes, brow ditch channels, and pump stations), and the sanitary sewer system (e.g., pipes, pump stations, and associated infrastructure). Municipal activities with the potential to contribute pollutants but not directly associated with the above facilities include graffiti removal, special event management, and employee training.

6.1.1 Roads, Streets, Highways, and Parking Facilities

The City has one corporate yard including maintenance and storage yards for materials, waste, equipment and vehicles, seven parking lots, and approximately 100 miles of curbed streets and uncurbed roads.

6.1.2 Other Important Municipal Areas and Activities

The City does not have any Flood Management Projects or Flood Control Devices, nor does it have any landfills, publicly owned treatment works, solid waste transfer facilities, land application sites, household hazardous waste collection facilities or municipal airfields.

The City maintains a sanitary sewage collection system including pipes, eleven pump stations, and the associated infrastructure.

Areas and activities tributary to a CWA section 303(d) impaired water body segment, where an area or activity generates pollutants for which the water body segment is impaired, or adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas, are shown on the map included in Appendix H. Environmentally sensitive areas include the Tijuana River Estuary, Tijuana River, and the Pacific Ocean, Tijuana. Both the Tijuana River and the Tijuana River Estuary, located in the Tijuana River Watershed, are also listed as CWA section 303(d) impaired water bodies.

Special event venues following special events (festivals, sporting events, etc.) include the annual Sandcastle event, and other special events held throughout the year. All special events are coordinated with the Environmental Program Division for storm water and recycling BMPs.

6.1.3 Municipal Separate Storm Sewer System (MS4)

The City's municipal separate storm sewer system (MS4) is made up of the facilities/components described below. Inspection and maintenance schedules are intended to verify proper operation of all municipal structural treatment controls and to reduce pollutant discharges into and from MS4s and related drainage structures.

Underground Piping – There are approximately five miles of underground piping within the City of Imperial Beach MS4. The City endeavors to clean 100% of the accessible portions[1] of the underground piping system between May 1st and September 30th each year. At a minimum, cleaning is to be completed by November 15th. Cleaning is carried out by Sewer Division staff using a Vactor truck. The amount of debris removed is estimated in pounds, classified by type, and documented on the *Inspection Form 2-C City of Imperial Beach Storm Drain Cleaning and Maintenance* (see Appendix E for

[1] Due to the low hydraulic gradient in various flat-lying portions of the City, there is often difficulty in reaching certain portions of the underground system. The use of weirs or Tidalflex devices to prevent infiltration of tidal water has not been successful in the past. The slight resistance resulted in flooding upland.

Form 2-C) following each cleaning event. Disposal of collected solids is at an approved dumpsite. Use of a camera to video underground lines will be considered where chronic problems are encountered.

Catch Basins / Inlets – There are approximately 117 catch basins and inlets that are part of the City of Imperial Beach MS4. The Street Maintenance Division annually inspects and, if necessary, cleans every catch basin/inlet throughout the City. Cleaning is performed when, upon inspection, any amount of trash or debris is observed. If immediate cleaning is not possible (i.e., through use of a trash picker), then follow-up cleaning is scheduled with City staff authorized to operate the Vactor truck. Catch basins and inlets known to collect high volumes of trash are prioritized and inspected between May 1st and September 30th. The amount of debris removed is estimated in pounds and documented on the *City of Imperial Beach Storm Drain Cleaning and Maintenance Form* (Form 2-C) following each cleaning event. Disposal of collected solids is at an approved dumpsite.

Open Drainage Facilities – There are very few open drainage channels within the City of Imperial Beach MS4. All of the channels listed below are cleaned by hand (either by the City or volunteers) between May 1st and September 30th each year.

- Grove Avenue to Holly Avenue Channel
- 9th Street to Grove Avenue Channel
- Cypress Avenue to Navy Communication Station
- Bonito Avenue to Palm Avenue Channel
- South Seacoast Drive Outfalls at Cortez Avenue, Descanso Avenue, and southern end of Seacoast Drive

6.1.4 Parks and Recreation Facilities

Parks/Landscaping/Civic Greenways/Beach Access/Athletic Fields

The City of Imperial Beach Park Maintenance Division and its subcontractors are responsible for maintaining, preserving, and enhancing over 30 acres of park facilities, athletic fields, beach accesses, and landscapes at various civic facilities. This includes the maintenance of five community parks. In addition, the City of Imperial Beach has a dedicated Tidelands crew that picks up trash and debris and conducts landscaping duties 7 days a week on the beach and one block inland of the beach.

Rights-of-Way

The City of Imperial Beach maintains trees in the City rights-of-way. The maintenance consists of pruning, planting, removal, and root pruning. The division also inspects tree removal requests from the public.

Medians

The City of Imperial Beach Park Maintenance Division maintains landscaped medians. Maintenance includes litter removal, weed abatement, pruning, planting, pesticide application, and irrigation repair/adjustment.

Beach & Tidelands Maintenance

The City has a Tidelands Maintenance Division, funded by the Port of San Diego, whose mission it is to keep the beachfront area clean and free of trash and other debris. A crew of employees picks up trash, sand, seaweed, and other debris from the beach and one block inland of the beach seven days a week. This is in addition to a contract with Partners With Industry (PWI), which employs disabled adults to pick up trash in the tidelands area. Prior to any forecasted storm event, Tidelands employees are instructed to concentrate their efforts on removing any accumulated trash and debris from the storm gutters in the vicinity of the Tijuana Estuary and the Pacific Ocean along Seacoast Drive. The City also maintains a contract with the Donovan Correctional Facility, a state prison which provides supervised labor to the City for various needs, including landscaping, trash cleanup, etc.

6.2 Implementation of Best Management Practices (BMPs)

6.2.1 Pollution Prevention Methods

The City is responsible for designating a set of minimum BMPs for all municipal areas, activities, and special events. The City's *Urban Runoff Management and Discharge Control Ordinance* (see Appendix B) mandates implementation of BMPs by all municipal sources. The following ordinance sections apply:

- Chapter 8.30.070, BMP Requirements and General Requirements of All Dischargers
- Chapter 8.30.120, Additional BMP Requirements for Municipal Activities and Facilities

6.2.2 Minimum Best Management Practices (BMPs) Designated for Municipal Areas and Activities

Specific minimum BMP requirements, including pollution prevention methods, are described in Appendix E. Some requirements are applicable to all municipal facilities and activities; others apply only to certain facility categories or pollutant-generating activities. Minimum BMP requirements are reviewed and updated as necessary. In the event that the City identifies a facility type or pollutant-generating activity for which minimum BMPs have not been specified, additional BMP requirements will be established in a timely manner.

6.2.3 Implementation of Designated Minimum BMPs

Since 2001, the City has added several structural treatment control BMPs to its MS4 at strategic locations to improve the quality of urban runoff and storm water discharges. They include:

Vortechs Storm Water Interceptor – This treatment control BMP located underground at the intersection of 10th Street and Imperial Beach Boulevard was installed in December 2002. The system is designed to remove sediment, floating hydrocarbons, and debris from storm water during all levels of flow. The City inspects the 10th Street Interceptor at least quarterly. Accumulated debris is removed as necessary to ensure proper functioning of the system.

Storm Drain Inlet Filters – The City has voluntarily installed storm drain inlet filters at the municipal locations listed below. Each filter is designed to capture sediment, hydrocarbons, litter, and foliage while allowing nuisance water to flow through. The City contracts with a maintenance company to regularly service the devices and to ensure that they continue operating at peak efficiency. Maintenance involves quarterly cleaning and removal of accumulated debris, as well as replacement of filtration booms as necessary.

Storm Drain Inlet Filter Locations

- 495 10th Street (Rear of Public Works Yard)
- 495 10th Street (Public Works Parking Lot)
- 825 Imperial Beach Boulevard (City Hall Parking Lot)
- 825 Imperial Beach Boulevard (Fire Station Parking Lot)
- 8th Street at Marina Vista Center
- Seacoast Drive and Palm Avenue Parking Lot
- 740-790 Donax Avenue (behind commercial complex)
- Hemlock Avenue and 15th Street (City easement)
- 839 10th Street (Alley b/w Elm and Donax)
- 9th Street and Palm Avenue (curb inlet on southwest corner)
- N-S alley between Delaware / 8th Street (north of Donax)
- E-W alley between 8th / 9th Street (north of Donax)

6.2.4 Evaluate Existing Flood Control Devices

The City is required to evaluate existing flood control devices to determine if retrofitting the device to provide additional pollutant removal from urban runoff is feasible. The City completed construction of a low-flow urban runoff diversion system at the corner of Date Avenue and Seacoast Drive in September 2004. This project was financed in part through Proposition 13 Clean Beaches Initiative (CBI) grant funds. It is the second of three CBI projects intended to address elevated levels of indicator bacteria at local beaches. The diverter is designed to automatically re-direct all flows up to 0.5 cubic feet per second (cfs) to the sanitary sewer system, in which case the pollutants would be removed at the Point Loma Wastewater Treatment Facility. The City inspects the Date

Avenue diverter as necessary to ensure proper functioning. A second low-flow diversion project is scheduled for the Palm Avenue street end at Seacoast Drive, with construction expected to be complete in 2008. This diverter will be designed in a similar manner as above, redirecting the low flow urban runoff to the sanitary sewer system. The City will inspect the diverter as necessary to ensure proper functioning.

6.3 Operation and Maintenance of Municipal Separate Storm Sewer System (MS4) and Structural Controls

The City is directed to implement a schedule of inspection and maintenance activities to verify proper operation of all municipal structural treatment controls designed to reduce pollutant discharges to or from its MS4s and related drainage structures. Per the Municipal Storm Water Permit, the maintenance activities shall, at a minimum, include:

6.3.1 MS4 Facilities that Receive or Collect High Volumes of Trash and Debris

Inspection is required by the Municipal Storm Water Permit at least once a year between May 1 and September 30 of each year for all MS4 facilities that receive or collect high volumes of trash and debris. All other MS4 facilities shall be inspected at least annually throughout the year.

There are currently 33 municipal facilities within the jurisdiction, the following 18 of which are designated high priority:

- 1 Corporate Yard
- 7 Parking Lots
- 3 Parks
- 1 Administration Building
- 1 Pier
- 4 Types of MS4 Structures
    - Catch Basins (Approximately 100)
    - Underground Pipes (Approximately 5 miles)
    - Brow Ditch Channels (Approximately 4,000 feet)
    - 1 Storm Water Pump Station
- All City Streets

Of the remaining 15 facilities, eight are ranked as medium priorities and seven as low priorities. An updated inventory is included in Appendix E.

6.3.2 MS4 Facilities Not Inspected Annually

Following two years of inspections, any MS4 facility that requires inspection and cleaning less than annually may be inspected as needed, but not less that every other year.

6.3.3 Accumulated Trash and Debris

Any catch basin or storm drain inlet that has accumulated trash and debris greater than 33% of design capacity shall be cleaned in a timely manner. Any MS4 facility that is designed to be self-cleaning shall be cleaned of any accumulated trash and debris immediately. Open channels shall be cleaned of observed anthropogenic litter in a timely manner.

6.3.4 Record Keeping

The City maintains records of the maintenance and cleaning activities including the overall quantity of waste removed. These activities are reported in the annual report of the JURMP. A copy of the *Inspection Form 2-C City of Imperial Beach Storm Drain Cleaning and Maintenance* is located in Appendix E.

6.3.5 Disposal of Waste

Waste removed from the MS4 is properly disposed of pursuant to applicable laws.

6.3.6 Measures to Eliminate Waste Discharges

Proper measures are taken by City staff to eliminate waste discharges during the MS4 maintenance and cleaning activities.

6.4 Management of Pesticides, Herbicides, and Fertilizers

The Municipal Storm Water Permit requires the City to implement BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from municipal areas and activities to MS4s. Such BMPs shall include, at a minimum: (1) educational activities, permits, certifications and other measures for municipal applicators and distributors; (2) integrated pest management measures that rely on non-chemical solutions; (3) the use of native vegetation; (4) schedules for irrigation and chemical application; and (5) the collection and proper disposal of unused pesticides, herbicides, and fertilizers.

The City of Imperial Beach had a qualified subcontractor prepare a Weed Abatement Manual for the City in June 1996. The City limits the application of pesticides and herbicides. The City has a qualified employee that applies the material under the direction of a pest control advisor. The City will continue to keep records of these applications.

The following BMPs for the management of pesticides, herbicides, and fertilizers are for use by the listed municipal areas:

Municipal Best Management Practices (BMPs) for Management of Pesticides, Herbicides, and Fertilizers		
Municipal Area	**BMPs currently implemented for handling, applying, storing, and disposing of pesticides, herbicides, and fertilizers**	**BMPs to be considered to reduce or minimize pesticides, herbicides, and fertilizers from entering the storm drain system**
Parks Recreation Areas Medians/Open Spaces Greenways/Open Spaces Civic Areas Athletic Fields Beach Access Trees Landscaping	Apply pesticides and herbicides in accordance with the California Department of Pesticides requirements as applicable, and the City IPMP.	Irrigation Time Check.
	Irrigation System Check for overflows into storm drain and from treated areas into storm drain via streets and gutters (see Caltrans Municipal, E3b - Appendix C).	Use of nonsynthetic fertilizers (Alternative Safer Products).
	Purchase pesticides in small (less than 5-gallon) amounts.	Replace with native vegetation when practical.
	Use manufacturer's label requirements.	Use insecticidal soaps or horticultural oils if possible.
	Dispose of organic materials in designated containers as solid waste.	
	Mix the right amount of chemical at the right strength to use all of the solution.	
	Dedicate application equipment to minimize the rinsing of containers.	
	Manually remove diseased and dying plants, branches, and leaves.	
	Store fertilizers separate from pesticides and herbicides. Fertilizers are oxidizers that could react with other chemicals.	
	Apply chemicals when public exposure is minimized.	
	Train Municipal, Public Works, and Procurement staff on storm water issues.	

6.4.1 Educational Activities, Permits, Certifications and Other Measures for Municipal Applicators and Distributors

Education of Public Works staff and subcontractors is the first step to reducing or eliminating the use of pesticides, herbicides, and fertilizers. The training program for Municipal, Procurement, and the Public Works Department staff includes how the following have the potential to affect storm water quality: identifying and defining the chemicals currently used by the City of Imperial Beach, proper handling, appropriate use/application by staff and subcontractors, storage, disposal, irrigation, and nonsynthetic alternatives.

Staff or subcontractors applying pesticides are either certified by the California Department of Food and Agriculture, or are under the direct supervision on-site of a certified pesticide applicator. Protocols for handling, mixing, storing, and disposal of used/unused pesticides/herbicides/fertilizers will be in accordance with the California Environmental Protection Agency Department of Pesticide Regulation. A copy of the regulations will be kept on-site where these chemicals are stored.

6.4.2 Integrated Pest Management Measures that Rely on Nonchemical Applications

The City has adopted and implemented an Integrated Pest Management Plan (IPMP). Some pest problems can be effectively eliminated or controlled by handpicking, pruning, or spraying with water. Many pest problems can be reduced or eliminated by removing a few affected leaves or plant parts. Safer alternatives to traditional chemical pesticides include insecticidal soaps, horticultural oils, and products containing a bacterium called *Bacillus thuringiensis*.

6.4.3 Use of Native Vegetation

The use of native vegetation enhances the natural environment. The City has used Native Plantings adjacent to Sensitive areas of the City (Otay River and Tijuana Estuary). The City will continue to look for appropriate opportunities to extend native plant use on City grounds.

6.4.4 Schedules for Irrigation and Chemical Application

Irrigation is generally scheduled between the hours of 10:00 p.m. and 6:00 a.m. This minimizes misting and evaporation for more effective irrigation. It also minimizes the chance of public contact. Watering twice within 60 minutes at 5 to 7 minutes each time is more effective in saturating deeply into soils and minimizes runoff due to soil densities. Thinning of overgrowth on civic greenways, athletic fields, and parks increases the effectiveness of irrigation, allowing water to seep into soils rather than run off from thatched grasses.

6.4.5 Collection and Proper Disposal (Management of Products)

When chemical applications are necessary and other non-synthetic forms do not produce adequate results, a protocol for consistent application of pesticides, herbicides, and fertilizers will be used. Basic standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers is provided in the attached Pesticide, Herbicide, Fertilizer Protocol. A routine application pertains to scheduled times of application to keep pests from returning or to maintain green lawned areas. A non-routine application is a nonscheduled application due to an infestation of atypical pests; vandalism of greenways; or diseased trees, shrubs, or grasses. Unused product follows the California Environmental Protection Agency Department of Pesticide Regulations.

6.5 Sweeping of Municipal Areas

The City of Imperial Beach has established a cleaning schedule for public streets with curbs and/or berms within its jurisdiction. The City contracts street sweeping operations with its franchise waste hauler. Employees conducting street sweeping in Imperial Beach are annually trained in collection, management, disposal of swept materials, and cleaning of the sweeping equipment. There are approximately 100 miles of curbed streets and uncurbed roads that are functionally part of the City of Imperial Beach MS4. Street sweeping schedules are described in detail in Appendix E. Streets are swept, at a minimum, in accordance with the following schedule:

6.5.1 High Trash Areas

The Municipal Storm Water Permit states that roads, streets, highways, and parking facilities identified as consistently generating the highest volumes of trash and/or debris shall be swept at least two times per month. All commercial areas within the City, including open striped and raised curb medians, are swept weekly (19.2 curb miles includes Ocean Lane). This also includes the parking areas of the Civic Center, the Elkwood Parking Lot, the Seacoast and Palm Parking Lot, and the Dunes Park parking lot.

6.5.2 Moderate Trash Areas

Roads, streets, highways, and parking facilities identified as consistently generating moderate volumes of trash and/or debris are directed in the Municipal Storm Water Permit to be swept at least monthly. The beachfront area (posted) is swept twice per month with sweeping conducted on alternate sides, alternate Mondays between 7:00 a.m. and 11:00 a.m. (99.6 curb miles).

6.5.3 Low Trash Areas

Roads, streets, highways, and parking facilities identified as generating low volumes of trash and/or debris shall be swept as necessary, but no less than once per year. The City's non-beachfront residential areas, including open striped and raised medians, are swept monthly (80.5 curb miles). Additionally, all paved (concrete or asphalt) alleys are swept monthly (18.6 curb miles).

The City's contract stipulates use of a late-model vacuum sweeper. The contractor is required to estimate the volume (in cubic yards) of debris removed as a result of sweeping activities. To increase the efficiency of the street sweeping program, the street sweeping map and schedule (as shown in Appendix E) are available on the City's website and are published at least annually in the City's newsletter to inform residents and visitors to keep the streets clear of parked cars during scheduled cleanings.

6.6 Preventive Maintenance of Sanitary and Storm Sewer Systems

6.6.1 Sewer System Maintenance and Spill Prevention

The City conducts routine maintenance on its sanitary sewer system to prevent spills and discharges to the MS4. Most sanitary sewer pipelines are cleaned at least annually, and known problem areas are cleaned more frequently throughout the year. Twelve sewage pump stations are monitored daily. All pump stations alarmed to reduce the likelihood of an undetected system failure and subsequent sewer discharge to the environment.

In the event of a sewer spill, City staff follows procedures laid out in its Sanitary Sewer Overflow Response Plan. Response procedures include notifications and response requests, response activities, investigations, clean-up activities, reporting, record keeping, and education/enforcement. The Public Works Sewer Division is notified of any spills from private laterals and septic systems. Calls to report spills during non-business hours are routed to the Sheriff Dispatch number, and the on-call sewer personnel are notified to resolve the situation.

The City will continue to be proactive in identifying potential sewer maintenance problems and take corrective actions before an overflow occurs. Identified trouble spots are on a more frequent inspection and cleaning schedule. As new areas are identified, the list of trouble spots is modified accordingly. The City is currently in the process of conducting a sewer capacity study. In addition, a Sewer System Management Plan is being developed, and one of the components is a Chain of Communication, which will be disseminated to the public for reporting of spills. It is anticipated this educational effort will allow the public to correctly report spills. During this reporting period, a spill occurred in which the public did not place the call to the correct number, which delayed the response effort and resulted in only 22% of the spill being recovered.

Lateral sewer overflows are addressed by educating homeowners and business owners about the causes of overflows and corrective actions for dealing with blockages or partial blockages.

6.6.2 MS4 Maintenance and Cleaning

Routine maintenance and cleaning keeps accumulated debris in the MS4 from reaching and impacting receiving waters. It also ensures that the storm water conveyance system is functioning properly for the purposes of flood control. The City's Public Works

Sewer Division has an annual goal of cleaning 100% of the MS4 between May 1 and September 30, prior to the rainy season.

Following each cleaning event, Sewer Division staff completes Inspection Form 2-C, City of Imperial Beach Storm Drain Cleaning & Maintenance, which documents the condition of the MS4, and provides estimates of the quantity and type of material removed.

6.7 Inspection of Municipal Facilities and Activities

Inspection of municipal facilities and activities helps ensure compliance with BMP requirements as well as storm water and non-storm water discharge prohibitions. It also provides an ongoing communication channel between inspectors and municipal staff with regard to City policies.

High priority municipal areas and activities, and those the City has determined to be contributors of significant a pollutant load to the MS4, will be inspected annually. These areas and activities have been identified in this chapter. Other municipal areas and activities not identified as high priority will be inspected as needed. Inspections will include a review of activities and practices, review and inspection of site BMPs, and a review of the overall effectiveness of the BMPs. Staff will conduct follow-up inspections whenever non-compliance is observed.

6.8 Enforcement of Municipal Facilities and Activities including Special Event Management

The Municipal Storm Water Permit requires the City to require and implement additional controls for special events that are expected to generate significant trash and litter. Controls to consider shall include the use of temporary screens on catch basins and storm drain inlets; temporary fencing to prevent windblown trash from entering adjacent water bodies and MS4 channels; proper management of trash and litter; catch basin cleaning following the special event and prior to an anticipated rain event; street sweeping of roads, streets, highways and parking facilities following the special event; and other equivalent controls.

City personnel staff the Sandcastle annual special event venue held in Imperial Beach during the event, including available resources to respond to any environmental issues. Other events held on the weekends are not staffed due to the limited availability of staff and resources.

7.0 Existing Development Component – Industrial and Commercial

The goal of this section is to reduce industrial and commercial discharges of pollutants to the Municipal Separate Storm Sewer System (MS4) and from those discharges causing or contributing to a violation of water quality standards to the maximum extent practicable (MEP). This section discusses requirements that apply to the Existing Development Component of the Jurisdictional Urban Runoff Management Program (JURMP) that encompass industrial[1] and commercial development, describes the City's plan for managing urban runoff and storm water discharges from industrial and commercial facilities and related activities, and what compliance actions are proposed by the City of Imperial Beach as required by the Municipal Storm Water Permit section D.3.b (see Appendix M). The Environmental Program Division of the Public Works Department oversees compliance with urban runoff regulations at industrial and commercial businesses within the City, and files an annual report of this JURMP with the Regional Board.

Businesses have the potential to contribute a wide variety of pollutants to the MS4 depending on the type of operation and the specific activities conducted on site. Commercial business activity in Imperial Beach is primarily concentrated in three areas: the Palm Avenue corridor (Highway 75), along Seacoast Drive between Palm Avenue and Imperial Beach Boulevard, and along 13th Street between Palm Avenue and Imperial Beach Boulevard. The most common business types are small office buildings, eating and drinking establishments, food markets, automotive repair shops, and gas stations. Overall, commercial land uses account for approximately 3% of total land use in Imperial Beach.[2]

7.1 Source Identification

The City is required to annually update a watershed-based inventory of all industrial and commercial sites/sources within its jurisdiction (regardless of ownership) that could contribute a significant pollutant load to the MS4. The inventory shall include the following minimum information for each industrial and commercial site/source: name; address; pollutants potentially generated by the site/source (and identification of whether the site/source is tributary to a Clean Water Act section 303(d) water body segment and generates pollutants for which the water body segment is impaired); and a narrative description including SIC codes which best reflects the principal products or services provided by each facility. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended.

[1] Industrial activity in Imperial Beach is extremely limited. In fact, there is only one business operating within City limits that can be reasonably classified as "industrial". TNT Surfboards is a surfboard manufacturing company that performs all of its operations indoors, and is many ways quite similar in operation to a commercial facility. The term "commercial" is therefore used for the remainder of this section to describe all business activity in Imperial Beach.
[2] www.sandag.org

The *Inventory of Industrial and Commercial Sites* (see Appendix F) lists all known industrial and commercial sources in the City of Imperial Beach that have the potential to contribute a significant pollutant load to the MS4. The Municipal Storm Water Permit Section D.3.b.1 (see Appendix M) mandates that the inventory include, at a minimum: 1) all businesses falling within the categories identified in Table 7-1 below, 2) businesses that are tributary to a Clean Water Act 303(d)-listed water body and generate pollutants for which that water body is impaired, and 3) businesses within 200 feet of, or discharging directly to, an environmentally sensitive area (ESA). The City inventories other businesses as it deems appropriate.

The *Inventory of Industrial and Commercial Sites* is compiled from a variety of informational sources. Most businesses operating out of fixed facilities are identified via internal City databases (i.e., business license and sewage connection billing databases) or as a result of staff observations in the field. Mobile businesses are identified to the extent possible through database searches, but field observations, Yellow Pages searches, and other regional sources of information play an important role as well. Imperial Beach manages its *Inventory of Industrial and Commercial Sites* in a Microsoft Access database, which provides connectivity with the City's GIS, and contains all of the information displayed in Table 7-2 for each facility. An annual update is included in each JURMP Annual Report submitted to the Regional Board.

Table 7-1. Business Categories to Inventory

Fixed Facility Categories	**Fixed Facility Categories**
Industrial facilities, as defined at 40 CFR 122.26(b)(14)	Cemeteries
Operating and closed landfills	Marinas
Facilities subject to SARA Title III	Animal facilities
Hazardous waste treatment, disposal, storage, recovery facilities	Retail or wholesale fueling
Auto repair, maintenance, fueling, or cleaning	**Mobile Business Categories**
Airplane repair, maintenance, fueling or cleaning	Mobile auto or other vehicle washing
Boat repair, maintenance, fueling, or cleaning	Pest control services
Equipment repair, maintenance, fueling, or cleaning	Mobile carpet, drape, furniture cleaning
Auto and other vehicle body repair or painting	Cement mixing and cutting
Auto (or other vehicle) parking lots and storage facilities	Masonry
Eating or drinking facilities, including food markets	Painting and coating
Botanical or zoological gardens and exhibits	Landscaping
Golf courses, parks, and other recreational areas/facilities	Pool and fountain cleaning
Building material retailers and storage	Portable sanitary services
Nurseries and greenhouses	Power washing services

Table 7-2. Commercial & Industrial Source Inventory Database Fields

Inventory Field	Description
ID Number	Unique number for each facility in the inventory
Business Name	Name of business
Former Name	Prior business name operating at same address
Type	Fixed or Mobile
Site Address	Physical site address of the business
Mailing Address	Mailing address if different from site address
Classification	Designation based on categories in Permit Section D.3.b.1
Watershed	Hydrologic unit basin number as defined in the San Diego Region Basin Plan
Receiving Water	Water body to which runoff from the facility drains. Receiving waters include: Otay River, San Diego Bay, Pacific Ocean, Tijuana Estuary, Tijuana River
Drainage Area	Micro-drainage area as indicated by the City's 1991 storm drain study
Inspection Priority	Inspection priority (see Section 3.3)
Pollutants	List of pollutants potentially generated by the business (based on San Diego Copermittees' 2005 Baseline Long-Term Effectiveness Assessment, CASQA BMP manuals, and best professional judgment)
303(d) Status	Yes (Tributary to a water body listed as impaired on the 303(d) List and the business generates a listed pollutant) No (Not tributary to a water body listed as impaired on the 303(d) List and/or business does not generate a listed pollutant)
ESA Status	Yes (within 200 feet of, or discharges directly to, an ESA) No (not within 200 feet of and does not discharge directly to an ESA)

7.2 Best Management Practices (BMPs) Implementation

The City is responsible for designating minimum BMP requirements specific to business facility types and pollutant-generating activities. It is also required to notify businesses of their BMP requirements.

7.2.1. Reduce Pollutants to Maximum Extent Possible (MEP)

The City requires all industrial and commercial sites/sources to implement designated BMPs and other measures so that pollutants discharged from the site will be reduced to the MEP and will not cause or contribute to a violation of water quality standards.

7.2.2. Designation of Minimum BMP Requirements

The City's *Urban Runoff Management and Discharge Control Ordinance* mandates implementation of BMPs by all industrial and commercial businesses. The following ordinance sections apply:

- Chapter 8.30.070, BMP requirements and general requirements of all dischargers
- Chapter 8.30.090, Additional minimum BMP requirements for commercial activities

- Chapter 8.30.100, Additional minimum BMP requirements for industrial activities.

Specific minimum BMP requirements, including pollution prevention methods, are listed in Appendix F. Some requirements are applicable to all businesses; others apply only to certain business categories or pollutant-generating activities. Minimum BMP requirements are reviewed and updated as necessary. In the event that the City identifies a business facility type or pollutant-generating activity for which minimum BMPs have not been specified, additional BMP requirements will be established in a timely manner.

7.2.3. Notification on Minimum BMP Requirements

RWQCB Order 2007-0001 requires all inventoried[3] industrial and commercial businesses to be notified of applicable BMP requirements within three years of adoption of this JURMP document.

7.2.4. Implementation of Designated Minimum BMPs

A combination of the following methods will be utilized to transmit information on BMP information to inventoried businesses:

Site inspections – Following City Council adoption of this JURMP, all initial business inspections will include the distribution of an information packet describing BMP requirements applicable to the site owner/operator's facility. The packet will include extracts from relevant City JURMP and Ordinance sections, as well as other information as determined appropriate. Following discussion of the requirements, the owner/operator will be asked to sign a statement acknowledging that he/she understands the requirements and that all employees will be properly trained on their usage.

Direct mailings – Inventoried businesses that are identified as non-high priority will be mailed a BMP information packet during this permit period. This may include a self-inspection form which the facility will be required to complete, sign and return to the City. The City may conduct a follow up inspection if necessary to ensure compliance.

Other – The City will utilize other supplemental means of promoting BMP implementation as necessary. These may include incorporation of BMP information with business license renewal packets, advertisement of on-line resources such as the Project Clean Water Web site, or targeted workshops focused on specific business sectors.

7.2.5. Implementation of Additional Controls for CWA Section 303(d) Waters

The City shall implement, or require implementation of, additional controls for industrial and commercial sites/sources tributary to CWA section 303(d) impaired water body

[3] Non-inventoried businesses will be notified of their BMP requirements as necessary throughout the course of the Permit cycle.

segments (where a site/source generates pollutants for which the water body segment is impaired) as necessary to comply with the Municipal Storm Water Permit. The City shall implement, or require implementation of, additional controls for industrial and commercial sites/sources within or adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of the Municipal Storm Water Permit found in Appendix M).

7.3 Inspection of Industrial and Commercial Businesses/Sites

Inspection of industrial and commercial businesses helps to ensure compliance with BMP requirements as well as storm water and non-storm water discharge prohibitions. It also provides an ongoing communication channel between inspectors and business owners, operators, and employees with regard to City policies.

7.3.1. Inspection Elements

Each business inspection will, at a minimum, include the following standard elements:

a. Review BMP implementation plans;

   Few, if any, businesses in the City of Imperial Beach are required to maintain BMP implementation plans on site. However, the City does have the authority to require the development of such plans if necessary. To the extent that they are available, City inspectors will review such plans during inspection.

b. Review facility monitoring date;

   Few businesses in the City of Imperial Beach are required to monitor runoff. However, the City does have the authority to require monitoring if necessary. To the extent that monitoring data are available, City inspectors will review such data during inspection.

c. Check for coverage under the General Industrial Permit;

   Inspectors will routinely check for coverage under the General Industrial Permit (Notice of Intent and/or Waste Discharge Identification Number), if applicable. Information on any identified non-filers will be immediately referred to the State Water Resources Control Board for follow up.

d. Assess compliance with City ordinances and permits related to urban runoff;

e. Assess BMP implementation, maintenance, and effectiveness;

   BMP implementation, maintenance, and effectiveness are assessed qualitatively by providing a narrative description of compliance with the following categories of BMPs: Housekeeping, Waste Management, Materials Storage, Spill Prevention and Response, and Other. Inspections at eating and drinking establishments will include assessment of an additional BMP category: Fats, Oils, and Grease (FOG) Management Practices.

f. Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff;

g. Inspectors will note any observed non-storm water discharges or any evidence of past discharges to the street or storm drain system. Illicit connections to the storm drain system will be noted and required to be removed immediately.

h. Education and training on storm water pollution prevention.

   Employee training documentation will be reviewed. If no such documentation is available, the City will either encourage or require that such documentation be kept on site in the future.

7.3.2. Inspection Priority and Frequency

The City utilized the factors listed in Municipal Storm Water Permit Section D.3.b(3)(b) to develop the threat-to-water-quality prioritization criteria for the jurisdiction. The City identified high and non-high priority fixed commercial facilities and included them in its inventory of commercial businesses (see Appendix F-1). The City will inspect 50% of all high priority businesses during the first year of implementation of the updated Jurisdictional Urban Runoff Management Program and 100% annually thereafter. This will also satisfy the requirement in Permit Section D.3.b(3)(c) which requires the City to annually inspect 20% of its entire inventory during the first year and 25% annually thereafter. The City will not inspect facilities identified as non-high priority unless a storm water concern or violation is identified from a report, observation or self inspection. The City may revise its inventory as needed throughout the Municipal Storm Water Permit period and report it as an update during its annual report of the JURMP.

7.3.3. Inspection Frequencies

During the first year of implementation (FY 2007-08) of the Municipal Storm Water Permit, the City is required to inspect a minimum of 20% of the sites inventoried as required by the Municipal Storm Water Permit, section D.3.b(1), excluding mobile businesses/sources. This requirement will increase to 25% of the sites in the second year, and 25% annually thereafter.

7.3.4. Third Party Inspection Program

The City may develop and implement a third party inspection program for verifying industrial and commercial site/source compliance with its ordinances, permits, and the Municipal Storm Water Permit section D.3.b(3)(c). The third party inspections can satisfy up to 30% of the inspection requirements in with the City having to fulfill the remaining required inspections. To the extent that third party inspections are conducted to fulfill the requirements of the Municipal Storm Water Permit, the City will be responsible for the inspection of an additional site for every three sites inspected by a third party. The additional inspections may be conducted by the Copermittee or a third party inspector.

The Copermittees third party inspection program must include the following:

a. A description of facility types proposed to be inspected by third parties, including SIC codes;

b. A third party inspector certification program;

c. The inspection requirements described in section D.3.b.(3)(a);

d. Inspection form templates for third party inspector use;

e. Photo documentation of potential storm water violations identified during the third party inspection;

f. An annual Copermittee audit of random, representative sites that were inspected by a third party;

g. An annual Copermittee audit of random, representative third party inspectors;

h. Reporting to the Copermittee of identified significant potential violations within 24 hours of the third party inspection;

i. Reporting to the Copermittee of all inspection findings within one week of the inspection being conducted; and

j. Copermittee follow-up and/or enforcement actions for identified potential storm water violations within 2 business days of the inspection or potential violation report receipt.

7.3.5. Inspection Follow-up and Enforcement Actions

City inspectors will use the *Commercial Inspection Report* form (see Appendix F), or an amended version thereof, to record notes during the physical site inspection. Upon conclusion of the inspection and any necessary follow-up activity, the City will mail a written inspection report to the business owner/operator and save a copy of the inspection report to file. Results from each commercial/industrial site inspection will be entered into a Microsoft Access database that includes all of the information required by the Municipal Storm Water Permit.

7.3.6. Industrial Site Inspection by Regional Board

To the extent that the Regional Board has conducted an inspection of an industrial site during a particular year, the requirement for the responsible Copermittee to inspect this facility during the same year will be satisfied.

7.3.7. Tracking Number of Inspections for Inspection Frequency

The City shall track the number of inspections for the inventoried industrial and commercial sites/sources throughout the reporting period to verify that the sites are inspected at the minimum frequencies required in the Municipal Storm Water Permit.

Since the inception of the City's commercial inspection program, it has developed a system to track the number of commercial facilities in the City, the inspections

conducted at each facility, violations identified, and follow-up actions. This system also helps the City prioritize future inspections by identifying facilities with a high potential to contaminate stormwater.

7.4 Regulation of Mobile Businesses

The City is required to develop and implement a program to reduce the discharge of pollutants from mobile businesses to the MEP, and will keep as part of its inventory, a listing of mobile businesses known to operate within its jurisdiction. The program shall include:

a. Development and implementation of minimum standards and BMPs to be required for each of the various types of mobile businesses.

b. Development and implementation of an enforcement strategy which specifically addresses the unique characteristics of mobile businesses.

c. Notification of those mobile businesses known to operate within the City's jurisdiction of the minimum standards and BMP requirements and local ordinances.

d. Development and implementation of an outreach and education strategy.

e. Inspection of mobile businesses as needed.

The Copermittees are in the process of cooperatively developing a program for mobile businesses, which will include sharing of mobile business inventories, BMP requirements, enforcement action information, and education.

Regulation of mobile businesses helps to ensure compliance with BMP requirements as well as storm water and non-storm water discharge prohibitions and reduces the discharge of pollutants from these businesses to the MEP. It also provides an ongoing communication channel between inspectors and business owners, operators, and employees with regard to City policies.

7.5 Enforcement of Industrial and Commercial Businesses/Sites

When a City inspector or other authorized enforcement official finds that a commercial or industrial business has violated a provision of the *Urban Runoff Management and Discharge Control Ordinance*, or has failed to implement required BMPs, the inspector will take an escalating series of enforcement actions until corrective actions are implemented and verified to his or her satisfaction. What follows is a menu of possible enforcement actions and the criteria under which each may be applied.

- Enforcement may be limited to a **Verbal Warning** when the violation in question is minor in nature, there is no immediate threat to water quality, and the inspector can reasonably expect corrective actions to be implemented within one business day. A verbal warning is not an acceptable enforcement action in the case of a repeat violation or failure to meet a written compliance deadline.

- A **Notice of Violation (NOV)** may be issued for any observed violation, whether major or minor in nature. An NOV establishes in writing that a violation has occurred (or is occurring) and specifies a deadline for corrective actions to be completed. Failure to meet a written compliance deadline justifies the imposition of additional penalties as determined appropriate.

- **Administrative Penalties and Fines** may be issued for any observed violation, but are typically reserved for those of a more serious nature or where previous enforcement actions have proved ineffective. Examples typically include 1) failure to meet a written compliance deadline, 2) repeat offenses, or 3) violations that resulted (or will result) in a direct impact to water quality.

- **Cease and Desist Orders** may be issued in either written or verbal form in order to stop illegal discharges and/or remove illegal connections in a timely manner.

- **Stop Work Orders** may be issued whenever any work is being done in violation of the provisions of the *Urban Runoff Management and Discharge Control Ordinance* or other laws implemented through enforcement of that ordinance. Work stoppage must be made in writing by an authorized enforcement official, and may be served upon any person engaged in the doing or causing of such work to be done.

- **Suspension or Revocation of City-issued Permits or Licenses** may be called for in cases of severe violations of the *Urban Runoff Management and Discharge Control Ordinance* or other laws implemented through enforcement of that ordinance.

- As a final resort, the City of Imperial Beach city attorney is authorized to file **Civil or Criminal Court Actions** in superior court to enforce the *Urban Runoff Management and Discharge Control Ordinance* and to seek civil penalties and/or other remedies as provided by the ordinance. There is no requirement that administrative enforcement procedures be pursued before such actions are filed.

7.6 Reporting of Industrial Non-Filers

As part of each Annual Report, the City shall report a list of industrial sites, including the name, address, and SIC code, that may require coverage under the General Industrial Permit for which a NOI has been filed. At the time of the writing of this JURMP, the City of Imperial Beach does not have any Industrial sites within its jurisdiction.

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8.0 Existing Development Component – Residential

The goal of this section is to prevent residential discharges from the Municipal Separate Storm Sewer System (MS4) and from those discharges causing or contributing to a violation of water quality standards. This section discusses requirements that apply to the Existing Development Component of the Jurisdictional Urban Runoff Management Program (JURMP) that encompass residential development, describes the City's plan for managing urban runoff and storm water discharges from residential areas and related activities, and what compliance actions are proposed by the City of Imperial Beach as required by the Municipal Storm Water Permit section D.3.c (see Appendix M). The Environmental Program Division of the Public Works Department oversees compliance with urban runoff regulations in the residential component within the City, and files an annual report of this JURMP with the Regional Board.

The City of Imperial Beach has a significant residential population. Residential land uses in the City of Imperial Beach include single-family residences (542.6 acres), multi-family units (17.7 acres), and mobile homes (16.8 acres).[1] The total population was estimated at 27,710 as of 2003.[2] Order 2001-01 identifies the residential areas and activities that all cities must, at a minimum, designate as high priorities. These include automobile repair, maintenance, washing, and parking; home and garden care; disposal of household hazardous waste, pet waste, and green waste; and various other residential activities in close proximity to sensitive receiving water bodies. Since most of the City is in close proximity to sensitive receiving waters, all residences are considered high priorities for the purposes of managing urban runoff.

8.1. Threat to Water Quality Prioritization

The City is required to identify high threat to water quality residential areas and activities. At a minimum, these shall include:

a. Automobile repair, maintenance, washing, and parking;

b. Home and garden care activities and product use (pesticides, herbicides, and fertilizers);

c. Disposal of trash, pet waste, green waste, and household hazardous waste (e.g., paints, cleaning products);

d. Any other residential source that the Copermittee determines may contribute a significant pollutant load to the MS4;

e. Any residential areas tributary to a CWA section 303(d) impaired water body, where the residence generates pollutants for which the water body is impaired; and

f. Any residential areas within or directly adjacent to or discharging directly to a coastal lagoon or other receiving waters within an environmentally sensitive area (as defined in Attachment C of the Municipal Storm Water Permit).

[1] Figures from 2000 Census as reported on www.sandag.org.
[2] Figure from U.S. Census Bureau (2003) http://quickfacts.census.gov/ (3/4/08)

8.2. BMP Implementation

8.2.1 Designation of Minimum BMPs for High Threat to Water Quality Residential Areas and Activities

The Municipal Storm Water Permit requires the City to designate minimum BMPs for high threat to water quality residential areas and activities. The designated minimum BMPs for high threat to water quality municipal areas and activities shall be area or activity specific. The City's Urban Runoff Management and Discharge Control Ordinance establishes minimum BMP requirements for the following residential activities:

- Motor Vehicle and Boat Repair and Maintenance
- Motor Vehicle Washing
- Motor Vehicle Parking
- Home and Garden Care Activities and Product Use
- Home Care and Maintenance
- Manure and Pet Waste Management
- Private Sewer Laterals and On-site Wastewater Systems

8.2.2 Use of Pollution Prevention Methods

The City encourages the use of pollution prevention methods by residents, where appropriate. Based on typical residential activities, the City of Imperial Beach developed a list of pollution prevention opportunities. The following pollution prevention principles are applicable for residences:

- Affirmative Procurement – Use alternative, safer, or recycled products.
- Reduce the amount of hazardous materials by implementing natural controls.
- Reduce use of water.
- Reuse.
- Recycle.

8.2.3 Encourage Use of Pollution Prevention Methods

The City will encourage the use of pollution prevention methods by residents, where appropriate.

8.2.4 Facilitation of Proper Management and Disposal of Household Hazardous Waste

The City is required to facilitate the proper management and disposal of used oil, toxic materials, and other household hazardous wastes. Such facilitation shall include educational activities, public information activities, and establishment of collection sites operated by the City or a private entity. Curbside collection of household hazardous wastes is encouraged.

Household hazardous waste (HHW) includes televisions, computer monitors, automotive fluids, batteries, household cleaners, pesticides, paints, and other materials that are unfit for disposal in traditional landfills. If not disposed of properly, these materials can greatly

impact water quality. The City's HHW disposal program is available to all residents of Imperial Beach. The City partners with other jurisdictions in the South Bay to offer convenient, low-cost HHW disposal options. Imperial Beach residents are encouraged to dispose of hazardous materials by bringing them to the City of Chula Vista's Hazardous Waste Collection Facility located at 1800 Maxwell Road. The facility is open on Saturdays from 9 a.m. to 1 p.m., except holiday weekends. Residents must show a form of identification and are charged a nominal co-payment of $5 for the disposal of up to 15 gallons or 125 pounds of HHW. The City is billed for the remaining cost, which is then reimbursed by EDCO Disposal pursuant to their waste hauling franchise agreement.

The City also offers curbside pickup service for hazardous waste. Residents must call the South Bay HHW Hotline at (619) 691-5122 to arrange for curbside pickup. There is a $10 co-payment for this service. Curbside pickup of used oil, televisions, and computer monitors is handled separately by EDCO and is also subject to a $10 fee.

Residents of Imperial Beach can recycle used motor oil by one of three methods. Curbside pickup can be arranged by calling the South Bay HHW Hotline at the number above. Residents may also take the oil themselves to Kragen Auto Parts (1025 Palm Avenue) or the HHW Collection Facility in Chula Vista. The City also operates a used oil recycling promotion for City residents. The program includes free plastic containers and funnels, which are distributed at City Hall and by EDCO Disposal. These programs assist in the prevention of the illegal discharge and dumping of used motor oil.

8.2.5 Implementation of Designated Minimum BMPs for High Threat to Water Quality Residential Areas and Activities

If necessary, the City of Imperial Beach will require additional BMPs for residences that discharge to a tributary of a 303(d) impaired water body (where a site/source generates pollutants for which the water body segment is impaired) or are located adjacent to or discharge directly to an ESA. However, the City will initially require the minimum BMPs, but will first target the high priority residential areas for public outreach and public education, and then enforcement activities, if necessary.

8.2.6 Implementation of Designated Minimum BMPs for Other Residential Areas and Activities

The City will implement, or require implementation of, BMPs for residential areas and activities that have not been designated a high threat to water quality, as necessary.

8.2.7 Implementation of Additional Controls for CWA Section 303(d) Waters

The City shall implement, or require implementation of, any additional controls for residential areas and activities within tributary to CWA section 303(d) impaired water body segments as necessary to comply with the Municipal Storm Water Permit. The City will also implement, or require implementation of, additional controls for residential areas within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of the Municipal Storm Water Permit, located in Appendix M).

8.3. Enforcement of Residential Areas and Activities

The City will enforce its storm water ordinance for all residential areas and activities as necessary to maintain compliance with the Municipal Storm Water Permit.

Public education and outreach efforts will encourage residences to comply with the minimum BMPs. However, if these efforts are not adequate, then enforcement measures will be taken to comply with the City of Imperial Beach Storm Water Ordinance.

If a significant and/or immediate threat to water quality is observed by a City of Imperial Beach inspector, action will be taken to require the facility owner and/or operator to immediately cease the discharge. A Code Compliance Officer or, if unavailable, a County Sheriff will be contacted. The threat to water quality will be assessed by inspectors for runoff from a residential site that will not be reasonably controlled by the protective measures in place or if a failure of BMPs is resulting in the release of pollutants to a degree that may be degrading water quality. The typical progressive enforcement steps that each City of Imperial Beach inspector will apply to the inspection enforcement program are verbal warnings; Notice of Violation (NOV); additional penalties or fines; and civil and/or criminal court actions.

A discussion of these measures is provided below. These measures are just some of the tools the City of Imperial Beach may use to enforce its permit and ordinance requirements.

8.3.1 Verbal Warning

The City of Imperial Beach inspector issues a verbal warning when proof of discharge and a responsible party can be identified. Discharges that are less severe and smaller in nature generally receive a verbal warning, followed up by a written letter. The City of Imperial Beach inspector will generally include educational information on the types of BMPs that should be implemented thereafter to avoid future violations.

8.3.2 Notice of Violation

A Code Compliance Officer will be contacted when a proof of discharge and a responsible party can be identified and the discharge is more severe. An NOV states that an illegal discharge has occurred (or is occurring) and establishes an abatement deadline. The Code Compliance Officer will generally include educational information BMPs that should be implemented thereafter to avoid future violations.

8.3.3 Additional Penalties or Fines and Civil and/or Criminal Court Actions

In addition to other penalties and remedies permitted in the City's Storm Water Ordinance, a violation of the Storm Water Ordinance may result in civil actions. Except where a maximum monetary amount is specified, the following may also be awarded without monetary limitations in any civil action:

- Injunctive relief;
- Costs to investigate, inspect, monitor, survey, or litigate;

- Costs to place or remove soils or erosion control materials, costs to correct any violation, and costs to restore environmental damage or to end any other adverse effects of a violation;
- Compensatory damages for losses to the City or any other plaintiff caused by violations; and/or Restitution to third parties for losses caused by violations; and
- Civil Penalties.

8.4. Evaluation of Oversight of Residential Areas and Activities

The Copermittees are encouraged to individually or collectively evaluate their methods used for oversight of residential areas and activities, including assessment of inspections of residential areas and activities. The evaluation should consider various oversight and inspection approaches to identify an effective and appropriate oversight and inspection approach for residential areas and activities.

Oversight of residential BMP implementation within the City consists of 1) observations made by municipal employees working in or around residential areas, 2) public complaints received through the storm water reporting hotline, and 3) systematic inspection of residential areas. The latter is a program started in May 2006. Residential inspections consist of City staff physically walking and driving through residential neighborhoods to look for illegal discharges and non-compliance with BMP requirements. Violators are either educated or issued a Notice of Violation to ensure a timely return to compliance. The residential inspection program is designed to supplement the Illicit Discharge Detection and Elimination Component of the City's JURMP. There are 39 grid areas inspected, each of which measures ½-mile in length and width. The initial goal is to inspect each grid area once per month, but this may not always be possible given variable workload over the course of the year.

8.5. Regional Residential Education Program

The City of Imperial Beach encourages pollution prevention through a combination of training and public outreach. Additionally, the City will provide pamphlets, fact sheets, web page, and updates in the City of Imperial Beach quarterly newsletter with information on pollution prevention topics. The City has been successful in teaming with neighboring cities to conduct public outreach for recycling oil and plans to continue this successful program. The City is collaborating with other Copermittees to develop and implement a Regional Residential Education Program required by the Municipal Storm Water Permit.

The City recognizes the importance of educating residents about the impacts of urban runoff and the implementation of appropriate BMPs. Education ranges from personal interaction between City staff and residents to the publication of newsletter articles, formal presentations, and brochure distribution. Major educational initiatives targeting residents are summarized below.

8.5.1 Personal Interaction

Personal interaction is a highly effective way to educate residents about storm water requirements. In response to complaints or as needed based on visual inspection, City inspectors conduct inspections of residences and provided verbal and written information on BMP implementation.

8.5.2 BMP Brochures

City inspectors regularly distribute the following BMP brochures targeting high priority residential activities: *Storm Water Runoff Pollution: Prevention Tips for Homeowners*; *Pet Waste*; *Car Washing*; *Motor Oil*; and *Lawn & Garden Care*. These brochures are made available to residents at libraries, public counters, and during various public events during the year. They are also routinely distributed to homeowners and renters upon identification of non-compliance in the field. All five brochures are included in Appendix G of this JURMP.

8.5.3 Imperial Beach City Newsletter

The City's semi-annual publication is mailed to all single-family homes in the City. The City has been diligent about ensuring that nearly every edition contains educational information about storm water, urban runoff, or BMPs.

8.5.4 Habitat Heroes for the South San Diego Bay Wildlife Refuge Restoration Project

The Habitat Heroes Project is a highly effective way to educate the younger residents of Imperial Beach through a hands-on learning experience out in the South San Diego Bay Wildlife Refuge. Students in grades 2 – 6 engage in discovering their local environment and how trash and other pollutants affect the flora and fauna at the receiving waters. This program operates throughout the school year and reaches approximately 1,000 students, who in turn take the message home to their parents and guardians.

8.5.5 Watershed Modeling

This is a hands-on resource tool available from the City's Environmental Division of the Public Works Department that depicts the local watershed and helps to teach BMP education. Teachers are allowed to borrow the watershed model from the City throughout the school year.

8.5.6 Storm Water / Urban Runoff Educational Events

Education events are excellent opportunities to engage City residents in the urban runoff management program. The City holds an annual Home Front Cleanup event where residents participate in cleaning up their neighborhoods and properly disposing of household hazardous waste. City staff is on hand to educate residents about storm water and BMPs. The City also holds an annual Garage Sale event in which residents may participate in selling their unwanted items in a city-wide garage sale, promoting recycling while at the same time educating the residents on BMPs for storm water pollution.

9.0 Illicit Discharge Detection and Elimination Component

Per the Municipal Storm Water Permit section D.4 (see Appendix M), each Copermittee shall implement an Illicit Discharge Detection and Elimination program which meets the requirements of this section and actively seeks and eliminates illicit discharges and connections. This section is applicable to the Public Works Department, Environmental Program Division. The goal of the Illicit Discharge Detection and Elimination Program is to actively seek and eliminate illicit discharges and connections to the storm drain system. This goal is achieved through implementation of required monitoring, enforcement, and public education programs.

The Illicit Discharge Detection and Elimination Program for the City encompasses both water/liquids containing pollutants and sanitary sewer system waters. The Program focuses on prevention while actively pursuing, investigating, and eliminating illicit discharges. The City strongly encourages voluntary elimination and cleanup of illicit discharges to decrease the effort of enforcement.

9.1 Illicit Discharges and Connections

The City is required by the Municipal Storm Water Permit to implement a program to actively seek and eliminate illicit discharges and connections into its MS4. The program shall include utilization of appropriate municipal personnel to assist in identifying illicit discharges and connections during their daily activities. The program shall address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Copermittee in accordance with section B of the Municipal Storm Water Permit. Illicit discharges and connections (ID/ICs) to the Municipal Separate Storm Sewer System (MS4) can be a significant source of pollutants.

9.1.1. Point Source Discharges

Point Source Discharges are defined by the U.S. Environmental Protection Agency as any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation (CAFO), landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Illicit discharges are a point source discharge of pollutants to the MS4 which are not comprised entirely of storm water (i.e., rainwater and snow melt) and not authorized by a National Pollutant Discharge Elimination System (NPDES) Permit. An illicit discharge may be the result of pollutants (See definition of “pollutant” below) entering the MS4 by:

- Spills,
- Illegal connections to the MS4,
- Illegal dumping (direct and indirect) to the MS4, and
- Prohibited discharges (See below).

Examples of point source discharge origins are:

- Industrial,
- Commercial,
- Municipal,
- Residential,
- Construction,
- Any type of wash water,
- Any water/liquid containing pollutants, and
- Sanitary sewer water.

"Pollutant" means and includes, but is not limited to, solid waste, sewage, garbage, medical waste, wrecked or discarded equipment, radioactive materials, dredged spoil, rock, sand, sediment, silt, industrial waste, and any organic or inorganic substance defined as a pollutant under 40 C.F.R. 122.2 whose presence degrades the quality of the receiving waters in violation of water quality standards such as fecal coliform, total coliform, volatile organic compounds (VOC), surfactants, oil and grease, petroleum hydrocarbons, total organic carbon (TOC), lead, copper, chromium, cadmium, silver, nickel, zinc, cyanides, phenols, fertilizers, pesticides, herbicides, and other biocides.

A "pollutant" also includes any contaminant which degrades the quality of the receiving waters in violation of Basin Plan[1] and California Ocean Plan standards by altering any of the following parameters: pH, total suspended and settleable solids, biochemical oxygen demand (BOD), chemical oxygen demand (COD), nutrients, temperature, and other narrative standards of the Basin Plan.

9.1.2. Non-Point Source Discharges

Non-point source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even our underground sources of drinking water. These pollutants include:

- Excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas;
- Oil, grease, and toxic chemicals from urban runoff and energy production;
- Sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks;
- Salt from irrigation practices and acid drainage from abandoned mines;
- Bacteria and nutrients from livestock, pet wastes, and faulty septic systems;
- Atmospheric deposition and hydromodification are also sources of nonpoint source pollution.

[1] California Water Quality Control Plan for the San Diego Basin (Region 9), 2002.

9.1.3. Prohibited Discharges

The City has adopted the following discharges as strictly prohibited. The list is a culmination of the Imperial Beach Municipal Code, Chapter 8.30, the Municipal Storm Water Permit, and Basin Plan prohibitions.

- Non-storm water discharges with exceptions. (See Section 2.0 of this JURMP and the Municipal Storm Water Permit section B.2)
- Non-prohibited discharges identified as a significant source of pollutants (See Section 2.0 of this JURMP and the Municipal Storm Water Permit section B.2). Although the City has not identified a specific discharge in this category as a significant source of pollutants, the City evaluates identified non-prohibited discharges on a case by case basis.
- Discharges of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code section 13050.
- Discharge of waste to land, except as authorized by waste discharge requirements or the terms described in California Water Code section 13264.
- Discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or dredged or fill material permit.
- Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto with exceptions.
- Discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water objectives. (Dilution factors may apply).
- Discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharge, with exceptions.
- Dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, with exceptions.
- Discharge to a storm water conveyance system that is not composed entirely of “storm water”, with exceptions.
- Unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system.
- Discharge of industrial wastes to conventional septic tank/subsurface disposal systems, with exceptions.
- Discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state.
- Discharge of any radiological, chemical, or biological warfare agent into waters of the state.
- Discharge of waste into a natural or excavated site below historic water levels, with exceptions.
- Discharge of sand, silt, clay, or untreated earthen materials from any activity, including land grading and construction, in quantities which cause deleterious

bottom deposit, turbidity, or discoloration in water of the state or threaten the use of such waters.
- Discharge of treated sewage from vessels to small boat harbors.

9.2 Develop/Maintain MS4 Map

The Municipal Storm Water Permit requires the City to develop and/or update its labeled map of its entire MS4 and the corresponding drainage areas within its jurisdiction. The use of a GIS is highly recommended. The accuracy of the MS4 map shall be confirmed during dry weather field screening and analytical monitoring and shall be updated at least annually. The City has developed a comprehensive MS4 map complete with hydrologic subunits, streets, sub-drainage areas, storm drains, receiving waters, and water quality monitoring stations (see Appendix H).

9.3 Dry Weather Field Screening and Analytical Monitoring

The City is required by the Municipal Storm Water Permit to conduct dry weather field screening and analytical monitoring of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect illicit discharges and connections in accordance with Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001 (see Appendix M for the Municipal Storm Water Permit section N).

9.3.1. Dry Weather Monitoring Program

Dry weather urban runoff monitoring is one of several tools utilized by the City to identify ID/ICs to its MS4. City staff collects samples at various conveyance structures including storm drain outfalls, manholes, catch basins, and other areas where urban runoff is commonly found each year between May 1 and September 30 (the dry weather season). Where water volume is sufficient for collection, samples are analyzed in the field for several water quality parameters. This is referred to as “field screening”.

The City modified its dry weather field screening and analytical monitoring stations based on a review of its past Dry Weather Monitoring Program. Prior to FY 2007-08, the City used a grid system to identify monitoring stations. This proved to be inefficient since the City continually spent excessive time and resources searching for urban runoff throughout the entire grid system and in many instances stations were dry. Also, in most grids, street gutters were the most common conveyance structure that City staff could sample at. Sampling proved to very difficult because in many cases excessive debris in the gutter, not linked to a discharge, caused problems in collecting a sample representative of urban runoff.

Instead, the City will be selecting non-random major storm drain outfalls that will provide adequate coverage of the City’s entire MS4 system. The City will also determine alternate stations to be sampled in place of selected stations that do not have flow. These optional criteria for selecting dry weather monitoring stations are listed in Order No. 2007-0001

(Receiving Waters and Urban Runoff Monitoring and Reporting Program/II,B,3,a,(2)a,b). The City will be implementing this program modification in the spring of 2008.

Due to the small size of most drainage areas in the City, it is often the case that outfalls and other conveyance structures are found to be dry during monitoring investigations. Although staff typically schedules its dry weather monitoring activities to coincide with low tides, many outfalls are tidally impacted during both low and high tide conditions. Tidal influence frequently impacts staff's ability to collect urban runoff samples. The City has developed a Standard Operating Procedure for Field Screening and Water Sampling Collection (see Appendix H).

Field Screening Water Quality Parameters

- Nitrate
- Ammonia
- Reactive phosphorous
- Temperature
- pH
- Surfactants (MBAS)
- Turbidity
- Electrical conductivity

Field screening and laboratory analytical detections often trigger an investigation to determine if an illegal discharge has occurred. When sample results exceeds pre-determined action levels (established regionally by San Diego County Copermittees) City staff conducts an upstream investigation in the storm water conveyance system to identify and eliminate a pollutant source if possible. In many cases, an upstream investigation is conducted immediately following field screening efforts since results are determined in the field. Exceedances determined from laboratory analytical results may provide further reason to conduct additional investigations. In addition to eliminating pollutant sources, the City also educates the responsible party regarding the City's best management requirements.

Assessment of trash in receiving waters and urban runoff at dry weather monitoring stations – The City will be assessing the presence of trash at each dry weather monitoring station as required under Order No. 2007-0001 (Receiving Waters and Urban Runoff Monitoring and Reporting Program/II,B,3,c,(7)). This monitoring program is described in detail in the Final Monitoring Workplan for the Assessment of Trash in San Diego County Watersheds (see Appendix H). The overall monitoring objective is to assess the relative amounts of trash within the City's watersheds. City staff will complete a trash assessment form for each station which will provide information as to the extent, amount, and potential sources and routes of trash (see Appendix H-7, as an attachment in the City's Standard Operating Procedure for Field Screening and Water Sample Collection). The City hopes that this assessment will provide information needed to make informed decisions on where to address problem areas related to trash.

9.3.2. Dry Weather Analytical Monitoring

A sub-set of collected field samples is also sent to a certified laboratory for additional analysis. Laboratory analysis is performed for pollutant concentrations that cannot be readily ascertained in the field.

Laboratory Analytical Parameters

- Dissolved Cadmium
- Dissolved Copper
- Dissolved Zinc
- Dissolved Lead
- Oil & Grease
- Total Hardness
- Bacterial Indicators
- Organophosphate Pesticides

9.4 Investigation/Inspection and Follow-Up

9.4.1. Investigation of Illicit Discharges and Illicit Connections

The City is required to investigate and inspect any portion of the MS4 that, based on visual observations, dry weather field screening and analytical monitoring results, or other appropriate information, indicates a reasonable potential for illicit discharges, illicit connections, or other sources of non-storm water (including non-prohibited discharges identified in section B of the Municipal Storm Water Permit). The City has developed, updates as necessary and utilizes numeric criteria action levels (or other actions level criteria where appropriate) to determine when follow-up investigations will be performed.

The City's IDD&E program is designed to investigate and inspect any portion of the MS4 that indicates a reasonable potential for illicit discharges and connections (incidents) with an emphasis on those with the highest potential to affect storm water or receiving water quality. Illicit discharges will be actively identified through:

- Observations (during routine and non-routine inspections of commercial/industrial businesses and citywide inspections),
- Internal Reporting from City staff,
- Public Reporting (known or suspected discharges through City offices), and
- Detections (Dry Weather Monitoring Program – see Section 9.3.1 and Appendix H of this JURMP).

To determine whether a discharge or connection is illicit, the City attempts to identify the source. Determining the source will follow the process outlined below:

- Search the area for any physical, chemical, or biological signs of the reported or field incident
- Explore the possible scenarios of how the material or disturbance occurred
- Identify potential sources and verify origin
- Examine the drainage system area for other possibilities
- Inquire to available businesses or witnesses what had occurred.
- Document findings and information.

All urban runoff investigations are pursued until a satisfactory outcome can be attained. Usually, this involves remediation of spilled materials, elimination of illicit connections to the MS4, and/or installment of BMPs to prevent future discharges. Unless the illicit discharge is of immediate danger to public health or the environment, violators are typically given the first opportunity to clean up spilled materials. If unable or unwilling to do so, or if a violator cannot be identified, City staff is enlisted to perform the cleanup at the property owner's expense.

Municipal Component – The City relies heavily upon field staff to identify and mitigate illicit discharges and connections to the MS4. Especially given the small size of the City, there is ample opportunity for field staff to observe violations and report them to environmental inspectors. Field staff also plays an integral role in responding to spills and cleaning up discharged material.

Existing Development Component – Routine inspection of residential and commercial areas may reveal illicit discharges resulting from operations and activities being conducted in these areas.

In addition, City staff is working with property management companies to reduce pollutants from their properties. This includes the installation and maintenance of structural treatment control BMPs and/or treatment control BMPs in the form of landscaping or retention basins to detain and/or treat water runoff before it enters the storm water conveyance system. Thus far, two companies have installed and are maintaining structural treatment control BMPs, and an updated inventory will be included in each Annual Report of the JURMP.

Construction Component – Routine inspection of construction sites may reveal illicit discharges resulting from construction work being conducted throughout the City.

Public Education – The City has developed a series of brochures addressing activities that may contribute pollutants to the storm drain system. All brochures publicize the City's storm water hotline to encourage the general public to report illegal discharges and spills.

In addition to written education material, the City participates in several programs to help the public to avoid, minimize and mitigate pollutants to the MS4. These include the following:

<u>USED OIL PROGRAM</u>

The City currently provides three methods to residents for used oil recycling. These residential used oil recycling programs are:

- Drop off used oil at a local participating business. This program is free for Imperial Beach residents. (Kragen Auto Parts #0536, 1220 Palm Avenue, Imperial Beach (619) 429-1303)

- Call the City's waste hauler, EDCO for free residential curbside pickup at (619) 287-7555. Used oil containers will be provided by EDCO.
- Transport used oil to the City's designated Household Hazardous Waste Facility at 1800 Maxwell Road, Chula Vista. Businesses may call for pickup at (619) 691-5122 for a nominal $10 fee.

Waste oil may also be picked up under the Household Hazardous Waste Program that is detailed below.

HOUSEHOLD HAZARDOUS WASTE PROGRAM

The City's Household Hazardous Waste (HHW) promotes alternatives to the illegal disposal of household hazardous waste and used oil for the protection of California's environment and the health of its inhabitants.

Major goals of the program include:

- Provide the public with convenient collection locations for used oil and other types of HHW.
- Increase the demand for new products made from HHW.

The City of Imperial Beach participates in the South Bay Regional Door-to-Door Household Hazardous Waste Collection Program. Residents may call 1-800-237-2583 to schedule a pickup of household hazardous waste. The cost to the resident is $5 for the first pickup of each calendar year. The City of Imperial Beach plans to continue participation in this successful program.

9.4.2. Reduce Pollutants to Maximum Extent Possible (MEP)

Within two business days, where applicable, of receiving analytical laboratory results that exceed action levels, the City must either conduct an investigation to identify the source of the discharge or provide the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. Obvious illicit discharges (i.e. color, odor, or significant exceedances of action levels) shall be investigated immediately.

9.5 Elimination of Illicit Discharges and Connections

The City is required to take immediate action to eliminate all detected illicit discharges, illicit discharge sources, and illicit connections as soon as possible after detection.

9.5.1. Elimination

Elimination consists of two stages: prevention (pre-occurrence) and discontinuance of an illicit discharge or connection (post-occurrence). Prevention is where opportunities to estimate when and where possible illicit discharges and connections could occur and the measures to preclude the pollutant from entering the MS4; discontinuance includes the termination of a source currently discharging and remediation or removal of the pollutant

that was discharged into the MS4, water body, or environmentally sensitive area.

Elimination is accomplished by identifying those discharges and connections that are prohibited (Section 9.1.3) and enforcement through the City's Storm Water Ordinance by the City of Imperial Beach (see Appendix B). Once a discharge or connection has been verified, the appropriate agency will be notified of the incident, type of material discharged disclosed, and an estimate of the possible volume calculated. Elimination is at the maximum extent possible.

Detected illicit discharges and connections with a verified source will be eliminated. If the origin of the discharge or connection cannot be accurately determined a modified (no source, potential termination, full remediation) removal, cleanup, and verification of removal will be completed and documented. No enforcement action can be taken until the origin is determined. Once determined, the severity and impact to water quality will determine the type of enforcement actions taken by the City. City inspectors will conduct follow-up inspections to determine if corrective actions have been taken in accordance with the City's ordinances and minimum BMP requirements (see Appendix B). Escalating enforcement steps, providing flexibility for the inspectors to establish appropriate compliance time frames on a case-by-case basis, will be used as needed to ensure compliance.

If a significant and/or immediate threat to water quality is observed by a City inspector, action will be taken to require the facility owner and/or operator to immediately cease the discharge. A Code Compliance Officer or, if unavailable, a County Sheriff will be contacted. The threat to water quality will be assessed by inspectors for runoff from an industrial site that will not be reasonably controlled by the protective measures in place or if a failure of BMPs is resulting in the release of pollutants to a degree that may be degrading water quality.

9.5.2. Elimination Measures

Elimination measures may include an escalating series of enforcement actions for those illicit discharges that are not a serious threat to public health or the environment. Illicit discharges that pose a serious threat to the public's health or the environment must be eliminated immediately. Voluntary elimination of illicit discharges is strongly encouraged.

The City boasts dedicated vehicles that are equipped with power washers and vacuum pressure units capable of recovering most spills. If the responsible party is unable to clean up the material to the City's satisfaction in a timely manner, City staff will perform the clean up and may recover the cost of the clean up from the property owner.

9.6 Enforce Ordinances

The Municipal Storm Water Permit requires the City to implement and enforce its ordinances, orders, or other legal authority to prevent illicit discharges and connections to

its MS4. The City is also required to implement and enforce its ordinance, orders, or other legal authority to eliminate detected illicit discharges and connections to the MS4.

The City of Imperial Beach Urban Runoff Management and Discharge Control Ordinance (I.B.M.C. 8.30) prohibits discharges and connections to the MS4 with only limited exception. City staff and members of the public are encouraged to report illicit discharges and other urban runoff violations to environmental staff for investigation. A storm water hotline, (619) 424-4095, continues to facilitate this type of reporting. Outside of business hours, the hotline's recorded message refers callers to the County Sheriff's 24-hour dispatch office.

The typical progressive enforcement steps that each City of Imperial Beach inspector will apply to the inspection enforcement program are as follows:

(a) Verbal or Written warnings (Notice of Violation or Abatement);
(b) Additional penalties and fines; and
(e) Civil and/or criminal court actions.

A discussion of these measures is provided below. These measures are just some of the tools the City may use to enforce the Municipal Storm Water Permit and the City's ordinance requirements.

Verbal or Written Warning – The City's Environmental Program Specialist or other City official issues a verbal or written warning when proof of discharge and a responsible party can be identified. All discharges regardless of the severity receive a warning. Notice of Violation and Abatement are examples of written warnings that City officials may use. City officials will generally include educational information on the types of BMPs that should be implemented thereafter to avoid future violations.

Additional Penalties or Fines – After reviewing all the case information, the City's Code Compliance Officer determines the appropriate civil penalty and corrective measures and issues a Notice of Order to Comply, which allows the violator 14 days to comply. The City may assess civil penalties up to $10,000 each day the violation continues, may recover the costs of enforcement, and may establish other appropriate corrective measures. In the event the violator does not comply with the Notice of Order to Comply within the 14-day time period, an appeal hearing is scheduled, after which the Hearing Officer issues an Administrative Enforcement Order. The violator may appeal the Hearing Officer's decision by filing a writ requesting a hearing before the Superior Court.

City Attorney Referral (civil or criminal prosecution) – As a final resort, the City of Imperial Beach may use civil and or criminal court actions under the Porter-Cologne Water

Quality Control Act[2] or the Federal Clean Water Act, which may result in significant fines levied upon the noncompliant responsible parties.

9.7 Prevent and Respond to Sewage Spills (Including from Private Laterals and Failing Septic Systems) and Other Spills

The City is required by the Municipal Storm Water Permit to prevent, respond to, contain and clean up all sewage and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems). Spill response teams shall prevent entry of spills into the MS4 and contamination of surface water, ground water and soil to the maximum extent practicable. Each Copermittee shall coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies so that maximum water quality protection is available at all times.

The City is also required to develop and implement a mechanism whereby it is notified of all sewage spills from private laterals and failing septic systems into its MS4. The City shall prevent, respond to, contain and clean up sewage from any such notification.

9.7.1. Spill Prevention, Containment and Response Activities

Sewer lines are designed and installed to minimize leakage. This leakage potentially increases over time as the sewer lines age. Cracks can develop from above or below ground stress, deterioration, biological degradation, or by root intrusion. Wastewater can then infiltrate into the soil or groundwater through these cracks and contaminate the surrounding area. Contamination can also occur by sewer overflow. Overflow is more common in combined storm sewer systems due to the high flow rates. Sometimes at peak flow rates, the water in the sewer can be washed back out through manholes, curb inlets, and yard drains where the water infiltrates into the soil from the top layer. Sanitary sewers infiltrate to several layers below the surface.

Household cleaners, organic wastes and human feces are the main components of sanitary sewer fluids. Bacteria within these fluids can produce acids that can “eat” away the concrete pipe in the conveyance sewer system. Some bacteria use sewer fluids to create acidic conditions. Quite often, corrosion in concrete sewer pipe is caused by the bacterial production of sulfuric acid. The sulfuric acid then attacks and erodes the concrete. As the acid eats away the concrete, small stress fractures can be created and can result in the shattering of the pipe. Infiltration of wastewater into the soil and possibly surrounding structures such as the storm water conveyance system may occur.

Prevention will be accomplished through the use of education and training of the general public, businesses, and City staff. All prohibited discharges and non-storm water discharges will be targeted for prevention at the maximum extent possible. The following compose the City’s Pollution Prevention Program:

[2] California Water Code, Division 7. http://www.swrcb.ca.gov/water_laws/docs/portercologne.pdf (January 1, 2008).

- Prevent spills from entering the MS4 including spills from septic and sanitary sewer systems
- Implement controls to prevent or limit infiltration of seepage from sanitary sewer system to the MS4
- Conduct routine maintenance on the sanitary sewer system to prevent spills and discharges to the MS4
- Respond, contain and remediate spills including sanitary sewer system spills or discharges and privately owned systems.
- Implement BMPs as appropriate for the potential type of spill or illicit discharge.

The City's sanitary sewer collection system was planned and constructed as dictated by watershed or topographic boundaries. There are approximately 80 miles of underground pipelines and 11 pump stations. Sewage is routed to a common pipeline for treatment at the Point Loma Sewage Treatment Facility. Protection of these surface waters, recreational water and/or the health and safety of the public is the City's priority concern. Infiltration and seepage from the sanitary sewer system are minimized and controlled by the current preventative maintenance program described below.

Operation of the sewer system in the City of Imperial Beach is in a continuous preventive maintenance and re-designs cycle. Once designed and built, the sanitary sewer system is maintained to preserve the design level of the system as long as possible. As the system ages, preventive maintenance no longer is cost effective and the system requires re-design. This constant maintenance/design loop keeps the sanitary sewer system current with new technologies and additional flows from a steady growth environment. The focus for preserving the sanitary sewer system is a solid preventive maintenance schedule.

Preventative maintenance of the sanitary sewer system and MS4 includes the following:

- Annual inspection of conveyance systems (streets, gutters, pipelines, catch basins, inlets, channels);
- Annual scheduled sewer main cleaning by high velocity hydraulic cleaning (Vactor);
- Record keeping by inspection and cleaning crews (manhole inspection reports to detect deterioration of the cement structure before failure and work order documentation);
- Remove debris from manholes as soon as possible;
- Clean documented priority lines (excessive grease, flat lines or low flows) a minimum of two times per year;
- Mail educational letters to commercial businesses, industry, and residences;
- Complete repairs in a timely manner;
- Prioritize repairs;
- Continuous training of staff;
- Maintain an alarm system in each sewer lift station.

Inspection procedures of the collection lines will be accomplished by using the following method and form:

- Visually inspect by line cleaning crews as they are scheduled to work in the area;
- Complete a manhole inspection report (Form 8-E, see Appendix H);
- Video inspections of internal pipelines;
- Additional observations during times of inclement weather;
- Inspect after receiving odor or lateral complaints that might be the result of a blockage;
- Inspect after receiving complaints of vandalism such as children playing in or around manholes;
- Daily sewer lift station checks.

9.7.2. Mechanism for Notification of all Sewage Spills from Private Laterals and Failing Septic Systems

The City has a Spill Prevention Plan that covers spills to the storm water conveyance system and originating from the sanitary sewer systems. Its intent is to prevent or minimize the potential for spills or sanitary sewer overflows by developing and implementing a procedural program. The City's goal is to respond appropriately to include containment, remediation, and reporting to all verified illicit discharges and connections. Additionally, the City has an active Sanitary Sewer Overflow Prevention Plan in place, and is in the process of developing a Sewer System Management Plan which will replace the Sanitary Sewer Overflow Prevention Plan.

9.8 Facilitate Public Reporting of Illicit Discharges and Connections - Public Hotline

The Municipal Storm Water Permit requires the City to promote, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s. The City facilitates public reporting through development and operation of a public hotline at (619) 424-4095 and through online reporting at www.cityofib.org. Outside of business hours, the hotline's recorded message refers callers to the County Sheriff's 24-hour dispatch office at (619) 585-7232. Additionally, a regional hotline is available at 800-THINK BLUE. All storm water hotlines are capable of receiving reports in both English and Spanish 24 hours per day / seven days per week. The City and other Copermittees respond to and resolve each reported incident in a timely manner. All reported incidents, and how each was resolved, is summarized in the City's Annual Report of this JURMP.

The City of Imperial Beach Urban Runoff Management and Discharge Control Ordinance (I.B.M.C. 8.30, see Appendix B) prohibits discharges and connections to the MS4 with only limited exception. City staff and members of the public are encouraged to report illicit discharges and other urban runoff violations to environmental staff for investigation.

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10.0 Education Component

The goal of this section is to reduce the impacts related to development in the City of Imperial Beach on water quality. This section is applicable to all City departments, in particular the departments that have the most contact with the general public, including the Community Development and Planning Department, the Capital Improvement Projects Division and the Environmental Program Division of the Department of Public Works. This section discusses those areas and activities of the Jurisdictional Urban Runoff Management Program (JURMP) that educate the public on measures they can take to avoid, minimize and mitigate pollutants and their impact on water quality.

The City is required to implement an education program using all media as appropriate to (1) measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. As a minimum, the education program shall meet the requirements of the Municipal Storm Water Permit (section D.5.) and address the following target communities:

- Municipal Departments and Personnel
- Construction Site Owners and Developers
- Industrial Owners and Operators
- Commercial Owners and Operators
- Residential Community, General Public, and School Children

10.1 General Requirements

Per the Municipal Storm Water Permit, each Copermittee shall educate each target community on the laws, regulations, permits, requirements, Best Management Practices (BMPs), general urban runoff concepts, and other topics where appropriate. A description of the content, form, and frequency of education efforts for each target community is provided in Appendix I to this JURMP.

Public education includes outreach to specific target groups and the general public. Opportunities for members of the public to participate in program development and implementation will be addressed in Chapter 11.0, Public Participation Component, of this JURMP.

A Regional Residential Education Program is under development by the Copermittees as required by the Municipal Storm Water Permit Sections D.3.c(5), F.1, and J.1..(1)(c), and will be included in Appendix I upon its completion

10.2 Specific Requirements

An employee training program has been implemented within the City to inform employees of the components and goals of storm water management plans. The training program focuses on the use of Best Management Practices (BMPs) in daily operations. It has been

designed to create an overall sensitivity to pollution prevention concerns. Open discussions are encouraged to further the importance and enhance the program. In addition, the effectiveness of the training program is evaluated routinely to verify that information has been communicated effectively to the employees.

10.2.1. Municipal Departments and Personnel Education

Community Development and Planning – The City is required to implement an education program so that its planning and development review staffs (and Planning Boards and Elected Officials, if applicable) have an understanding of:

a. Federal, state, and local water quality laws and regulations applicable to Development Projects;

b. The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization);

c. How to integrate LID BMP requirements into the local regulatory program(s) and requirements, and;

d. Methods of minimizing impacts to receiving water quality resulting from development, including:

- Storm water management plan development and review;
- Methods to control downstream erosion impacts;
- Identification of pollutants of concern;
- LID BMP techniques;
- Source control BMPs; and
- Selection of the most effective treatment control BMPs for the pollutants of concern.

Information on development planning requirements is provided to employees in training courses provided by the City, other Copermittees and the development planning related industry, and through the dissemination of fact sheets. The extent of training provided to each employee depends on the employee's job function. A copy of Chapter 4.0 of this JURMP that deals specifically with the development planning component will be provided to the Community Development/Planning Department for reference. Additionally, the Public Works Director meets with the Community Development/Planning Department on a weekly basis to discuss work in progress.

Municipal Construction Activities – The City is required to train staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at least once a year. Training shall cover inspection and enforcement procedures, BMP implementation, and reviewing monitoring data. Information on construction requirements will be provided to employees in training courses provided by the City, other Copermittees and the construction related industry, and through the dissemination of fact sheets.

10.2.2. New Development and Construction Education

The City is required by the Municipal Storm Water Permit to implement a program to educate project applicants, developers, contractors, property owners, community planning groups, and other responsible parties as early in the planning and development process as possible and all through the permitting and construction process. The education program must provide an understanding of the topics listed in Sections D.5.b.(1)(a) and D.5.b.(1)(b) of the Municipal Storm Water Permit, as appropriate for the audience being educated. The education program shall also educate the following groups on the importance of educating all construction workers in the field about stormwater issues and BMPs though formal or informal training:

a. Project applicants;
b. Developers;
c. Contractors;
d. Property Owners;
e. Community Planning Groups; and
f. Other Interested or Responsible Parties including Municipal staff.

Specialized training is conducted for the Development Planning staff on the City of Imperial Beach requirements for new development and significant redevelopment. The staff training includes at a minimum the following:

a. Federal, state, and local water quality laws and regulations applicable to development projects;
b. The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization); and
c. Methods of minimizing impacts to receiving water quality resulting from development (i.e., through implementation of various source control and structural BMPs).

The training program has been designed to create an overall sensitivity to pollution prevention concerns and focuses on the use of BMPs in new development and significant redevelopment. In addition, the effectiveness of the training program will be evaluated routinely to verify that information has been communicated effectively to the employees. The updated checklists and requirements for BMPs in the designs, during construction activities, and the post-development maintenance requirements for BMPs are addressed in the training.

The City has also implemented a program to educate project applicants, developers, contractors, property owners, and community planning groups on the same topics, above. In addition, the City provides face to face verbal instruction/training on the planning and development requirements and implementation of BMPs with applicants at the Permit counter. Fact Sheets and BMP brochures are available at the public counter in City Hall, and on the City of Imperial Beach Web site, which has been updated to include the new

requirements. The updated ordinances and/or other requirements are attached to applicable permits issued by the City of Imperial Beach. The City of Imperial Beach also coordinates and collaborates with other Copermittees in regional workshops or other events to target the construction and development community, and has provided updated ordinances and fact sheets on construction and land development to the San Diego Building Industry Association.

Construction Site Owners and Developers – The City is required to implement an education program that includes annual training prior to the rainy season so that its construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of the following topics, as appropriate for the target audience:

a. Federal, state, and local water quality laws and regulations applicable to construction and grading activities.
b. The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization and impacts from construction material such as sediment).
c. Proper implementation of erosion and sediment control and other BMPs to minimize the impacts to receiving water quality resulting from construction activities.
d. The Copermittee's inspection, plan review, and enforcement policies and procedures to verify consistent application.
e. Current advancements in BMP technologies.
f. SUSMP Requirements including treatment options, LID BMPs, source control, and applicable tracking mechanisms.

Industrial/Commercial Owners and Operators – The City is required to train staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at least once a year. Training shall cover inspection and enforcement procedures, BMP implementation, and reviewing monitoring data.

Additional training tools that have been used in the City of Imperial Beach's municipal training program include films and presentations, routine employee collaborative meetings, posting of material on bulletin boards, and the City's newsletter and regular FYI updates provided through the office of the City Manager to all employees.

A key to industrial and commercial education is to provide both general and specific information through as many avenues as possible. The key target audience to target will be the owners, operators, and supervisors. These employees set the standards for their subordinates. A variety of media and approaches for education that has been used to target this audience includes the use of the following:

- Brochures – general storm water information or industry-specific BMP information

- Mailings with business license renewals, solid waste collection invoices
- Updated Internet Storm Water website with BMPs and other requirements
- Solid Waste Contractor (EDCO) Quarterly Newsletter
- Chamber of Commerce – The City has successfully partnered with the Chamber of Commerce in the past and will continue to use this organization to disseminate information.
- Trade Associations – The City collaborates with the other Copermittees in this effective way of distributing industry-specific pollution prevention or specific BMP information. These associations conduct meetings or seminars and publish newsletters, magazines, and websites that reach members.
- Merchant Associations – General information can be provided to merchant associations for distribution to a broad range of member businesses. These associations are either geographically or politically oriented and hold regular meetings and often provide newsletters or websites to reach members.
- Workshops – Provide an opportunity for face-to-face education of numerous owners, operators, and supervisors of the regulated facilities on storm water regulations and BMPs.
- Franchise Chain Owners – Since many franchise facilities are designed and operated similarly, educating chain owners can be a quick and effective method of providing the same BMP information to more than one location simultaneously.
- Clean Water Business Partners or similar program – Provide recognition to businesses that incorporate water quality protection measures into their operations.

Municipal Other Activities – The City is required to implement an education program so that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed.

Training tools that have been used in the City of Imperial Beach's municipal training program include films and presentations, workshops, presentations to City Council, routine employee collaborative meetings, posting of material on bulletin boards, and the City's newsletter and regular FYI updates provided through the office of the City Manager to all employees and members of City Council.

The frequency of training takes into account the complexity of the operations and the nature of the staff. Municipal employees in the Public Works, Community Development, and Public Safety Departments are trained upon initial employment and annually thereafter.

The San Diego Unified Port District owns the Imperial Beach tidelands (which is defined as the distance from mean high tide to a point in the submerged lands of the Pacific Ocean), and the Imperial Beach Pier. The Port District leases from the City of Imperial Beach all of Ocean Boulevard (Paper Street from the north end of the City to a point 300 feet below the end of South Seacoast Drive. The Port District is responsible for all uses and activities in

the tidelands area, and is a Copermittee with the City of Imperial Beach on the San Diego Municipal Storm Water Permit. The City of Imperial Beach will work closely with the Port District in clarifying roles for implementing the JURMP and in conducting joint educational programs for the tidelands area.

The California American Water Company provides water service to the City of Imperial Beach, the City of Coronado, and portions of south San Diego and Chula Vista. The California-American Water Company is a private water company. It has corporate maintenance yards located in the City of Imperial Beach on the 10,000 block of Cherry Avenue and 600 block of 3rd Street. The company's storage tanks, wells, and/or booster pumps are not located within Imperial Beach. The City of Imperial Beach has provided BMPs and other educational materials that the City uses for training municipal employees at its municipal yards. The City encourages the California-American Water Company to implement BMPs consistent with the City of Imperial Beach's municipal program.

10.2.3. Residential, General Public, and School Children Education

Each Copermittee shall collaboratively conduct or participate in development and implementation of a plan to educate residential, general public, and school children target communities. The plan shall evaluate use of mass media, mailers, door hangers, educational booths and/or exhibits at public events, classroom education, field trips, hands-on experiences, and other educational methods.

Residential – Residential outreach efforts that the City of Imperial Beach has conducted and will continue with in the future include:

- Providing storm water specific articles in the quarterly Imperial Beach Newsletter that is mailed out to single-family residences.
- Inserting storm water specific articles in the quarterly newsletter sent to all commercial and multi-residential units by the City of Imperial Beach's waste hauler, EDCO.
- Distributing pamphlets, give-away items and other informational fact sheets on the storm water program from a booth at a public fair once or twice a year (e.g., Earth Day).
- Continuing the successful partnerships with Chula Vista and other local cities in providing recycling services and the pickup of household hazardous wastes from residences.
- Participating in regional educational efforts to residences.
- Providing updated storm water information on the City website.
- Providing fact sheets to owners, managers, and property management firms of multi-family residential units in Imperial Beach on residential BMPs. Encouraging management to restrict vehicle repairs in apartment parking lots.
- Providing fact sheets on storm water issues to Homeowners Associations and encouraging their distribution to residents.

- Continuing to support the efforts of local residential groups such as the I.B. Beautiful Club that conducts local landscaping projects.

As noted, a Regional Residential Education Program is under development by the Copermittees, and will be provided as an appendix to this JURMP. Additionally, a group of Copermittees meets regularly to discuss methods to reach the various socio-economic groups in the region, including providing outreach materials and attending cultural community events.

General Public – General public outreach efforts that the City of Imperial Beach has conducted and will continue in the future, in addition to the specific targeted audience educational/outreach efforts detailed in this chapter include:

- Participating in at least one regional program, such as Think Blue, that sponsors television or radio spots on storm water pollution awareness.
- Participating annually in at least one regional group that provides a public outreach message for storm water pollution awareness through the development of a pamphlet, workshop sponsorship, or other activity at a public venue.
- Participating in a local public fair annually by having a booth that distributes information on the storm water program and may include items with important telephone numbers such as for reporting storm water violations or for arranging the pickup of used oil.
- Providing articles on storm water pollution for local newspapers, to include success stories of the storm water program such as installation of dry weather diversion systems with the goal to reduce beach closures, the State funded grant project to study the bacterial sources of contamination in the Tijuana River, and other projects the City undertakes to keep pollution out of the MS4.
- The City is continuing to maintain and develop better content for the storm water Internet website of the City of Imperial Beach.
- Continued development of a display on storm water urban issues in public buildings or areas.

School Children – Education of school children is essential for promoting storm water awareness. School presentations to students from kindergarten through high school are focused at a variety of groups including individual classrooms, school assemblies, teacher workshops, and special events. Energetic and interactive presentations can be a creative way of educating students within a formal school setting. Presentations additionally provide an opportunity to deliver materials or verbal information indirectly to parents through students. Public education in Imperial Beach is provided by South Bay Union School District for the five elementary schools, with the Sweetwater Union School District serving grades 7 through 12 and adult education (one middle school, one high school, and an adult education center).
The City's Watershed Model is used as a visual tool for showing students how pollution from neighborhoods, businesses, and roads flow through storm drains and into rivers, estuaries, and oceans. Local teachers are able to borrow the watershed model from the

Environmental Division of the Public Works Department to use in their classrooms. Other local resources include:

- San Diego County Water Authority has an extensive grade K through 12 program that includes water awareness, water testing, school gardens, and water conservation.
- San Diego County Office of Education operates the "Splash Science Mobile Lab" (grades 4 through 6) and the "Marine Science Floating Lab" (grades 2 through 12).
- The Environmental Trust and San Diego Natural History Museum conduct the Museum to School Partnership / Communities Alive in Nature program that provides education and exposure to field activities. This is a grade K through 12 watershed-based core curricular program that integrates science, math, technology, language arts, and service learning. Students are required to perform monitoring/restoration projects and deliver public education. Students can focus on water quality, habitat, erosion, invasive species, and human impacts on watershed health.
- Coloring books and comic books with storm water and watershed themes have been developed to appeal to young children. The stories are educational and feature characters that are familiar from videos, cartoons, and presentation. Characters include "Wally and Rufus" (Stormwater Ducks), "Fancy Finn" (Riverside County Fish Mascot), "Miss Frizzle" (San Diego Natural History Museum), and the Teenage Mutant Ninja Turtles (US EPA).
- The City of Imperial Beach will continue activities with the Tijuana River Estuary Ranger Program that provide age-specific outdoor projects for children and increase environmental awareness.

Another approach that may be used to educate all ages of students is to encourage development of educational curricula that incorporates storm water issues. From elementary school through high school, storm water issues can appropriately be incorporated into water science, biology, environmental studies, health science, and driver's education courses. The City of Imperial Beach will annually send educational information to schools for teachers to consider incorporating into their courses.

The City of Imperial Beach is developing a relationship with each school district and will provide information on the City of Imperial Beach Municipal program BMPs and a copy of training materials for use by the school district in training their facility maintenance and maintenance yard personnel.

11.0 Public Participation Component

The City of Imperial Beach is required to incorporate a mechanism for Public Participation in the implementation in the updating, development, and implementation of the Jurisdictional Urban Runoff Management Program (JURMP). In working with the public, the City gains a better understanding of public perception and attitudes toward the problem of storm water runoff, and works to foster participation through community-based projects or volunteer activities focused on reducing storm water pollution.

The City of Imperial Beach holds a Public Hearing and solicits public comments prior to the adoption of the JURMP and the Annual Reports of the JURMP. Other mechanisms the City uses include the following:

a. A Storm Water Hotline to report storm water issues and violators.
b. An e-mail hotline to report storm water issues through the City of Imperial Beach Internet website.
c. Coordinating cleanup activities at local storm water outfalls.
d. Encouraging environmental groups, civic organizations, and other interested local groups to conduct litter cleanups
e. Stenciling of storm drains with messages such as “No Dumping, Flows to Ocean”.

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12.0 Fiscal Analysis

The Municipal Storm Water Permit section G (see Appendix M) requires the City to secure the financial resources necessary to implement its JURMP in compliance with all Permit requirements. It further requires the City to report on its projected program budget for the upcoming year.

The Environmental Program Division of the Department of Public Works is the City's division responsible for reporting on the JURMP fiscal analysis to the Regional Board each year. The Environmental Program Division annually collects financial information from City, analyzes the fiscal information, and reports the findings in the City's annual report of the JURMP to the Regional Board

This section focuses on first identifying the estimated costs associated with the implementation of the JURMP activities, and second, describes the processes the City will use to conduct the fiscal analysis each year. The goals of the fiscal analysis are to:

- Document the need for City departments and divisions other than the Environmental Program Division to budget for JURMP activities (e.g., administration, training, and BMP deployment).
- Document the need for the Environmental Program Division to budget for all permit-required activities.
- Document the City's expenditures for activities that improve storm water quality but that are not specifically required by the JURMP (e.g., trash and sewage collection, recycling programs, enforcement of littering ordinances).
- Provide data for future program and cost effectiveness analyses through the permit-required "Program Effectiveness Assessment" (see Section 13.0).

The City of Imperial Beach previously completed a financial review of its Jurisdictional Urban Runoff Management Program according to the requirements as specified under Regional Board Order No. 2001-001. The City determines annual operating expenditures by using expected funds from various sources and comparing against proposed expenditures by Department. The Departments' proposed expenditures adjust to provide a balanced budget for the year. Storm water activities are distributed among many City Departments and programs although funds for these activities are maintained separately by each Department. To simplify the tracking of storm water costs, staff hours with benefits and an overhead rate that covers copying, printing, computer time, and other incidentals is the mechanism shown on the example fiscal analysis sheets. This Section discusses the following program element for the Fiscal Analysis Component.

Any solution to public and private problems due to storm water pollution and related water quality impairment requires financial commitments of sufficient amount,

stability, fairness, and equity. It is important to create a mix of financial mechanisms for more flexible and cost effective solutions to storm water management and control necessary to meet federal, state and local requirements. Adequate funding of storm water management and a combined effort from various City Departments are fundamental to maintaining water quality. Typically, funds are procured through various taxes, fees, and grant mechanisms within the City such as:

- City user fee on trash service
- City user fee on sewer usage
- State appropriated funds
- Federal/State Grant funds

Recognizing the significant challenge of maintaining compliance while continuing to rely heavily on its General Fund, the City Council authorized staff to hire an outside consulting firm in November 2004 to seek a more secure funding source for its storm water program. It was estimated at the time that the City's General Fund subsidized slightly more than half of all storm water program costs. Staff determined that a storm water fee would be most appropriately correlated to solid waste collection rates, and initiated a study on that premise. The logic behind assigning a storm water fee to trash collection is that solid waste material collected from users of developed property correlates proportionately to pollutants that are not captured and that enter the MS4 as a result. Moreover, nearly all pollutants of concern are classified as solid waste by definition within existing state and local ordinances. The cost to eliminate, remove, transport, and dispose of such wastes is, therefore, a legitimate solid waste program expenditure recoverable through the collection of fees assessed to solid waste service users throughout the City.

The consulting firm was tasked with developing a rate model that would seek to recover $500,000 in program costs. This represents an approximation of the portion of the existing program that was being subsidized by the General Fund. Analysis of the rate model revealed the need to increase solid waste rates by 28.6% for both residential and commercial customers. Following a public hearing, the City Council approved the fee in October 2005 as recommended. Fee collection began January 1, 2006 and is helping offset costs that were previously taken out of the General Fund. EDCO Disposal, the City's franchise waste hauler, has agreed to collect the fee and reimburse the City at no charge, saving both the City and taxpayers money.

12.1 General Funds

The top ten revenues accounting for 85% of the total General Fund and supports many of the expenditures for the storm water urban runoff management program. The revenues originate as follows:

- Sales taxes.

- Property taxes. Reflects apportionment payments made to Imperial Beach by the County and provides insights into the actual assessed value growth in Imperial Beach.

- Transient occupancy tax (TOT). These are taxes received from hotels, motels, and other lodging facilities.

- Port District. Leased beach lands to the Port of San Diego Unified Port District provides City income.

- Vehicle in-lieu fee (VLF). The League's Grassroots Network is the key to protecting this vital General Fund revenue source. The state continues to eye the VLF "*backfill*", which represents 67% of the $1.3 million "*total*" VLF revenue. If the state succeeds in, once again, balancing its budget on the heels of Cities, this could cost Imperial Beach over $900,000 annually in VLF.

- Business license taxes. Taxes from the number of individuals licensing their businesses.

- Franchise fees. Franchise fees from the Water Fund are included.

- Interest. Earnings are based on the 6-month Treasury bill. Interest earnings require a mid-year revenue budget adjustment.

12.2 Special Funds

- Traffic Safety Grant,
- SLESF COPS Grant,
- LLEBG COPS Grant,
- L&LMD Lighting,
- Vehicle Maintenance/Replacement,
- Risk Management/Self-Insurance, and
- Technology/Telecommunications

12.3 Sewer Enterprise Fund

This is an enterprise fund, separately funded by fees collected for services provided.

12.4 CDBG Funds

These are funds related to the Community Development Block Grant.

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13.0 Program Effectiveness Assessment

The Municipal Storm Water Permit requires the City as part of its Jurisdictional Urban Runoff Management Program (JURMP) to annually assess the effectiveness of its JURMP implementation. This section discusses requirements that apply to measuring the effectiveness of the JURMP.

13.1 Minimum Requirements

13.1.1. Annual Assessment for Effectiveness of Activities/BMPs, Major Components, and Implementation of the JURMP

At a minimum the annual effectiveness assessment will specifically address each of the following:

- Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented shall be assessed.

- Implementation of each major component of the Jurisdictional Urban Runoff Management Program (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge Detection and Elimination, and Education) shall be assessed.

- The City shall assess the implementation of the JURMP as a whole on an annual basis.

The City will annually assess the effectiveness of its JURMP implementation as a whole, and the effectiveness of each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented for each major component of the JURMP (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge Detection and Elimination, and Education). This will include a description of the regionally accepted reporting, assessment, and data management standards to be utilized in implementing and assessing jurisdictional and watershed programs, activities, and BMPs.[1] Program effectiveness indirectly gauges whether the processes and procedures put into place are working toward protecting the quality of receiving waters.

13.1.2. Identify Modifications and Improvements

The City must identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section 13.1.1 above.

It has been recommended the measurable targeted outcomes be linked to programmatic, social, or environmental indicators.[2] For example, the number of

[1] Program effectiveness assessments for each component of the JURMP are included in Appendix K.
[2] Clayton, Richard A. and Brown, Whitney E., 1996. *Environmental Indicators to Assess Stormwater Control Programs and Practices*. Center for Watershed Protection. Silver Springs, MD. pp.171.

stop work orders issued may also be used as a performance assessment measure and uses the number of illegal non-stormwater discharges reported as an effectiveness measure. Another assessment measure might include measuring the amounts of materials collected in programs such as the used oil recovery program where it could be concluded that more oil recycled is less oil potentially discharged into the storm drain system.

13.1.3. Assess Effectiveness of Activities/BMPs, Major Components, and Implementation of the JURMP

The City must utilize outcome levels 1-6[3] to assess the effectiveness of each of the items listed in section 13.1.1 above, where applicable and feasible.

A key element in the assessment process is the selection of measurement criteria that will demonstrate compliance with the Municipal Storm Water Permit and be comparable between the Copermittees to support a watershed management approach. When JURMPs were initially developed in 2002, the San Diego Municipal Storm Water Copermittees agreed to report on a series of programmatic measures that would be tracked over time to demonstrate progress. It quickly became apparent that simple measures of program activity, though useful in describing level of effort, were not helpful in describing the effect of program implementation on water quality change. Recognizing this, Copermittees set out to develop a framework that would provide guidance for refining and improving effectiveness assessment strategies. In October 2003, the Copermittees submitted to the RWQCB a *Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs*. The purpose of this document was threefold. It defined the role of effectiveness assessment in the context of both program planning and implementation. It laid out key management questions that would assist Copermittees in asking and answering the right assessment questions. And perhaps most importantly, it described a hierarchy of program outcomes that attempts to link program implementation activities with other measures of effectiveness such as changes in awareness, behavior, pollutant loadings, and receiving water quality.

The Copermittees are working together to facilitate assessment of the effectiveness of the jurisdictional, watershed, and regional programs (Municipal Storm Water Permit section I, see Appendix M). Standards for Reporting and Assessment of Copermittee Urban Runoff Management Programs have been developed for the Copermittees to use in implementing and assessing their jurisdictional and watershed programs, activities, and BMPs.[4] For each significant BMP, activity, or program element for which regional assessment standards are established, the Copermittees will also provide a consolidated discussion and rationale of the applicability and feasibility of the use of Level 1

[3] Effectiveness outcome levels are defined in Attachment C of the Municipal Storm Water Permit (see Appendix M).
[4] See Appendix K.

through 6 outcomes[5] in conducting their assessments. The City of Imperial Beach will satisfy these requirements separately for any significant BMP, activity, or program element not addressed regionally.

Based on the results of each effectiveness assessment, the City will annually review its jurisdictional activities or BMPs to identify modifications and improvements needed to maximize JURMP effectiveness, as necessary to achieve compliance with the Municipal Storm Water Permit, section I. Per the Municipal Storm Water Permit, the Copermittees are to develop and implement a plan and schedule to address the identified modifications and improvements. Jurisdictional activities/BMPs that are ineffective or less effective than other comparable jurisdictional activities/BMPs shall be replaced or improved upon by implementation of more effective jurisdictional activities/BMPs. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, jurisdictional activities or BMPs applicable to the water quality problems shall be modified and improved to correct the water quality problems.

13.1.4. Utilize Monitoring Data and Analysis from the Receiving Waters Monitoring Program

The City will utilize the monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness of each of the items listed in section 13.1.1 above, where applicable and feasible.

13.1.5. Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment

The City will utilize the Implementation Assessment, Water Quality Assessment, and Integrated Assessment, where applicable and feasible.

The regionally prepared Baseline Long-Term Effectiveness Assessment (LTEA) has been utilized by the Copermittees as a sound mechanism for guiding watershed activity development and coordination of efforts. The LTEA incorporates water quality and source data, thereby providing insight into water quality issues within the WMA, potential pollutant sources, and the appropriate best management practices (BMPs) to reduce or eliminate pollutant loading. The LTEA also has taken into account the unique natures of both the Tijuana River WMA and the San Diego Bay WMA as a whole, as well as their respective sub-watershed characteristics that may impact the larger WMAs. It has been demonstrated in the past that constituents of concern identified in the sub-watersheds may not be ubiquitous throughout the greater Tijuana River WMA or San Diego Bay WMA, creating a unique and challenging dynamic for the Copermittees.

[5] Level 1-6 Outcomes as identified in Appendix K.

By utilizing the LTEA, the Copermittees are provided with a baseline from which to develop watershed activities to address priority pollutants in the WMA. During this reporting period, the San Diego Bay Copermittees focused on the LTEA process to address the high priority sources of pollution in the watershed. The San Diego Bay Copermittees discussed standardization of water quality data collection and source inventories. Source inventories were established in the LTEA to better delineate clusters of commercial-type activities that may be contributing to degradation of receiving waters. Modifications to commercial type inspections were considered in order to collect standardized data that would enable the San Diego Bay Copermittees to estimate potential load reductions based on source and BMP data from targeted facilities.

13.2 Identify Modifications and Improvements

Based on the results of the effectiveness assessment, the City is required to annually review its jurisdictional activities or BMPs to identify modification and improvements needed to maximize JURMP effectiveness, as necessary to achieve compliance with section A of the Municipal Storm Water Permit (see Appendix M). The City shall develop and implement a plan and schedule to address the identified modifications and improvements. Jurisdictional activities/BMPs that are ineffective or less effective than other comparable jurisdictional activities/BMPs shall be replaced or improved upon by implementation of more effective jurisdictional activities/BMPs. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, jurisdictional activities or BMPs applicable to the water quality problems shall be modified and improved to correct the water quality problems.

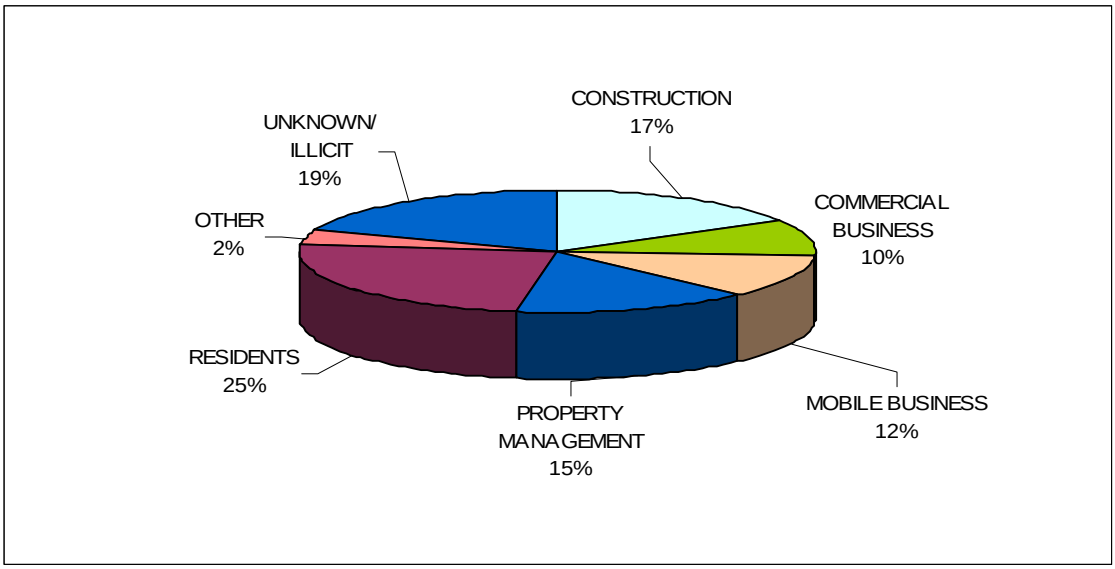
13.3 JURMP Annual Report

The City is required to report on its JURMP effectiveness assessment as implemented under each of the requirements of section 13.1 above.

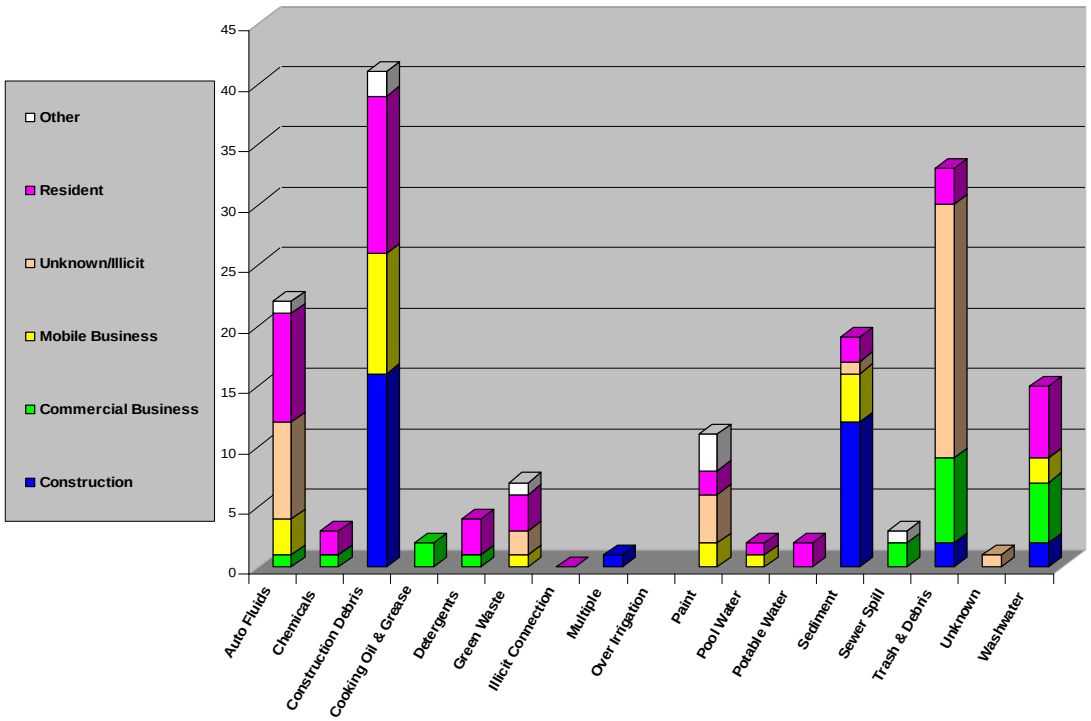
At least annually, the City of Imperial Beach compiles information to provide a status of the JURMP. Refinement of the program is essential to continued improvement of measurement and evaluation tools. Regulatory agencies such as the State Water Resources Control Board, San Diego Regional Water Quality Control Board and U.S. Environmental Protection Agency provide results of BMP effectiveness studies, public awareness surveys, and special program updates that can be used in combination with annually collected URMP information for the region, watersheds, and jurisdictions. The goal of continual improvement will only be obtained by carefully reviewing annual information and evaluating new technologies for incorporation into the JURMP. The City works closely with the other Copermittees to meet this goal.

The Annual Report summarizes the year-long implementation of the JURMP. Information is presented in charts, graphs, tables, spreadsheets, and figures for

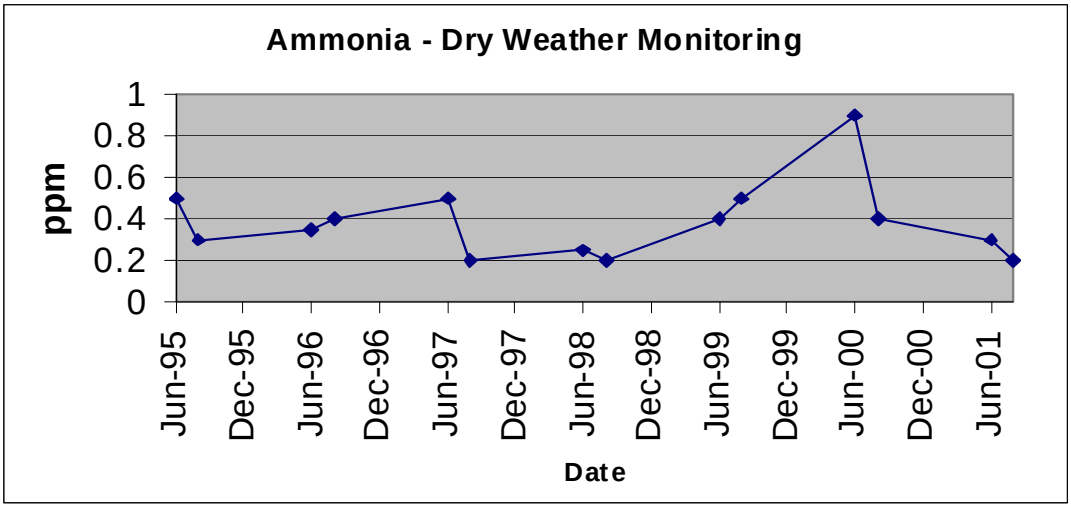
an "at-a-glance" view of the City of Imperial Beach's efforts to maintain compliance with the Municipal Storm Water Permit and manage an urban runoff program. Photographs will be used to highlight a particular event or accomplishment. A few examples are shown below.



Example Figure



Example Chart



Example Graph

The City of Imperial Beach evaluates the information presented in the charts, figures, and graphs to determine whether any modifications are necessary to the program. Effectiveness of Best Management Practices (BMPs), implementation of processes and procedures, and the attainment of performance goals assist in determining what areas of the JURMP are meeting the City's expectations. Minor modifications to BMPs, processes, and procedures will be implemented without notification to the Principal Permittee or the San Diego Regional Water Quality Control Board. Recommendations for any Component within the JURMP will be provided in the Annual Report and discussed with the appropriate groups prior to implementation.

The City of Imperial Beach will continue to improve this program through collaboration with the other Copermittees and interested stakeholder groups. The product is a JURMP that is useable, current, and adjusts for the incorporation of new, applicable technologies. This chapter defines the elements of a successful storm water management program, the measurable criteria, and presentation format.

14.0 Modifications

In order to improve efficiency and effectiveness of the City's efforts to reduce the impacts of urban activity on receiving water quality within City boundaries to the maximum extent practicable, and to ensure compliance with the new Municipal Storm Water Permit, San Diego Regional Water Quality Board Order R9-2007-0001, the City has updated its JURMP with notable changes as described below in Table 14-1.

Modifications of this JURMP may be initiated by the Executive Officer of the Regional Board or by the City. Requests by the City shall be made to the Executive Officer, and shall be submitted during the annual review process. Requests for modifications will be incorporated, as appropriate, into the City's Annual Reports or other deliverables required or allowed under the Municipal Storm Water Permit. Minor modifications to the JURMP may be accepted by the Executive Officer where the Executive Officer finds the proposed modification complies with all discharge prohibitions, receiving water limitations, and other requirements of the Municipal Storm Water Permit. Proposed modifications that are not minor shall require amendment of the Municipal Storm Water Permit in accordance with its rules, policies, and procedures. The City does not intend to make any modifications that would require amendment of the Municipal Storm Water Permit.

Based on the results of effectiveness assessments or other sources of information, the City will annually review its activities. It will also continue to coordinate with the watershed and regional Copermittees to identify activities and other modifications and improvements needed to maximize program effectiveness with the various Urban Runoff Management Programs. Plans and schedules developed to address the identified modifications and improvements will be submitted separately by the appropriate groups.

Table 14-1. Modifications to the JURMP

Section	Notable Changes
Executive Summary	Formatting changes and separated "Conclusions and Recommendations" out into a separate section to be placed at the end of this program document. Executive Summary was moved to beginning of JURMP.
JURMP Compliance Reference Index	Deleted. Each section of this JURMP correlates directly to its respective section in the Municipal Storm Water Permit (see Appendix M).
1.0 Introduction	Formatting changes to comply with Municipal Storm Water Permit. Added description of new Municipal Storm Water Permit. Described enhanced overview to include emphasis on watersheds, and move from program implementation to water quality results. Maps and other figures moved to Appendix N.
2.0 Non-Storm Water Discharges	Chapter 2 from the previous JURMP has become Chapter 6.0, Municipal Component.
3.0 Administrative and Legal Procedures	Chapters 3 and 4 from the previous JURMP have been combined to become Chapter 7.0, Industrial and Commercial Component.

Section		Notable Changes
4.0	Development Planning	This material was previously depicted as Chapter 6, Land-Use Planning, and has been renamed. All tables with reference to the prior Municipal Storm Water Permit were deleted, and requirements of the new Municipal Storm Water Permit are written within the chapter with descriptive subheadings. Form 6-A, Environmental Checklist, and Form 6-B, Environmental Information Form, have been moved to Appendix C. The City's SUSMP has been updated, and a copy has been included in Appendix C, along with other guidance material. A regional Hydrologic Modification Plan has been developed in order to curb erosion of channel beds and banks. Low impact development (LID) concepts are required for all new development and redevelopment projects, along with more effective BMPs. An inspection program has been developed to ensure maintenance of permanent BMPs.
5.0	Construction	The Construction component was previously located in Chapter 7. Chapter 5 under the previous JURMP referred to the Residential Component of the Municipal Permit, which may now be found in Chapter 8.0, Residential. All tables with reference to the prior Municipal Storm Water Permit were deleted, and requirements of the new Municipal Storm Water Permit are written within the chapter with descriptive subheadings. Form 7-A, Checklist for Building/Grading Permits, has been moved to Appendix D.
6.0	Municipal	The Municipal component was previously depicted as Chapter 2 under the old Municipal Permit. All tables with reference to the prior Municipal Storm Water Permit were deleted, and requirements of the new Municipal Storm Water Permit are written within the chapter with descriptive subheadings.
7.0	Industrial and Commercial	Section D.3.b.(3) of the Municipal Permit combines inspection requirements for industrial and commercial sites, previously submitted as Chapters 3 and Chapter 4, respectively. With this change, the City is required to inspect 25% of its inventoried industrial and commercial sites annually. Changes include modification of numbering within this section to correlate with the Municipal Storm Water Permit numbering. All tables with reference to the prior Municipal Storm Water Permit were deleted, and requirements of the new Municipal Storm Water Permit are written within the chapter with descriptive subheadings.
8.0	Residential	The Residential component was previously located in Chapter 5 and now becomes Chapter 8.0. All tables with reference to the prior Municipal Storm Water Permit were deleted, and requirements of the new Municipal Storm Water Permit are written within the chapter with descriptive subheadings.
9.0	Illicit Discharge Detection and Elimination	This component was in Chapter 8 in the previous JURMP. All tables with reference to the prior Municipal Storm Water Permit were deleted, and requirements of the new Municipal Storm Water Permit are written within the chapter with descriptive subheadings.
10.0	Education	This component was in Chapter 9 in the previous JURMP. All tables with reference to the prior Municipal Storm Water Permit were deleted, and requirements of the new Municipal Storm Water Permit are written within the chapter with descriptive subheadings.
11.0	Public Participation	This component was in Chapter 10 in the previous JURMP. All tables with reference to the prior Municipal Storm Water Permit were deleted, and requirements of the new Municipal Storm Water Permit are written within the chapter with descriptive subheadings.
12.0	Fiscal Analysis	This component was in Chapter 11 in the previous JURMP. All tables with reference to the prior Municipal Storm Water Permit were deleted, and requirements of the new Municipal Storm Water Permit are written within the chapter with descriptive subheadings.

Section	Notable Changes
13.0 Program Effectiveness Assessment	This component has been updated to reference the new Municipal Storm Water Permit, and has expanded its focus from simply maximizing pollutant load reductions (effectiveness) to also include cost effectiveness (efficiency). The material was previously located in Chapter 11, Assessment of JURMP Effectiveness Component. The Copermittees are developing a description of regional reporting, assessment, and data management standards to be utilized in implementing and assessing jurisdictional and watershed programs, activities, and BMPs. This description will be included in this JURMP in Appendix L upon completion. All tables with reference to the prior Municipal Storm Water Permit were deleted, and requirements of the new Municipal Storm Water Permit are written within the chapter with descriptive subheadings.
14.0 JURMP Modifications	Refers to this document.
15.0 Conclusions and Recommendations	Deleted from the Executive Summary. This material was previously found in Chapter 14.
16.0 References	This material was previously located in Chapter 15.
Figures	Figure 9-1 Dry Weather Sampling Grid – deleted and replaced with MS4 Map (see Appendix E) to better correlate with monitoring needs of the City. All other figures are referenced within their respective chapters.
Appendices	Added Appendices to correlate with each section of the Municipal Storm Water Permit and each section of this JURMP. Appendix A, Control Measures Required to be Implemented for Non-Storm Water Discharges, has been added. The Storm Water Ordinances are now located in Appendix B, Administrative and Legal Procedures, and the Grading Ordinance is located in Appendix D, Construction, to align with the setup of the Municipal Storm Water Permit. The Inventories are now located in the Appendix they correlate to for each component of the JURMP. The Best Management Practices have also been relocated to the Appendix of the specific component they refer to. The Caltrans Storm Water Quality Practice Guidelines (both Construction and Municipal) have been replaced with the California Stormwater Quality Association (CASQA) Stormwater Best Management Practice Handbooks (New Development and Redevelopment, Construction, Industrial and Commercial, and Municipal). Reference pages for where these documents may be found are located in the appropriate Appendix.

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15.0 Conclusion and Recommendations

The City has taken measures to protect and improve water quality since the last Municipal Storm Water Permit was issued in January of 2001. The Mayor and City Council are committed to improving storm water quality, and many of the improvements that were initiated under the previous Municipal Storm Water Permit have been incorporated into the JURMP with each successive Annual Report submitted. The City is working with the other Copermittees in partnership to address the water quality throughout the watershed. This includes identifying and addressing highest priority water quality problems in the watershed that also occur in the jurisdiction, and developing activities that include education, public participation, and land use planning to effectively reduce or eliminate contributions to the pollution in efforts to improve water quality.

The City of Imperial Beach is committed to the goal to ***protect and improve the water quality of rivers, bays, estuaries and the ocean***. This JURMP maps the road to achieving that goal. The City recognizes that it faces several significant challenges in implementing this program because of its small geographic area, its limited financial resources, and the relatively new concepts required by the Municipal Storm Water Permit. To overcome these challenges, the City has established an implementation strategy that most efficiently obtains its goals. This strategy includes focusing efforts on moving the entire City forward on all fronts toward improving water quality. Emphasis has been put on education, integrated implementation of urban runoff BMPs for new development and existing development, and inspection and enforcement at all facilities and areas of the City. This phase of the JURMP shifts activities toward a watershed approach, leading to a more prioritized effort of the specific areas of concern throughout the watersheds in cooperation with the other Copermittees.

The City's success in achieving our goal to protect and improve water quality of rivers, bays, estuaries, and the ocean will depend on the City and its constituents' acceptance and involvement in the program. We, the City Council, the City of Imperial Beach, and the City Staff are committed to our goal. Our citizens and residents are called to provide the political and social will to maintain this commitment.

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16.0 References

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