

**STORMWATER MANAGEMENT PLAN**  
**For the City of Baytown for Compliance with**  
**Texas Pollutant Discharge Elimination System (TPDES) Permit**  
**Number TXR040000**  
**For Municipal Separate Storm Sewer System Discharges**



**July 2019**

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### LIST OF ACRONYMS

BMP	Best Management Practice
CFR	U.S. Code of Federal Regulations
CWA	Clean Water Act
EPA	U.S. Environmental Protection Agency
GIS	Geographic Information System
HCFCDD	Harris County Flood Control District
MCM	Minimum Control Measure
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
POTW	Publicly Owned Treatment Works
SIC	Standard Industrial Classification
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TCEQ	Texas Commission on Environmental Quality
TAC	Texas Administrative Code
TOC	Total Organic Carbon
TPDES	Texas Pollutant Discharge Elimination System
TSS	Total Suspended Solids



## City of Baytown Stormwater Management Plan

### 1.0 INTRODUCTION

#### 1.1 REGULATORY BACKGROUND

In 1972, Congress amended the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act ["CWA"]) to prohibit the discharge of any pollutant to waters of the United States from a point source unless the discharge is authorized by an National Pollutant Discharge Elimination System ("NPDES") permit. The NPDES program is a program designed to track point sources and require the implementation of the controls necessary to minimize the discharge of pollutants.

In 1987, Congress amended the CWA to require implementation, in two phases, of a comprehensive national program for addressing stormwater discharges. The first phase of the program, commonly referred to as "Phase I," was promulgated by EPA on November 16, 1990 (Federal Register, Volume 55, Page 47,990 [55 FR 47990]). Phase I requires NPDES permits for stormwater discharge from a large number of priority sources, including municipal separate storm sewer systems ("MS4's") generally serving populations of 100,000 or more and several categories of industrial activity, including construction sites that disturb five or more acres of land.

EPA promulgated the second phase of the stormwater regulatory program, commonly referred to as "Phase II," on December 8, 1999 (64 FR 68722). The complete Federal Register announcement can be viewed on the EPA website as listed in the References Section of this document. Phase II regulations address stormwater discharges from certain MS4's serving populations of less than 100,000 people (called "small MS4's"). In summary, the regulations, which may be found in Title 40, Part 122 of the Code of Federal Regulations (40 CFR 122), require that all small MS4 operators located in Urbanized Areas (as defined by the latest U.S. census) must "develop, implement and enforce a Stormwater Management Program ("SWMP") designed to reduce the discharge of pollutants from [the] MS4 to the maximum extent practicable, to protect water quality..."

EPA has delegated authority to issue MS4 stormwater discharge permits, in Texas, to the State of Texas. Under the authority of the Texas Water Code and the CWA, the Texas Commission on Environmental Quality ("TCEQ") issued the Texas Pollutant Discharge Elimination System ("TPDES") General Permit (No. TXR040000) to discharge stormwater from small MS4 systems to waters of the state on August 13, 2007. The text of the permit can be viewed on the TCEQ website as listed in the References Section of this document. The Texas Commission on Environmental Quality ("TCEQ") issued the renewed Texas Pollutant Discharge Elimination System ("TPDES") General Permit (No. TXR040000) to discharge waste from small MS4 systems to waters of the state on December 13, 2013 and again on January 16, 2019. The general permit's effective date is January 24, 2019.

#### 1.2 PROGRAM RATIONALE

##### 1.2.1 Regulatory Requirements

As the City of Baytown (hereinafter, "the City") operates a small MS4 located within an urbanized area, as determined by the U.S. Census Bureau, it must obtain authorization for the discharge of stormwater runoff and is eligible for coverage under the TCEQ General Permit No. TXR040000.



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The Phase II Rule defines a stormwater management program for a small MS4 as a program composed of six elements that, when implemented together, are expected to reduce pollutants discharged into receiving water-bodies to the Maximum Extent Practicable (“MEP”). These six program elements, or minimum control measures (MCM), are

- Public Education and Outreach on Stormwater Impacts
- Public Involvement/Participation
- Illicit Discharge Detection and Elimination
- Construction Stormwater Runoff Control
- Post-Construction Stormwater Management in New Development and Redevelopment
- Pollution Prevention/Good Housekeeping for Municipal Operations

The implementation and evaluation of these six minimum control measures comprise the heart of the City’s Stormwater Management Program. Within each MCM category, specific Best Management Practices (“BMPs”) were selected based on a number of factors, including recommendations for small MS4s from the EPA and TCEQ, City staff and consultant recommendations, City Council review and the 303d listing of local water bodies. For each MCM the City must:

- Select appropriate BMPs, which are various methods of reducing pollutants in stormwater runoff;
- Define measurable goals for each BMP;
- Establish an implementation schedule; and
- Assign a responsible person or persons for implementing all activities.

This initial stormwater management plan is to be submitted with a Notice of Intent (NOI) to the TCEQ to acquire coverage under the general permit. Modifications to this SWMP are permitted, although the revisions shall be summarized in the annual report submitted to the TCEQ.

### 1.2.2 SWMP Development

On March 6, 2003, the City of Baytown entered into a contract with Post, Buckley, Schuh, & Jernigan, Inc. (“PBS&J”), a municipal consulting firm for the development of the Phase II Stormwater Management Program. PBS&J and City staff performed the steps described in this section to determine the most appropriate BMPs for the City of Baytown. In 2014 this plan was modified to address Reissued TXR040000. In 2019 this plan was modified to address Reissued TXR040000.

#### A. BMP and Measurable Goal Selection Process

A comprehensive BMP inventory was developed using various resources including the Environmental Protection Agency’s *National Menu of Best Management Practices for Stormwater Phase II* and examples from other MS4s. The BMP inventory provided an inclusive list of BMPs for each Minimum Control Measure (MCM). City of Baytown personnel reviewed the list and indicated which BMPs were already in existence in the City and also identified potential future BMPs to achieve the goal of improved stormwater quality. Existing BMPs were reviewed and compared with regulatory requirements in the draft permit for each MCM. Where existing programs and regulatory authority were incompatible, additional BMPs were recommended. PBS&J and City personnel completed a final list of BMPs to reduce pollutants to the Maximum Extent Practicable. This list was provided to City Council for additional review.



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The regulations and draft plan were initially presented to Council at the City Council Work Session Meeting on February 26, 2004. A notice of public hearing was placed in the February 29, 2004 issue of *The Baytown Sun* and copies of the BMPs were made available in the City Clerk's Office and on the City of Baytown website for public review. A public hearing on the draft plan was held in March of 2004 although no comments from the public were received at that time. An additional series of presentations was provided at Council Work Sessions from July to November 2005. The updated draft of the Plan was made available on the Baytown website from July 28, 2005 until present for public review. In addition the availability of the draft plan and the Council Work Session presentations were noticed in the *Marsh Matters* newsletter published in August 2005. Following the adoption of the TCEQ TPDES General Permit for small MS4s, an additional work session was held with City Council on November 19, 2007 and two additional public meetings were held on November 29 and December 13, 2007. The Approved Stormwater Management Plan was adopted on January 24, 2008 and was sent to TCEQ for final approval.

Small MS4 permit was issued on March 11, 2009 and expired on August 13, 2012.

An application was submitted for renewal of Small MS4 permit number TXR040018 in June 2014.

An application was submitted for renewal of Small MS4 permit number TXR040018 in June 2019

As a result of these efforts, a list of selected BMPs was developed along with suitable Measurable Goals which are provided in Sections 3 through 8 of this document.

### 1.2.3 Public Participation

As an applicant under the TCEQ General MS4 Permit, the City of Baytown must comply with the following public noticing procedure:

- a) The applicant must submit the NOI and a SWMP to the TCEQ executive director.
- b) After the applicant receives written instructions from the TCEQ's Office of Chief Clerk, the applicant must publish notice of the executive director's preliminary determination on the NOI and SWMP.
- c) The notice must include:
  - i. the legal name of the small MS4 operator;
  - ii. identify whether the NOI is for a new MS4 or is a renewal of an existing operation;
  - iii. the address of the applicant;
  - iv. a brief summary of the information included in the NOI, such as the general location of the MS4 and a description of the classified receiving waters that receive the discharges from the MS4;
  - v. the location and mailing address where the public may provide comments to the TCEQ;
  - vi. the public location where copies of the NOI and SWMP, as well as the executive director's general permit and fact sheet, may be reviewed; and



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- vii. if required by the executive director, the date, time, and location of the public meeting.
- d) This notice must be published at least once in a newspaper of general circulation in the county or counties in which the small MS4 is located. This notice shall provide opportunity for the public to submit comments on the NOI and SWMP. In addition, the notice shall allow the public to request a public meeting. A public meeting will be held if the TCEQ determines that there is significant public interest.
- e) The public comment period begins on the first date the notice is published and ends 30 days later, unless a public meeting is held. If a public meeting is held, the comment period will end at the closing of the public meeting. The public may submit written comments to the TCEQ Office of Chief Clerk during the comment period detailing how the NOI or SWMP for the small MS4 fails to meet the technical requirements or conditions of this general permit.
- f) If significant public interest exists, the executive director will direct the applicant to publish a notice of the public meeting and to hold the public meeting. The applicant must publish notice of a public meeting at least 30 days before the meeting and hold the public meeting in a county where the small MS4 is located. TCEQ staff will facilitate the meeting.
- g) If a public meeting is held, the applicant shall describe the contents of the NOI and SWMP. The applicant shall also provide maps and other data on the small MS4. The applicant shall provide a sign in sheet for attendees to register their names and addresses and furnish the sheet to the executive director. A public meeting held under this general permit is not an evidentiary proceeding.
- h) The applicant must file with the Chief Clerk a copy and an affidavit of the publication of notice(s) within 60 days of receiving the written instructions from the Office of Chief Clerk.
- i) The executive director, after considering public comment, shall approve, approve with conditions, or deny the NOI based on whether the NOI and SWMP meet the requirements of this general permit.
- j) Persons whose names and addresses appear legibly on the sign in sheet from the public meeting and persons who submitted written comments to the TCEQ will be notified by the TCEQ's Office of Chief Clerk of the executive director's decision regarding the authorization.



## **City of Baytown Stormwater Management Plan**

### 1.3 THE PURPOSE OF THIS DOCUMENT

This document describes the City's SWMP activities for the implementation period of December 13, 2013 through August 2018. It includes all selected BMPs for each of the six minimum control measures, measurable goals for each BMP, an implementation schedule, and a listing of the person responsible for implementation of all activities. This document provides a clear road map for implementing stormwater quality management activities to protect the health of the recreational public and the environment, meet Clean Water Act mandates through compliance with Phase II NPDES Permit requirements and applicable regulations, and to foster heightened public involvement and awareness.

### 1.4 ORGANIZATION OF THIS DOCUMENT

This document is organized into various sections as follows:

**Section 1 – Introduction:** This section provides background information on the stormwater regulatory program, defines the purpose of this document, and describes document organization.

**Section 2 – City Background:** This section provides general information about the City, including setting and character, form of government, legal authority, and provides brief summaries of existing programs.

**Section 3 – Public Education and Outreach on Stormwater Impacts:** This section describes the regulatory requirements, permit requirements, current city programs, selected BMPs, measurable goals, implementation schedule, and responsible parties pertaining to MCM-1.

**Section 4 – Public Involvement/Participation:** This section describes the regulatory requirements, permit requirements, current city programs, selected BMPs, measurable goals, implementation schedule, and responsible parties pertaining to MCM-1.

**Section 5 – Illicit Discharge Detection and Elimination:** This section describes the regulatory requirements, permit requirements, current city programs, selected BMPs, measurable goals, implementation schedule, and responsible parties pertaining to MCM-3.

**Section 6 – Construction Stormwater Runoff Control:** This section describes the regulatory requirements, permit requirements, current city programs, selected BMPs, measurable goals, implementation schedule, and responsible parties pertaining to MCM-4.

**Section 7 – Post Construction Stormwater Management in New Development and Redevelopment:** This section describes the regulatory requirements, permit requirements, current city programs, selected BMPs, measurable goals, implementation schedule, and responsible parties pertaining to MCM-5.

**Section 8 – Pollution Prevention/Good Housekeeping for Municipal Operations:** This section describes the regulatory requirements, permit requirements, current city programs, selected BMPs, measurable goals, implementation schedule, and responsible parties for MCM-6.

**Section 9 –Record keeping and Reporting:** This section describes the annual reporting requirements of the permit.



## **2.0 CITY BACKGROUND**

### **2.1 SETTING AND CHARACTER**

The City of Baytown is located on the northern shore of Galveston Bay between the San Jacinto River on the west and the Trinity River on the east. The City is located in the Coastal Plains section of Texas along the eastern boundary of Harris County with limited projections of incorporated area into Chambers County. The City is bordered by: Tabbs Bay to the south; I-10 to the North; Cedar Bayou to the east; and the San Jacinto River/Houston Ship Channel to the west and is located entirely within the North Galveston Bay Watershed. Three sub-watersheds exist within the City the San Jacinto River Watershed, the Spring Gully/Goose Creek Watershed, and the Cedar Bayou Watershed.

#### **Cedar Bayou Watershed**

The Cedar Bayou channel forms most of the boundary between Harris County and Liberty and Chambers Counties, with about half of the watershed in Harris and the remainder in the other two counties. Cedar Bayou flows in a southward direction from its headwaters in Liberty County to its mouth at Galveston Bay. The watershed covers approximately 202 square miles, with Cedar Bayou being the sole primary stream. There are about 128 miles of open streams within the watershed, including the primary stream and tributary channels.

Much of the Cedar Bayou watershed is undeveloped with the exception of the City of Baytown, located in Harris and Chambers Counties and Mont Belvieu, located in Chambers County. The watershed is primarily rural and agricultural, with the most development activity related to large commercial grass farming operations. Development of residential housing and/or industrial and commercial facilities are expected to increase slowly.

Most of the primary stream and floodplain is environmentally sensitive due to the saltwater marshlands in the lower reaches and the undeveloped natural channel reaches upstream of Baytown. The Texas Parks and Wildlife Department considers the area around the mouth of Cedar Bayou (Spring Gully and Goose Creek Watershed) to be a critical wildlife habitat, Spring Gully flows southward from Highlands Reservoir to Burnett Bay, adjacent to the Houston Ship Channel. Goose Creek flows from the Highlands Reservoir through the City of Baytown and Goose Lake into Tabbs Bay on the Houston Ship Channel. A significant drainage area exists just north of the Highlands Reservoir that drains to Barbers Hill Road. At the northwest corner of the reservoir and Barbers Hill Road, the runoff splits. A portion of the runoff flows around the reservoir perimeter and into the upper end of Spring Gully, while the rest of the runoff flows into Bluff Gully, which is a small tributary that flows into the San Jacinto River.

The Spring Gully & Goose Creek watershed covers about 32 square miles and includes two primary streams: Spring Gully and Goose Creek. There are about 60 miles of open streams within the watershed, including the primary streams and tributary channels.

Much of the watershed is undeveloped, with the exception of the Baytown area. The upper and middle portions of the watershed consist of scattered development and



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agricultural areas. Urbanization is expected to slowly expand northward from the City of Baytown and I-10.

The Texas Parks and Wildlife Department has noted the shoreline along Barnett Bay, at the mouth of Spring Gully, for its habitat value and high environmental quality. Throughout most of the watershed, environmental sensitivity is high due to the low levels of urbanization.

Most of Goose Creek upstream of Park ST has been cleared and modified in the past and is regularly maintained or is lined with concrete. The lower third of the channel is subject to tidal influences and is characterized by meandering loops through brackish to intermediate marsh. The creek drains into Goose Lake, a tidally influenced natural lake that becomes Tabbs Bay. The Texas Parks and Wildlife Department has also noted the shoreline near Tabbs Bay as an environmentally sensitive area that should be protected.

### **San Jacinto River Watershed**

The San Jacinto River watershed is a very large watershed that originates well outside of the City of Baytown. The San Jacinto River flows through much of eastern Harris County and joins with the Houston Ship Channel before flowing into Galveston Bay along the southwestern edge of the city. The watershed (within Harris County) extends through the cities of Houston, Galena Park, Pasadena, Deer Park, Baytown, Humble, La Porte, Morgan's Point, Shore Acres and Seabrook. The channels within the watershed drain all or part of Harris, Montgomery, Waller, and Walker, Grimes, Liberty and San Jacinto counties, for a total drainage area of approximately 4,500 square miles. In Harris County, the San Jacinto River watershed covers about 487 square miles and includes seven primary streams: The San Jacinto River, the Houston Ship Channel, Cotton Patch Bayou, East Fork San Jacinto River, Boggy Bayou, Patrick's Bayou and Panther Creek. There are about 310 miles of open streams within the watershed, including the primary streams and tributary channels.

The San Jacinto River flows from its headwaters near Huntsville, through Lake Conroe and Lake Houston. The Port of Houston Authority operates the Houston Ship Channel, which originates at the Turning Basin and follows the original alignment of Buffalo Bayou to the San Jacinto River. The Ship Channel continues through the San Jacinto River and San Jacinto Bay to Galveston Bay, which is the ultimate outfall for all drainage from the City of Baytown.

Various portions of the watershed are developing at different rates, with the largest increases occurring near Lake Houston and the Houston Ship Channel. The Ship Channel supports the Port of Houston, which is the third largest port in the world and can accommodate ocean-going vessels to the Turning Basin. A recent expansion of the channel has sparked new industrial growth in the area.

The San Jacinto River hosts a typical riverine ecosystem and contains reaches that are totally natural, as well as reaches with development encroaching to the water's edge. Lake Houston is heavily urbanized, although large areas of undeveloped property still exist in close proximity to the lake. The Houston Ship Channel is heavily industrialized and was created by extensive dredging and widening.



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The climate for Baytown is sub-tropical dominated by the Gulf of Mexico. The weather in Baytown is comfortable with warm summers averaging in the low 90's and mild winters with average temperatures in the mid-60. Snow is virtually non-existent in the area. Rainfall occurs consistently year-round resulting in much greenery and vegetation every season. The growing season is about 309 days each year. Baytown average annual rainfall is 48 inches per year.

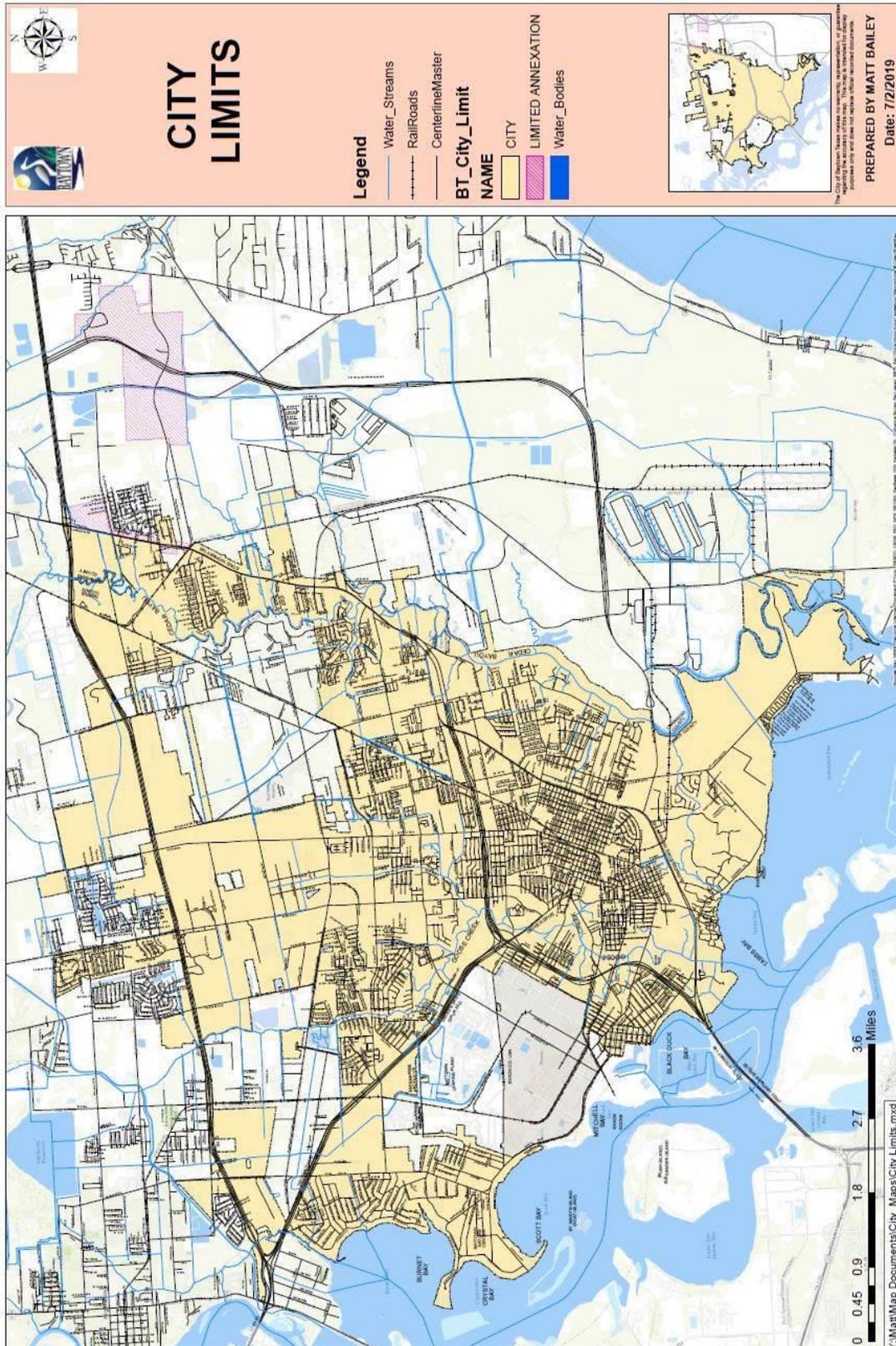
The City of Baytown is moderately flat, with elevation in the 0 to 35 foot range. The City covers 33 square miles in area and the center is located at 29.75096 degrees latitude and -94.94394 degrees longitude. A wide range of major soil types is found in the area. Soil types include: Addicks loam (Ad); Addicks-Urban land complex (Ak); Aldine very fine sandy loam (Am); Aldine-Urban land complex (An); Aris-Urban land complex (As); Atasco fine sandy loam (AtB); Beaumont clay (Ba); Beaumont-Urban land complex (Bc); Bernard clay loam (Bd); Bernard-Urban land complex (Bg); Edna fine sandy loam (Ed); Gessner loam (Ge); Harris clay (Ha); Ijam soils (Is); Kenney-Urban land complex (Ku); Lake Charles clay (LcA & LcB); Lake Charles-Urban land complex (Lu); Midland-Urban land complex (Mu); Nahatche loam (Na); Urban land (Ur); Vamont clay (VaB); Vamont-Urban land complex (Vn); and Voss sand (Vo). (USDA, 1976).

The 2010 US Census identifies a total population of 71,802 individuals and 24,995 households within the City. Most residents are employed within the City of Baytown and the greater metropolitan Houston area. The population of Baytown is 34.2% Hispanic or Latino; 62.9% White; 16.8% a race other than those listed by the U.S. Census; 15.5% Black or African American; 2.7% two or more races; 1.8% Asian; 0.3% American Indian or Alaska Native; and 0.2% Native Hawaiian and Other Pacific Islander. Twenty-eight percent of the population speaks a language other than English at home.



# City of Baytown Stormwater Management Plan

## Figure 2-1 Vicinity Map





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### 2.2 RECEIVING WATERBODIES

Stormwater runoff from the City drains to one of seven major receiving waters: Black Duck Bay; Burnett Bay; Cedar Bayou; Goose Creek (including the east and west fork); Scott Bay; San Jacinto River/Houston Ship Channel; and Tabbs Bay. Information regarding each of these water bodies is provided below.

- Black Duck Bay (2428) is located along the southwest border of the City at 29.71 degrees latitude and -95.01 degrees longitude. This water body is identified on the state's 303(d) list as impaired by dioxins found in catfish and crab tissue and PCBs in catfish, spotted sea trout and blue crab. The TMDL for dioxin is underway and TMDL development for PCBs is a high priority. (TCEQ, 2012). Nonpoint sources of nickel are currently not significant enough to require specific additional management measures..
- Burnett Bay(2430) is located along the northwest border of the City. This water body is identified on the state's 303(d) list as impaired by dioxins found in catfish and crab tissue and PCBs in catfish, spotted sea trout and blue crab. The TMDL for dioxin is underway and TMDL development for PCBs is a high priority. (TCEQ, 2012).
- Cedar Bayou Tidal (0901) flows south along the eastern border of the City at 29.67 degrees latitude and -94.93 degrees longitude. This water body is identified on the state's 303(d) list as impaired by dioxins found in catfish and crab tissue. The TMDL for dioxin is underway. (TCEQ, 2012). This is an impaired water body and has a Total Maximum Daily Load (TMDL) associated with it for bacteria. Because of this, the City must meet requirements in Part II.D.4 of the general permit for "Impaired Water Bodies and Total Maximum Daily Load (TMDL) Requirements". A benchmark must be determined along with targeted controls to address implementation towards reducing bacteria levels.
- Goose Creek flows through the heart of the City and drains into Tabbs Bay. Goose Creek (including the east and west forks) does not appear on the State of Texas Clean Water Act Section 303(d) list of impaired waters or List of Water Body Assessments (TCEQ, 2012).
- The San Jacinto River Tidal(1001) flows along the western border of the City. This water body is identified on the state's 303(d) list as impaired by dioxins, PCBs and pesticides found in fish and/or crab tissue. The TMDL for dioxin is underway and TMDL development for PCBs is a high priority. (TCEQ, 2012).
- Scott Bay(2429) is located along the western border of the City at latitude of 29.74 and longitude of -95.01. This water body is identified on the state's 303(d) list as impaired by dioxins found in catfish and crab tissue and PCBs in catfish, spotted sea trout and blue crab. The TMDL for dioxin is underway and TMDL development for PCBs is a high priority. (TCEQ, 2012).
- Tabbs Bay is located along the southern border of the City. This water body is identified on the state's 303(d) list as impaired for dioxins found in catfish and crab tissue and PCBs in catfish, spotted sea trout and blue crab. The TMDL for dioxin is underway and TMDL development for PCBs is a high priority. (TCEQ, 2012).
- In addition San Jacinto Tidal(1001),Tabbs Bay(2426), Black Duck Bay(2428), Scott Bay(2429) and Burnett Bay(2430) are identified on the state's 303(d) list as impaired for dissolved nickel. The TMDL for dissolved nickel is underway. However, the Baytown Ms4 does not have the potential to cause or contribute to the nickel impairment.



## City of Baytown Stormwater Management Plan

### 2.3 FORM OF GOVERNMENT

The City of Baytown municipal government is a "council-manager" form of government as provided by charter. Pursuant to its provisions and subject only to the limitations imposed by the state constitution and by this charter, all powers of the city shall be vested in an elective council, which enacts local legislation, adopts budgets, determines policies, and appoints the city manager. The city manager executes the laws and administers the government of the city.

### 2.4 LEGAL AUTHORITY

In accordance with Local Government Code § 5.004, the city is a home-rule municipality.

### 2.5 EXISTING PROGRAMS

The City currently has a number of programs that assist with meeting TPDES/NPDES requirements. These programs are managed and staffed in various departments throughout the City. The overview provided below describes the activities of each department that relate to the Stormwater Pollution Prevention Program. A number of these programs are included as existing BMPs that will be continued as part of the SWMP. The SWMP has been fully implemented as of January 2013.

#### 2.5.1 Multiple Departments

The City of Baytown has established a Development Review Committee to streamline the plan review process for local developments. Meetings of the Development Review Committee (DRC) are held regularly and representatives from the Engineering, Planning, Health, Fire, Public Works, City Administration, and Utility Billing Departments attend. Developers must submit for review civil drawings two weeks prior to DRC meeting. The Planning Department distributes copies of the plans to the appropriate departments for review prior to the meetings.

#### 2.5.2 Health Department

The Health Department is responsible for the public environmental health concerns of the City. Included programs are: food establishment permits and inspections, public swimming pool permits and inspections, vector control (mosquito control), environmental pollution complaints, stormwater management programs, municipal drainage utility fee system, stormwater construction compliance, neighborhood public nuisance complaints (high grass, weeds, illegal dumpsites and junk vehicles), public education and information opportunities and major scheduled clean-up activities. A number of the on-going programs from this department assist the City in meeting NPDES/TPDES requirements.

The department has developed a number of ordinances, programs and brochures to reduce littering and illegal dumping and other forms of stormwater pollution. In addition, the department



## City of Baytown Stormwater Management Plan

holds a number of public events to educate the public and increase public participation in keeping Baytown beautiful including Trash-Off Day and Adopt-A-Street.

The Stormwater Division is housed within the Health Department and is responsible for the oversight of the Stormwater Management Program.

### 2.5.3 Parks Department

The Parks and Recreation Department is responsible for the direction, supervision, operation and maintenance of 42 parks, comprising more than 928 acres, of which 584 acres are fully developed requiring regular maintenance. The department is responsible for mowing over 120 miles of the City's medians/parkways, roadsides, ditches, alleys and the grounds of City Hall. The department operates a greenhouse/tree nursery at the Park Street Service Center and oversees the recreational trail system established along Goose Creek. As part of the effort to manage pesticide and herbicide use within the City, the department trains pesticide application staff annually. Interpretive signs are located within some of the facilities and parks that describe the impacts of polluted storm runoff and how the public can minimize their impact on water quality.

The department maintains the Bayland Waterfront Marina, Restaurant and Boat Launching Facility, Eddie V. Gray Wetlands Education and Recreation Center, and the Baytown Nature Center. Staff conducts a Wetlands Educational Program for fifth graders in Goose Creek Consolidated Independent School District and nature programs for all citizens. The department also provides an educational newsletter *Marsh Matters* which is distributed biannually and includes a variety of information regarding the local environment. In 2004 the department also began the development of a pilot program for watershed education for 8<sup>th</sup> graders and has signed up to be a water sampling site for the Texas Beach Watch Program.

In addition to daily and seasonal maintenance operations, the Parks and Recreation Department sponsors and co-sponsors, many youth/adult programs, plus special events such as the Arbor Day, Earth Day, Trash-Off Day, Water7 Works Camps, TCEQ Environmental Science Teacher Training workshops, fishing camps, Nature Fest, Bay Day, and adult fishing tournaments.

### 2.5.4 Engineering Department

The Engineering Department plans, designs, and manages construction and engineering projects for improvement and expansion of municipal infrastructure. In addition, the department provides a thorough review of construction drawings and plats submitted by local developers for approval through the Development Review Committee. The Engineering Department reviewed submitted plans for stormwater requirements until July 2005, after that time, this duty was switched to the Health Department, Stormwater Management Division.

### 2.5.5 Public Works/Utilities Department

#### Public Works

The Public Works Department is responsible for the maintenance of street and drainage facilities, traffic control devices and solid waste needs as well as maintenance of city departments' equipment in the public works garage; providing a safe and adequate work zone for city construction job sites; and maintenance of the city-wide fueling facility. The department owns and operates two street sweepers and conducts street sweeping activities each day. Street



## **City of Baytown Stormwater Management Plan**

sweepers are also sent out by citizen request. The department also operates the Baytown Recycling Center which accepts the following materials: glass, metal, paper, cardboard, plastic and plastic bags. In addition, the department conducts brush collection activities.

The department also conducts activities to maintain proper operation of stormwater drainage, detention and water quality features including post-construction BMPs owned, operated and maintained by the City.

The Utilities Department provides operation and maintenance of the drinking water distribution system including 458 miles of transmission lines, 7 elevated storage tanks, and 4 emergency well sites to keep the City supplied with water as well as the operation and maintenance of the sanitary sewer collection system, treatment and discharge of sanitary sewage, and the monitoring of waste that enters the collection system from food, commercial and industrial establishments. The department also ensures that discharges from auto washing facilities are treated and discharged into the sanitary sewer system, not the storm sewer system.

### **2.5.6 Planning Department**

The Planning and Development Services Department consists of three divisions. The Planning Division administers the Comprehensive Plan, subdivision ordinance, zoning ordinance, landscape ordinance, telecommunication ordinance, street light request, utility availability, impact fee assessments, and implements special studies, policies and programs. The Department oversees growth and development in the City and its extraterritorial jurisdiction (“ETJ”).

The Building Services Division is responsible for administering the codes and ordinances that prescribe minimum construction standards to safeguard the public’s health, safety and general welfare. This includes plan review and permits issuance for all construction related activity whether it is new construction, renovations or repairs. Subsequent field inspections are conducted to assure that the project adheres to the adopted codes. In addition to building, electrical, mechanical and plumbing permits the department also administers the sign code through the review of applications and issuance of sign permits.

The Community Development Division is responsible for community development and revitalization activities, primarily in older or declining neighborhoods. Activities of this division include the planning and administration of a wide range of services including housing, code enforcement, infrastructure improvements, and social services. Primary funding comes from the United States Department of Housing and Urban Development through the Community Development Block Grant (CDBG) program. Other funding comes from the City of Baytown’s General Fund and Harris County for transportation.

## **2.6 MUNICIPAL FACILITIES SUBJECT TO TPDES PERMITS**

The City of Baytown owns and operates a number of facilities that are subject to TPDES stormwater regulations for industrial facilities. The table below includes the facility name, address; SIC code, Industrial code and available TCEQ permit numbers.



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**City of Baytown Facilities Subject to Industrial Stormwater Permits**

<b>Facility Name</b>	<b>Facility Address</b>	<b>Facility SIC/Industrial Activity Code</b>	<b>Facility Industrial Code</b>	<b>TCEQ Permit Number</b>
West District WWTP	1510 East Interstate 10	4952	TW- Treatment Works	TXR 05T544; TXR 05S880
Northeast District WWTP	8808 Needlepoint Rd, BAYTOWN TX 77521	4952	TW- Treatment Works	TXR05AK30
East District WWTP	3030 Ferry Rd.	4952	T- Treatment Works	TXR 05T383; TXR 05T543
City of Baytown Fleet Maintenance Facility	2123 Market St, Baytown, TX	4111-4173	P: Land Transportation and Warehousing	TXR 05W315
Central District WWTP	1709 West Main Street	4952	TW- Treatment Works	TXR 05T542; TXR 05S956
Fire and Police Department Fleet Maintenance Facility	3200 North Main	4111-4173	P: Land Transportation and Warehousing	TXR 05W316
Bayland Marina (City of Baytown does not operate this site)	2601 South Hwy 146	4493	Q: Water Transportation: Marinas	Unknown
Parks and Recreation Department Equipment Maintenance Facility	1210 Park Street	4111-4173	P: Land Transportation and Warehousing	TXR 05W317

A stormwater pollution prevention plan has been created and implemented at each of the operations listed in the above table.



## **City of Baytown Stormwater Management Plan**

### **3.0 MCM-1 PUBLIC EDUCATION, OUTREACH, AND INVOLVEMENT**

The Public Education and Outreach minimum control measure is intended to ensure greater public support and compliance for the stormwater management program. Specifically these efforts are to teach the public the importance of protecting stormwater quality, both for the benefit of the environment and human health. The role of each community member, both at home and work, are a particular emphasis.

#### **3.1 REGULATORY REQUIREMENTS**

40 CFR 122.34 (b)(1) states that “The MS4 operator must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.”

#### **3.2 TPDES PERMIT TEXT**

##### **Public Education, Outreach and Involvement**

- (a) A public education program was developed and implemented to distribute educational materials to the community or conduct equivalent outreach activities that will be used to inform the public. The MS4 operator may determine the most appropriate sections of the population at which to direct the program. The MS4 operator must consider the following groups and the SWMP shall provide justification for any listed group that is not included in the program:
  - (1) residents;
  - (2) visitors;
  - (3) public service employees;
  - (4) businesses;
  - (5) commercial and industrial facilities; and
  - (6) construction site personnel.

The outreach must inform the public about the impacts that stormwater run-off can have on water quality, hazards associated with illegal discharges and improper disposal of waste, and steps that they can take to reduce pollutants in stormwater runoff.

- (b) The MS4 operator must document activities conducted and materials used to fulfill this control measure. Documentation shall be detailed enough to demonstrate the amount of resources used to address each group. This documentation shall be retained in the annual reports required in Part IV.B.2. of this general permit.



## **City of Baytown Stormwater Management Plan**

### 3.3 DISCUSSION OF CURRENT PROGRAMS

#### 3.3.1 Stormwater Brochures

Description: The Health Department has developed a number of informational brochures for the stormwater program. Existing brochures are targeted towards city residents. Existing brochures include:

- Homeowner's Solution to Stormwater Pollution
- Managing Stormwater Challenges in Baytown
- La Solución a la Contaminación del Agua de Tormenta
- Administrando los Desafíos del Agua de Tormenta en Baytown
- Volunteer Gutter Patrol: Stormwater Inlet Marking Program
- MDUS Fee FAQs
- Stormwater Pollution Door Hanger

And describe how residents can reduce their impacts on our local water resources. The brochures are distributed at a number of City offices including the Sterling Library, Utility Billing, Public Works, the Wetlands Center, and the Municipal Court as well as at special events, by mail, through enforcement activities, and upon request.

Measurable Goals: The City will continue to distribute these brochures as appropriate and will compile the number of brochures distributed.

Evaluation: Use year one distribution as a baseline and improve distribution by 10 percent annually.

#### 3.3.2 City of Baytown Website

Description: The City maintains an informational website which includes an overview of stormwater issues and the Clean Water Act along with the six Minimum Control Measures the City must follow to comply with NPDES requirements. Annual report will be available at; <https://www.baytown.org/city-hall/departments/public-health/stormwater>

Measurable Goals: The City will expand the current stormwater page on the existing website to include stormwater educational materials, the adopted SWMP, SWMP program contact information, event schedules and dates, and monthly reports. The City will track the number of hits to the starting page of the stormwater program and submit those tallies in the annual report of the program. The city will advertise the webpage in all brochures and print materials.

Evaluation: Compare list of current content to proposed content to determine if appropriate information has been posted. Ensure monthly updates were conducted.

#### 3.3.3 Event participation

Description: The Parks and Recreation Department sponsors and co-sponsors special events such as the Arbor Day, Earth Day, Water Works Camps, TCEQ Environmental Science Teacher Training workshops, fishing camps, Nature Fest, Bay Day, and adult fishing tournaments where information regarding stormwater issues is distributed.



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Measurable Goals: The Stormwater Division will work with the Parks Department to provide new exhibits and materials for relevant public events. Staff will keep a list of events attended, the materials distributed at each event, and the number of attendees at each event.

Evaluation: Compare events attended with events available to ensure adequate participation – at least 80% of traditional events attended per year.

### 3.3.4 Eddie V. Gray Wetlands Education and Recreation Center

Description: The City currently operates the Eddie V. Gray Wetlands Educational and Recreational Center which features exhibits on watersheds and non-point source pollution, a viewing lab complete with microscopes and sample specimen, local habitat exhibits, a library and computer research area and a wetlands viewing area. The Center conducts educational workshops for fifth and eighth graders in the Goose Creek Consolidated Independent School District. Student workshops focus on the function and value of wetlands and the influence of stormwater runoff upon wetlands and its effects on other environmental systems. The Center is open to the public Monday through Friday from 9 a.m. to 4 p.m., and Saturdays from 10 a.m. to 4 p.m., except holidays. Entry is free.

Measurable Goals: The City will continue to post information about the Wetland Center and the fifth and eighth grade educational programs on the Wetland Center website. The City will continue to invite students in these grade levels to attend the workshops and will continue to reach 100% of students enrolled in these grade levels in the Goose Creek Consolidated ISD. The City will maintain a copy of the environmental topics covered during the workshops. The City will record the total number of classrooms and students participating each year.

Evaluation: Compare attendance at workshops to total number of students enrolled in these grade levels in the Goose Creek CISD.

### 3.3.5 Wetlands Newsletter

Description: The City currently distributes an educational newsletter to members and other supporters of the Eddie V. Gray Wetlands Educational and Recreational Center. “Marsh Matters” is a biannual newsletter of the Eddie V. Gray Wetlands Educational and Recreational Center. The goal of the publication is to educate local residents and visitors about the importance of wetlands and to inform citizens of upcoming activities and events.

Measurable Goals: Continue to print “Marsh Matters”, but increase development to quarterly. The City will record the number individuals and groups receiving the newsletter. The City will maintain a file copy of each newsletter.

Evaluation: Compare baseline distribution (biannual) to current distribution (target: quarterly). Confirm that stormwater articles are included in each issue.

### 3.3.6 Nature Center Programs

Description: The City’s Nature Center currently hosts a number of educational programs for citizens throughout the year. Current programs focus on wetlands, birding, hunting, boating and more.



## City of Baytown Stormwater Management Plan

**Measurable Goals:** The center will develop and hold at least one stormwater oriented program per year. The City will advertise the program on the Eddie V. Gray Wetlands Educational and Recreational Center website, through the newsletter and at the facility. The City will maintain a copy of the environmental topics covered during the program(s). The City will record the total number of citizens participating each year.

**Evaluation:** Compare the number of stormwater focused events held at the Eddie V. Gray Wetlands Educational and Recreational Center to the baseline number held each year.

### 3.3.7 Library of Educational Materials

**Description:** The resource library, which is available to educators and members of the public, is housed at the Wetlands Center (described above). The library includes videos, journals, posters, curriculum guides, and CDs for use in an educational setting.

**Measurable Goals:** Advertise the availability of these materials to local schools that are not able to visit the Eddie V. Gray Wetlands Educational and Recreational Center directly. Compile a list of the number of items checked out by local teachers and the number of students that were educated using the materials.

**Evaluation:** Compare baseline number of users to current users.

### 3.3.8 Interpretive Signs in Parks and Pet Waste Containers Along Recreational Trails

**Description:** The Parks Department has established a number of interpretive signs in local parks and along the recreational trail by Goose Creek. These signs explain to users the types of activities they can take part in to protect our natural resources.

**Measurable Goals:** Inventory current interpretive signs and track number with stormwater information included. Install additional signs along the new phases of Goose Creek Trail as appropriate along with pet waste containers.

**Evaluation:** Compare baseline sign numbers with current sign numbers to track installation.

### 3.3.9 Anti-Littering and Dumping Brochure

**Description:** The City currently distributes the Neighborhood Protection brochure which provides an anti-littering and anti-dumping message. The City will evaluate the existing brochure and update as necessary.

**Measurable Goals:** The City will continue to distribute this brochure. The brochure will be available to the public at accessible City facilities and the City's website. The brochure will be distributed at City and community events. The City will maintain a file copy of the brochure and record the number of brochures distributed each year.

**Evaluation:** Compare number of brochures distributed to current population to determine percent reached. Use year one as a baseline and improve distribution each year.



## City of Baytown Stormwater Management Plan

### 3.3.10 Household Hazardous Waste Collection

Description: The City of Baytown has established a household hazardous waste collection annual event for motor oil, antifreeze, pesticides and other common waste materials in to educate the public about the proper disposal of HHW and to ensure that these items are not poured down the storm drains.

Measurable Goals: Continue to participate in Household Hazardous Waste Collection events and record the amount and type of materials collected. Provide information to the public regarding the appropriate disposal methods for these wastes. Provide information regarding less toxic alternatives.

Evaluation: Use year 1 collection/participation data as a baseline and improve collection/participation annually.

### 3.4 SELECTED BMPS

The following BMPs will be implemented:

#### 3.4.1 Targeted Commercial Brochures

Description: The City developed stormwater brochures specifically addressing stormwater impacts from automotive facilities, restaurants and nurseries and landscapers. The brochures will outline methods by which these businesses can reduce stormwater impacts.

Measurable Goals: The City will create and print targeted commercial brochures. The brochures will be distributed to local businesses annually. The brochure will also be available on the City website and distributed at City and community events. The City will maintain a file copy of the brochure and record the number of brochures distributed each year.

Evaluation: Use year one distribution as a baseline and improve distribution by 10 percent annually.

#### 3.4.2 Utility Bill Stormwater Memo/Inserts

Description: The City will produce and mail out a utility bill memo or insert twice annually. Additional copies will be maintained at City Hall. The insert will include informational material regarding upcoming events, activities, and programs which focus on stormwater and other environmental themes. Inserts will also contain educational materials informing customers about non-point source pollution and the steps they can take to reduce pollutants in stormwater runoff.

Measurable Goals: Educational utility bill inserts will be procured from third-party sources (possibly City of Houston, etc.) and customized for City of Baytown use. The insert will be sent to residents and businesses twice annually. Extra copies of the insert will be maintained at the Sterling Library, City Hall, Municipal Court and the Wetlands Center. The City will record the total number of inserts distributed.

Evaluation: Compare target (2 inserts per year) to actual.



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### 3.4.3 Baytown Municipal Cable Channel

Description: The City has and will continue developing programming for a local cable channel that will be dedicated to providing community programming and information. The channel is broadcasting, the City posts monthly messages on the channel addressing upcoming stormwater related events or provide stormwater impact minimization tips or run stormwater videos provided by TCEQ and EPA.

Measurable Goals: The City will create monthly stormwater messages and air them on the municipal cable channel. The City will maintain a file copy of posted messages and dates of posting.

Evaluation: Compare actual number of messages developed to target.

### 3.4.4 Public Speaking Engagements

Description: Several community groups consisting of Baytown citizens hold periodic meetings and activities. These groups include gardening centers, construction developers, automotive business, environmentalists, chamber of commerce and others. The City will submit proposals to these groups to discuss stormwater issues. Groups accepting the City's proposal will receive a presentation focusing on the stormwater runoff cause and effect and potential remedies to reduce associated impacts.

Measurable Goals: The City will submit proposals to community groups annually. The City will record the groups notified and the manner in which they were contacted. The City will give a presentation to all groups accepting the proposal. The City will record the date, community group addressed, topics discussed and the number of attendees for each presentation.

Evaluation: Compare target invitations to actual and target presentation number to actual.

### 3.4.5 Public Service Announcements and Press Releases

Description: The City will provide public service announcements and/or press releases to publicize stormwater related events.

Measurable Goal: The City will prepare press releases and/or public services announcements for Stormwater Division sponsored events and activities as appropriate.

Evaluation: Compare number of Stormwater Division sponsored events to number of press releases developed.

**Implementation, activities, measurable goals, schedules, and responsible parties for existing and new BMPs are presented in Table 3-1.**

**City of Baytown Stormwater Management Plan**

<b>Table 3-1 BMP</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability*</b>
<b>EXISTING</b>				
Stormwater Brochures	Develop and distribute general Stormwater Program brochures.	Complete activity. Document the number of brochures distributed at distribution centers and during public events.	Health Dept.	R, V, PSE, B, CIF, CSP
City of Baytown Website	Maintain an informational website which includes an overview of stormwater issues and the Clean Water Act along with the six Minimum Control Measures the City must follow to comply with NPDES requirements.	Expand the website content to include stormwater educational materials, the adopted SWMP, SWMP program contact information, event schedules and dates, and annual reports. The City will track the number of hits to the stormwater site.	Health Dept. /ITS	R, V, PSE, B, CIF, CSP
Public Events	Sponsor and co-sponsor special events where information regarding stormwater issues is distributed. Events may include the Arbor Day, Earth Day, Water Works Camps, TCEQ Environmental Science Teacher Training workshops, fishing camps, Nature Fest, and Bay Day.	Provide new exhibits and materials for relevant public events. Staff will keep a list of events attended, the materials distributed at each event, and the number of attendees at each event.	Parks Dept. /Health Dept.	R, V, PSE, B, CIF, CSP
Wetlands and Recreation Center	Conduct educational program for fifth and eighth graders in Goose Creek Consolidated Independent School District. Provide educational materials and tours for the general public.	Complete activity. Document number of students participating. Update programs as necessary to include more stormwater related information.	Parks Dept.	R, V, PSE
Wetlands Newsletter	Distribute educational newsletter with stormwater quality information quarterly to members/supporters of wetlands center.	Complete activity. Document number of recipients.	Parks Dept.	R, V, PSE

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<b>Table 3-1 BMP</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability*</b>
Nature Center Programs	Conduct annual nature center educational program for citizens.	Complete activity. Document number of participants.	Parks Dept.	R, V, PSE
Interpretive Signs and Pet Waste Containers in Parks and Along Recreational Trails	Install and maintain interpretive signs to explain to users the types of activities they can take part in to protect our natural resources and prevent stormwater pollution.	Inventory current interpretive signs and track number with stormwater information included. Install additional signs along the new phases of Goose Creek Trail as appropriate.	Parks Dept. /Health Dept.	R, V, PSE
Anti-Littering and Dumping Brochure	Continue to distribute at City facilities with routine public access. Distribute at City and community events.	Complete activity. Document the number of brochures distributed at distribution centers and during public events.	Health Dept.	R, V, PSE, B, CIF, CSP
Household Hazardous Waste Collection Event	Hold household hazardous waste collection program in conjunction with Harris County.	Hold annually and record the amount and type of materials collected.	Health Dept.	R, PSE
Targeted Commercial Brochures	Develop, produce, and distribute brochure targeted to automotive stores, restaurants, and nurseries and landscaping companies regarding stormwater quality.	Distribute brochures once annually to targeted businesses in city.	Health Dept.	PSE, B, CIF
Utility Bill Stormwater Memo/Inserts	Produce and mail-out a utility bill memo or insert for public information on stormwater.	Produce and distribute memos or inserts two times per year.	Health Dept. /Utility Billing	R, PSE, CIF

**City of Baytown Stormwater Management Plan**

<b>Table 3-1 BMP</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability*</b>
City of Baytown Cable Television Channel	Provide stormwater related programming for use on the City's cable channel.	Broadcast stormwater programming monthly. Event updates, stormwater protection tips or videos: <i>After the Storm</i> produced by the EPA and The Weather Channel; and <i>Stormwater: Planning for the Future</i> produced by the EPA.	Health Dept. /ITS	R, V, PSE, B, CIF, CSP
Public Speaking Presentations	Present stormwater quality education materials at existing community group meetings. Target groups representing gardening centers, construction, developers, automotive business, general public, chamber of commerce, environmentalists, park users, and others.	Maintain log of group meetings attended each year.	Health Dept.	R, V, PSE, B, CIF, CSP
PSA's and Press Releases	Provide public service announcements and/or press releases to publicize stormwater related events	Prepare press releases and/or public services announcements for Stormwater Division sponsored events and activities as appropriate	Health Dept.	R, PSE, B, CIF, CSP

\* For Applicability of the BMP the following abbreviations apply: Residents - R, Visitors - V, Public Service Employees - PSE, Businesses - B, Commercial And Industrial Facilities – CIF, and Construction Site Personnel - CSP.



#### **4.0 MCM-1 PUBLIC EDUCATION, OUTREACH, AND INVOLVEMENT**

The Public Involvement and Participation minimum control measure is intended to foster active community support for the SWMP and direction as to its implementation. Participation by the public ensures that the program reflects community values and priorities and thus has the highest potential for success.

##### **4.1 REGULATORY REQUIREMENTS**

40 CFR 122.34 (b) (2) states that “The MS4 operator must, at a minimum, comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program.”

##### **4.2 TPDES PERMIT REQUIREMENTS**

The MS4 operator must, at a minimum, comply with any State and local public notice requirements when implementing a public involvement/participation program. The program may be developed to include opportunities for a wide variety of constituents within the MS4 area to participate in the stormwater management program (SWMP) development and implementation. Correctional facilities will not be required to implement this MCM.

##### **4.3 DISCUSSION OF CURRENT PROGRAMS**

###### **4.3.1 Community Participation Events**

Description: The City sponsors and co-sponsors a number of events that promote citizen participation in community cleanup activities. These include HHW and E-waste Collection, West Baytown Fall Clean Up, and the Texas Avenue Clean Up. These events are designed to enlist volunteers to clean up local waterways and the surrounding community.

Measurable Goals: The City will continue to participate in these annual events. The City will advertise for the events and will record the number of participants and the types and volume of wastes collected.

Evaluation: Compare baseline event numbers (averages for previous 2 years) to current numbers and improve participation by 10% each year.

###### **4.3.2 Stormwater Inlet Marking**

Description: The City currently provides Stormwater Inlet Markers in both English and Spanish (and had provided stenciling materials prior to April 2004) to local volunteers who are interested in labeling storm sewer inlets. Although volunteers may mark storm drains at any time, the City uses Trash-Off Day each year to recruit volunteers for storm drain marking efforts (HHW and E-waste Event is described in Section 4.3.1 above). Volunteers are provided with tote bags with 50 markers, a wire brush, trash bags, latex gloves, glue and glue guns, an overview of the Stormwater Program, directions for installation and a map of storm drain inlets that need to be marked. The volunteers are required to return the kit and mark the maps with the locations of installed stormwater inlet markers. The volunteers are also asked to clean out the storm drains as they go along. This program also applies to components of the public education MCM and the illicit discharge elimination MCM.



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**Measurable Goals:** The City will continue to provide stormwater inlet markers and installation kits to volunteers and to coordinate the volunteers during Trash-Off Day. The City will attempt to mark 250 storm inlets annually and will keep a map of the location of the inlets marked. The City will check markers annually and replace as needed. Volunteers will be provided with the stormwater brochures and asked to distribute them to neighborhood residents as they install the markers.

**Evaluation:** Compare target (250) to actual number of markers installed.

### 4.3.3 Adopt-a-Street Program

**Description:** The City currently encourages citizens and organizations to be involved in the community Adopt-a-Street program. The program emphasizes litter pick-up and maintenance of healthy vegetation.

**Measurable Goals:** The City will continue to recruit group leaders and volunteers to maintain different streets within the City. Leaders will be asked to provide some educational element to the activity by pointing out the stormwater runoff impacts associated with litter and exposed soils. The City will credit the groups involved by posting group and adopted street information on the City's website. Include program in City brochures and website. Record volume of trash removed annually and number of participants.

**Evaluation:** Use year 1 group numbers as a baseline and improve numbers each year.

### 4.3.4 Citizen Complaint/Illegal Dumping Hotline

**Description:** The City currently operates a hotline for residents to phone in complaints. The hotline will field calls regarding environmental concerns, dumping activities, construction runoff, illicit discharges, and hazards and nuisance conditions. City personnel will investigate all valid complaints.

**Measurable Goals:** The City will record all complaints received via the hotline. Complaints necessitating City action will be delegated to appropriate personnel. The City personnel investigating the complaint, complaint findings and follow-up actions will be recorded. The hotline will be advertised in the City's insert mailer, on the City website, at City Hall and during stormwater public events.

**Evaluation:** Use Year 1 data as a baseline and compare calls received annually. Improve outreach regarding hotline as necessary.

## 4.4 SELECTED BMPS

The following BMPs have been implemented:

### 4.4.1 Public Workshops on SWMP Development

**Description:** The City provided public notices and public workshops during the development of the stormwater management plan to allow public participation in the BMP selection process. In



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addition to these workshops and public hearings, the TCEQ also requires additional public workshops following submittal of the NOI and SWMP. The City will follow the procedures as required by TCEQ. Additional public participation efforts are outlined in Section 1.2.3 of this SWMP.

**Measurable Goals:** The City will record the agenda, minutes, and number of attendees for all public workshops. Official responses to public comments will be prepared.

**Evaluation:** Compare required number of workshops to actual number held.

### 4.4.2 Legal Public Notice

**Description:** Public notice required under Texas law was provided when implementing SWMP provisions. This may include public hearings, notices in the local newspaper and/or the City mailer insert, or other legally required and acceptable means of providing public notice for City actions. Notice requirements will be followed during permit renewal process.

**Measurable Goals:** The City will maintain copies of Public Notices and the manner in which each was advertised.

**Evaluation:** List each activity requiring Legal Public Noticing and compare actual noticing efforts to required noticing efforts.

### 4.4.3 Quarterly Public Meetings

**Description:** The City will hold quarterly public meetings to discuss the City's SWMP when significant changes are made. The meetings will present the current status of the City's SWMP to stakeholders. Stakeholders will have the opportunity to offer recommendations for improving the scope and execution of program elements. Annually, the City will summarize the goals achieved during the previous year and outline the proposed SWMP programs for the next year. Stakeholders will then be able to comment on the proposed programs and offer suggestions.

**Measurable Goals:** The meeting will be advertised within the City's mailer insert, on the City website and/or at the Eddie V. Gray Wetlands Educational and Recreational Center and via an email contact list. Staff will maintain a Stakeholder email and mailing list with over 200 names, and those on the list are noticed of regular meetings, announcements, and other events through the email system. The City will record the agenda, minutes, and number of attendees for each meeting. Official responses to public comments will also be prepared. A summary of the workshop activities and discussions will be posted in the City's insert mailer and/or website.

**Evaluation:** Compare targeted number of meetings to actual. Use first year attendance numbers as a baseline and improve attendance each year.

### 4.4.4 Volunteer Water Quality Sampling

**Description:** The City has signed up as a water quality testing site as part of the Texas Watch Program. Texas Watch is a network of trained volunteers and supportive partners working together to gather information about the natural resources of Texas and to ensure the information is available to all Texans. Volunteers are trained to collect quality-assured information that can be used to make environmentally sound decisions. Established in 1991, Texas Watch is administered



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through a cooperative partnership between Texas State University, the TCEQ and the EPA. The next step is to complete the three-phase training program to be a volunteer and conduct at least one year's worth of sampling at the site.

**Measurable Goals:** The City will provide funds to train staff to be a Texas Watch Volunteer and will monitor the water quality at the Eddie V. Gray Wetlands and Recreation Center for at least one year following the completion of the training.

**Evaluation:** Compare the number of staff trained to target number. Compare number of sampling events completed to recommended number of sampling events.

**Implementation, activities, measurable goals, schedules and responsible parties for existing and new BMPs are presented in Table 4-1.**

<b>Table 4.1 BMP</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability*</b>
<b>EXISTING</b>				
Community Participation Events	Conduct and organize annual community participation events for HHW and E-waste Events, America Recycles Day, West Baytown Clean Up and Texas Avenue Clean Up.	Complete activity. Record or estimate volume of litter removed and number of participants.	Health Dept.	R, PSE, B, CIF, CSE
Storm Sewer Inlet Identification	Use citizen volunteers to identify sewer inlets by stencil or marker at Bi-Annual HHW and E-waste events.	Identify 250 inlets annually until complete.	Health Dept.	R, V, PSE, B, CIF, CSE
Adopt a Street Program	Advertise program for private groups to adopt a street. Provide signage, trash bags, and refuse removal to groups conducting street litter pickup.	Include program in City brochures and website. Record volume of trash removed annually and number of participants.	Health Dept.	R, PSE, B, CIF, CSE
Citizen Complaint/Illegal Dumping Hotline	Provide stormwater quality information to operators. Receive public complaints regarding environmental concerns or hazards and nuisance conditions. Investigate and abate nuisances and environmental problems	Document and track received complaints and follow-up actions. Record number of mitigated or corrected sites. Mitigate and correct received complaints.	Health Dept.	R, V, PSE, B, CIF, CSP
Public Hearing on SWMP Development	Provide public notice to a broad cross-section of the community and conduct a public hearing to receive and respond to comments on the development of the SWMP.	Document public notice provided. Prepare sign-in sheet. Prepare responses to comments. Consider input in finalizing SWMP.	Health Dept.	R, PSE, B, CIF, CSE
Legal Public Notice	Provide required public notice regarding specific city actions requiring notice (adoption of an ordinance, etc.).	Document publication in local newspaper.	City Clerk	R, PSE, B, CIF, CSE
Quarterly Public Meeting	Hold quarterly open public meeting on stormwater quality issues.	Complete activity. Record comments. Prepare responses to comments.	City Clerk/ Health Dept.	R, PSE, B, CIF, CSE

\* For Applicability of the BMP the following abbreviations apply: Residents - R, Visitors - V, Public Service Employees - PSE, Businesses - B, Commercial and Industrial Facilities – CFE, and Construction Site Personnel - CSP.

## 5.0 MCM-2 ILLICIT DISCHARGE DETECTION AND ELIMINATION

The Illicit Discharge Detection and Elimination minimum control measure is designed to reduce pollutants in stormwater runoff through identification and elimination of illicit and or inappropriate discharges and connections to the municipal separate storm sewer system.

### 5.1 REGULATORY REQUIREMENTS

40 CFR 122.34 (b) (3) states that “The MS4 operator must develop, implement, and enforce a program to detect and eliminate illicit discharges (as defined at 40 CFR Sec. 122.26(b) (2)) into your small MS4. (An illicit discharge is defined as “a point source discharge of pollutants to a separate storm drain system which is not composed entirely of stormwater and not authorized by an NPDES permit.”)

The MS4 operator must:

- Develop, if not already completed, a storm sewer system map showing the location of all outfalls and the names and locations of all waters of the United States that receive discharges from those outfalls;
- To the extent allowable under state, tribal, or local law, effectively prohibit, through an ordinance or other regulatory mechanism, non-stormwater discharges into your storm sewer system and implement appropriate enforcement procedures and actions;
- Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to your system; and
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

The MS4 operator needs to address the following categories of non-stormwater discharges or flows (i.e., illicit discharges) only if you identify them as significant contributors of pollutants to your small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, de-chlorinated swimming pool discharges, and street wash water (discharges or flows from firefighting activities are excluded from the effective prohibition against non-stormwater and need only be addressed where they are identified as significant sources of pollutants to waters of the United States).”

### 5.2 TPDES PERMIT REQUIREMENTS

#### (a) Illicit Discharges

A section within the SWMP must be developed to establish a program to detect and eliminate illicit discharges to the small MS4. The SWMP must include the manner and process to be used to effectively prohibit illicit discharges. To the extent allowable under

state and local law, an ordinance or other regulatory mechanism must be utilized to prohibit and eliminate illicit discharges. Elements must include:

- (1) Detection  
The SWMP must list the techniques used for detecting illicit discharges; and
- (2) Elimination  
The SWMP must include appropriate actions and, to the extent allowable under State and local law, establish enforcement procedures for removing the source of an illicit discharge.

(b) Allowable Non-Stormwater Discharges

Non-stormwater flows listed in Part II.B and Part VI.B. do not need to be considered by the MS4 operator as an illicit discharge requiring elimination unless the operator of the MS4 or the executive director identifies the flow as a significant source of pollutants to the small MS4. In lieu of considering non-stormwater sources on a case-by-case basis, the MS4 operator may develop a list of common and incidental non-stormwater discharges that will not be addressed as illicit discharges requiring elimination. If developed, the listed sources must not be reasonably expected to be significant sources of pollutants either because of the nature of the discharge or the conditions that have been established by the MS4 operator prior to accepting the discharge to the MS4. If this list is developed, all local controls and conditions established for these discharges must be described in the SWMP and any changes to the SWMP must be included in the annual report described in Part IV.B.2. of this general permit, and must meet the requirements of Part II.D.3 of the general permit.

(c) Storm Sewer Map

- (1) A map of the storm sewer system been developed and include the following:
  - (i) The location of all outfalls;
  - (ii) The names and locations of all waters of the U.S. that receive discharges from the outfalls; and
  - (iii) Any additional information needed by the permittee to implement its SWMP.
- (2) The outfalls will verified by onsite visits and GIS tags. The map will be regularly updated as changes occur to city limits and new storm drains or outfalls are installed.

### 5.3 ALLOWABLE NON STORMWATER DISCHARGES

The following non-stormwater sources may be discharged from the small MS4 and are not required to be addressed in the MS4's Illicit Discharge and Detection or other minimum control measures, unless they have been determined by the MS4 Operator or the TCEQ to be significant contributors of pollutants to the MS4:

- water line flushing (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
- runoff or return flow from landscape irrigation, lawn irrigation, and other irrigation utilizing potable water, groundwater, or surface water sources;
- discharges from potable water sources;

- diverted stream flows;
- rising ground waters and springs;
- uncontaminated ground water infiltration;
- uncontaminated pumped ground water;
- foundation and footing drains;
- air conditioning condensation;
- water from crawl space pumps;
- individual residential vehicle washing;
- flows from wetlands and riparian habitats;
- dechlorinated swimming pool discharges;
- street wash water;
- discharges or flows from firefighting activities (firefighting activities do not include washing of trucks, run-off water from training activities, test water from fire suppression systems, and similar activities);
- other allowable non-stormwater discharges listed in 40 CFR ' 122.26(d)(2)(iv)(B)(1);
- non-stormwater discharges that are specifically listed in the TPDES Multi Sector General Permit (MSGP) or the TPDES Construction General permit (CGP); and
- other similar occasional incidental non-stormwater discharges, unless the TCEQ develops permits or regulations addressing these discharges.

The City of Baytown has not identified any of these discharges to be significant contributors of pollution to the City MS4. Therefore they will not be specifically addressed in the City's Stormwater Management Plan. However, if the outfall screening procedures indicate that any of these allowable discharges are contributors of pollutants to the MS4, the SWMP will be amended to include BMPs for those discharges.

## 5.4 DISCUSSION OF CURRENT PROGRAMS

### 5.4.1 Stormwater Brochures

The Stormwater Brochures provide information on illicit discharges and are discussed in Section 3.3.1.

### 5.4.2 Littering Ordinance

Description: The City currently possesses an ordinance that prohibits littering. Violations of the ordinance are pursued and enforced when necessary.

Measurable Goals: The City will record any littering complaints received via the City's hotline. Complaints necessitating City action will be delegated to appropriate personnel. All enforcement actions associated with ordinance violations will be tracked.

Evaluation: Compare previous year figures to current year figures to determine if the number of cases is dropping. Increase educational efforts as appropriate.

#### 5.4.3 Nuisance Abatement Ordinance

Description: The City currently possesses an ordinance that prohibits the creation of nuisance conditions, including dumping. Violations of the ordinance are pursued and enforced when necessary.

Measurable Goals: The City will record any nuisance complaints received via the City's hotline. Complaints necessitating City action will be delegated to appropriate personnel. All enforcement actions associated with ordinance violations will be tracked.

Evaluation: Compare previous year figures to current year figures to determine if the number of cases is dropping. Increase educational efforts as appropriate.

### 5.5 SELECTED BMPS

The following BMPs will be implemented:

#### 5.5.1 Storm Sewer Map

Description: The City will create a storm sewer map. The sewer map will contain the elements required under this permit including the location of all outfalls and the names and locations of all waters of the United States that receive discharges from those outfalls as well as potential hotspots for sanitary system discharges and other noted illicit discharge detection sites. The sources of information that will be used to develop the map include City of Baytown Storm Drain maps (CAD drawings), Harris County drainage delineation maps, and civil plans submitted by local developers. The information will be verified by the Stormwater Division using GPS/GIS technology.

Measurable Goals: The storm sewer map will be completed and maintained at City Hall.

Map will be available to public via [www.Baytown.org](http://www.Baytown.org). See page 42.

Evaluation: Determine the total number of items to be included on the map and evaluate progress towards that goal over the 2 year period allotted for completion.

#### 5.5.2 Stormwater Pollution Prevention Ordinance - Illicit Discharge Section

Description: The City has developed and adopted an ordinance that will effectively prohibit non-stormwater discharges into the storm sewer system and will include appropriate enforcement procedures and actions for failing to comply.

Measurable Goals: The ordinance has been developed and adopted. City residents and businesses were notified of the ordinance implementation via the City mailer insert, website and other appropriate Public Notice measures.

Evaluation: Ensure ordinance was adopted according to schedule and appropriate notification was provided for the public. Actively enforced since adoption.

#### 5.5.3 Detection and Elimination Program – MS4 Dry Weather Outfall Screening

Description: A program to detect and address non-stormwater discharges, including illegal dumping to the storm sewer system, was developed and implemented. This program may be

derived from third-party programs (Harris County).

Measurable Goals: The illicit discharge detection and elimination program was developed. City residents and businesses were notified of the program via the City mailer insert, website and other appropriate measures. City personnel assigned responsibility of the program implementation and execution will be recorded. Required equipment (i.e., test kits) was purchased and appropriate personnel trained in its use. All major outfalls will be inspected during dry weather conditions and the following methods may be used to locate discharge points: dye tracing, TV cameras, chemical field test kits, smoke tests, surface water sampling and groundwater sampling. The total number of inspections, inspection results, follow-up actions and resolution confirmation with cases referred to other enforcement entities will also be included.

Evaluation: Compare number of outfalls inspected to total number of outfalls and resolved cases to outstanding cases.

#### 5.5.4 Target Commercial Brochures

Description: See Section 3.4.1.

#### 5.5.5 Employee Training

Description: Educate City personnel on the identification of illicit discharges and procedures for reporting observations to Stormwater Division personnel.

Measurable Goal: The City will develop a list of departments to be trained, training materials and a training schedule.

Evaluation: Compare the training sessions completed to the number projected in the training schedule.

Implementation, activities, measurable goals, schedules, and responsible parties for existing and new BMPs are presented in Table 5-1.

#### 5.6 Enforcement Action Records

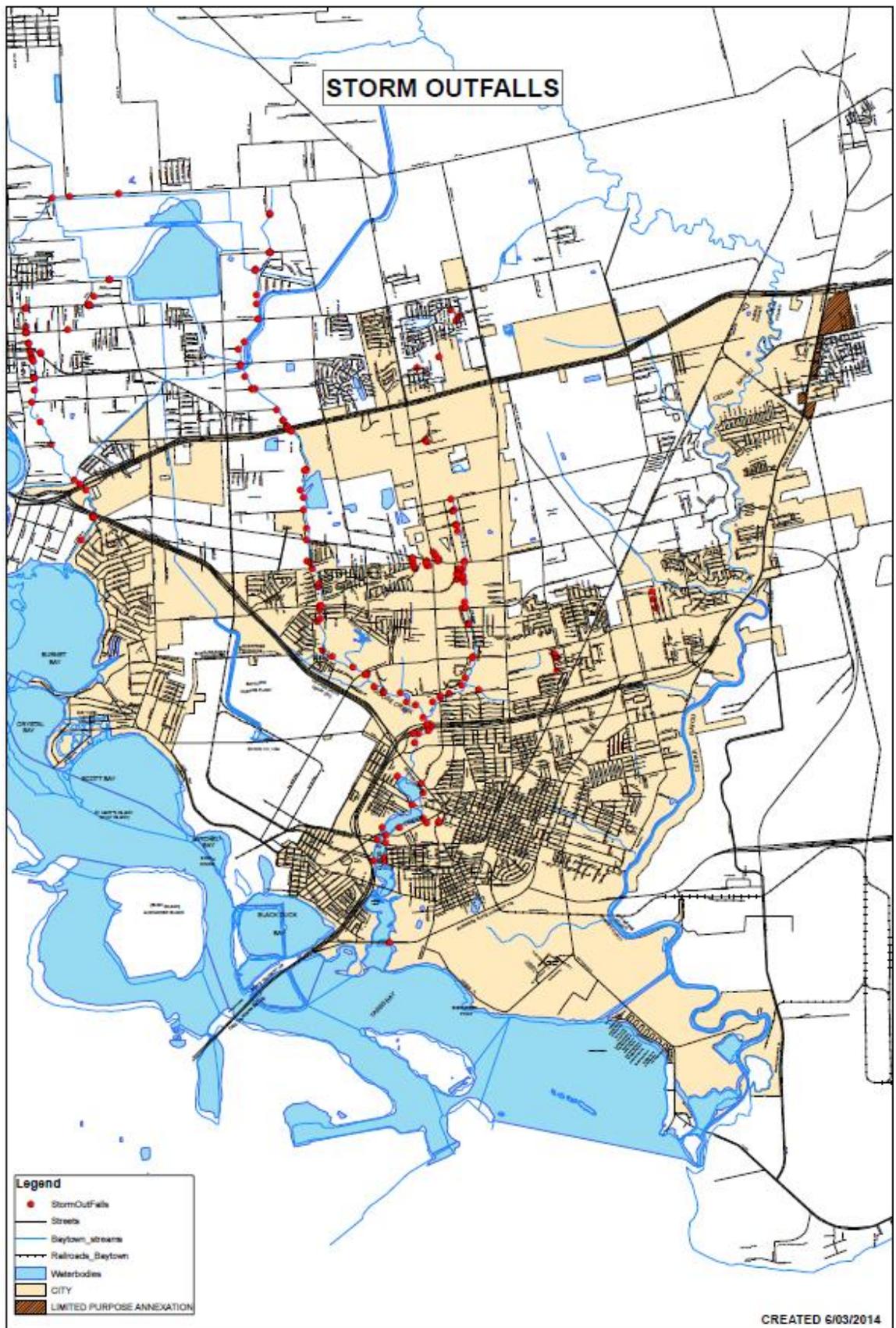
Records of all enforcement actions will be maintained by the City of Baytown Health Department.

5.7 Procedures to Prevent and Correct Leaking On-site sewage disposal systems . Not applicable, On-site sewage disposal systems are not allowed within the Baytown city limits by municipal ordinance.

5.8 Procedures to investigate and follow up after illicit discharges have been eliminated. Standard Operating Procedures in accordance with the Illicit Discharge Detection and Control municipal ordinance will be used.

<b>Table 5-1 EXISTING BMP</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability*</b>
<b>Stormwater Brochures</b>				
Littering Ordinance	Enforce existing ordinance prohibiting littering. Track enforcement actions.	Complete activity and record number of enforcement actions.	Health Dept.	R, V, PSE, B, CIF, CSP
Nuisance Abatement Ordinance	Reduce illegal dumping, enforce existing ordinance prohibiting the creation of nuisance conditions, including dumping. Track enforcement actions.	Complete activity and record number of enforcement actions.	Health Dept.	R, V, PSE, B, CIF, CSP
Neighborhood Protection Brochures	Continue to distribute the Neighborhood Protection Division Brochures including Illegal Dumping and general info brochures.	Document the number of brochures distributed.	Health Dept.	R, V, PSE, B, CIF, CSP
Stormwater Pollution Prevention Ordinance – Illicit Discharge Section	Develop and adopt ordinance	Develop and adopt an ordinance.	Health Dept.	R, V, PSE, B, CIF, CSP
Detection and Elimination Program	1. Develop illicit discharge detection and elimination program designed to utilize dry weather inspections during low tides occurring during winter.	Complete activity.	Health Dept.	PSE, CIF
	2. Acquire equipment and conduct training.	Complete activity.	Health Dept.	PSE
	3. Initiate program and tracking system.	Record number and results of dry weather outfall inspections and follow-up actions.	Health Dept.	PSE, CIF
	4. Implement program.	Conduct one dry weather inspection at 100% of major outfalls.	Health Dept.	PSE, CIF
Targeted Commercial Brochures	Develop, produce, and distribute brochure targeted to automotive stores, restaurants, and nurseries and landscaping companies regarding stormwater quality.	Distribute brochures once annually to targeted businesses in city.	Health Dept.	PSE, B, CIF
Employee Training	Educate City personnel on the identification of illicit discharges and procedures for reporting observations to Stormwater Division personnel.	Develop a list of departments to be trained, training materials and a training schedule.	Health Dept.	PSE
Storm Sewer System Map	Map of all major outfalls and receiving waters.	Complete activity.	Engineering/Health	R, PSE, B, CIF
<b>In Progress about 75% , see page 42.</b>	Update map as changes are made to storm sewer system.	Complete activity by year 3.	Engineering/Health	R, PSE, B, CIF

\* For Applicability of the BMP the following abbreviations apply: Residents - R, Visitors - V, Public Service Employees - PSE, Businesses - B, Commercial and Industrial Facilities – CFE, and Construction Site Personnel - CSP.





## **6.0 MCM-3 CONSTRUCTION SITE RUNOFF CONTROL**

The purpose of construction site runoff controls is to prevent soil and construction waste from entering stormwater. Sediment is usually the main pollutant of concern; during a short period of time, construction sites can contribute more sediment to creeks than can be deposited naturally over several decades. The resulting siltation and the contribution of other pollutants from construction sites can cause physical, biological, and chemical harm to local waterways.

### **6.1 REGULATORY REQUIREMENTS**

40 CFR 122.34 (b)(4) states that “The MS4 operator must develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to 1 acre. Reduction of stormwater discharges from construction activity disturbing less than 1 acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb 1 acre or more. If the NPDES permitting authority waives requirements for stormwater discharges associated with small construction activity in accordance with 40 CFR Sec. 122.26(b)(15)(i), you are not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.

Your program must include the development and implementation of, at a minimum:

- An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under state, tribal, or local law;
- Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;
- Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
- Procedures for site plan review that incorporate consideration of potential water quality impacts;
- Procedures for receipt and consideration of information submitted by the public; and
- Enforcement of control measures.”

### **6.2 TPDES PERMIT REQUIREMENTS**

The MS4 operator, to the extent allowable under State and local law, must develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre or if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more of land. The MS4 operator is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from sites where the construction site operator



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has obtained a waiver from permit requirements under NPDES or TPDES construction permitting requirements based on a low potential for erosion.

- (a) The program must include the development and implementation of, at a minimum, an ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State and local law.
- (b) Requirements for construction site contractors to, at a minimum:
  - (1) implement appropriate erosion and sediment control BMPs; and
  - (2) control waste such as discarded building materials, concrete truck washout water, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.
- (c) The MS4 operator must develop procedures for:
  - (1) site plan review which incorporate consideration of potential water quality impacts;
  - (2) receipt and consideration of information submitted by the public; and
  - (3) site inspection and enforcement of control measures to the extent allowable under State and local law.

### 6.3 DISCUSSION OF CURRENT PROGRAMS

#### 6.3.1 Development Review Committee/Plan Review and Approval Procedures

Description: The City of Baytown has created a Development Review Committee to streamline the plan review process for local developments. Meetings of the Development Review Committee (DRC) are held regularly and attended by representatives from the Engineering, Planning, Health (Stormwater), Fire, Public Works, City Administration, and Utility Billing Departments. Developers must submit for review civil drawings prior to each DRC meeting. The Planning Department distributes copies of the plans to the appropriate departments for review prior to the meetings. The Stormwater Division representative reviews the plans to ensure they meet the appropriate stormwater requirements including permit coverage under TCEQ (if required), the SWPPP, and appropriate BMPs.

The public may provide comments during DRC review by submitting a letter to the planning department. In addition, the public may provide comments on proposed developments at Planning and Zoning Committee meetings or City Council Meetings.

Measurable Goals: The City will continue to hold DRC meetings to review plans for local developments. The review, findings, required corrective actions and associated correspondence will be recorded and maintained by the City. The City will keep a database of reviewed projects and provide a total in each annual report. The DRC process will be used as a basis for the development of a Development Tracking Database for current construction activities and an inspection schedule.

Evaluation: Compare number of plan review checklists submitted to developers to number of plans submitted on an annual basis. Compare the projects that meet specifications at submittal to those that require additional work before approval. Work to improve education on stormwater pollution prevention plan requirements if there is a significant number requiring further work.



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### 6.3.2 Citizen Complaint/Illegal Dumping Hotline

Description: The Citizen Complaint Hotline is discussed in section 5.3.3.

Measurable Goals: The City will investigate and inspect construction sites associated with public complaints received by the hotline to aid in identifying violations of the Stormwater Pollution Prevention Ordinance. The City will track the number of complaints received and the results of the inspections that are conducted.

Evaluation: Use Year 1 data as a baseline and compare calls received annually. Improve outreach regarding hotline as necessary.

### 6.3.3 City of Baytown Development Guide

Description: The City of Baytown distributes a Digital Development Guide (published in 2004) to each developer that submits a request for Utility Availability or who requests information regarding local requirements for development. The purpose of the Baytown Development Guide is:

- To provide the developers and builders with an overview of the development process;
- To provide a shared understanding of the requirements for developers within the City; and
- To create a logical, systematic guide that eliminates redundancies and contradictions.

The guide includes information about the requirements for Stormwater Pollution Prevention.

The City will continue to distribute this guide and will update and modify the Stormwater section of the guide based on programmatic changes, new ordinances and requirements adopted by the City.

Measurable Goals: Document the number of Guides distributed.

Evaluation: Compare number of guides distributed to number of companies providing plan submittals. Ensure that 100% of companies are receiving the guide.

### 6.3.4 Galveston Bay Construction Alliance

Description: In May 2002, several Sister Cities in the Houston area formed a Galveston Bay Construction Alliance to tackle the mutual problem of assisting contractors/developers/builders with meeting TPDES/NPDES requirements. This cooperative effort was started to ensure that cities within the region would monitor and control construction activities in a common manner and to pool knowledge, expertise, and information since many of the same builders would be working in each city. The Alliance developed a guidebook to distribute to contractors to educate them about erosion control.

Measurable Goals: The City of Baytown will continue to distribute this guidebook to local contractors as necessary. The City worked with the Alliance to produce a training video. The video is made available to all contractors and developers that operate within the City of Baytown.

Evaluation: Compare projected task list to completed tasks.



## City of Baytown Stormwater Management Plan

### 6.4 SELECTED BMPS

The following BMPs will be implemented:

#### 6.4.1 City Capital Improvement Projects Review

Description: Develop CIP plan review procedures to address potential water quality impacts and participate in the review process with the Engineering Department.

Measurable Goals: Review new construction starts greater than 1 acre using new procedures to track the number of CIP projects reviewed.

Evaluation: Compare number of Capital Improvement Projects conducted to those reviewed for stormwater requirements. Target 100% of those disturbing 1 acre or more.

#### 6.4.2 Construction Site Brochure

Description: The City will develop a stormwater brochure specifically addressing stormwater impacts from construction sites. The brochure will outline methods by which contractors and developers can reduce stormwater impacts. The brochure will also inform operators of their duty to control waste and implement erosion and sediment controls. All commercial construction sites within the City of Baytown must obtain a local stormwater permit as required by municipal ordinance regardless of size.

Measurable Goals: The City will create and print a stormwater brochure. The brochure will be distributed to local contractors and developers. The brochure will also be available on the City website. The City will maintain a file copy of the brochure and record the number of brochures distributed each year.

Evaluation: Ensure brochure is produced according to schedule. Use year one distribution as a baseline and improve distribution by 10 percent annually.

#### 6.4.3 Stormwater Pollution Prevention Ordinance - Erosion and Sediment Control Section

Description: The City has developed and adopted an ordinance that requires all construction site operators to implement erosion and sediment control BMPs at sites with construction activity that are 1 acre or larger, including sites that are part of a larger common plan of development and defines sanctions for non-compliance. Construction site operators must comply with TPDES Construction General Permit TXR150000 before local construction permit will be issued.

#### 6.4.4 Stormwater Pollution Prevention Ordinance - On-site Waste Control Section

Description: The City has developed and adopted an ordinance that requires construction site operators to control waste materials and defines sanctions for non-compliance.



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### 6.4.5 Site Inspections and Enforcement

Description: The City developed site inspection and enforcement procedures to implement the construction site pollution prevention program. Responsibility for implementation of the program will be assigned and appropriate personnel trained. All construction sites requiring inspections will be inspected in accordance with the developed procedures.

Measurable Goals: The site inspection protocol will be developed. Checklists will be produced to optimize inspection and follow-up procedures. The City personnel responsible for implementation of the program will be recorded. Checklists will be completed and maintained for each site inspection. Any follow-up activities including enforcement will be documented and maintained by the City.

Evaluation: Document inspections completed per project, determine number in and out of compliance and the number of re-inspections required.

Implementation, activities, measurable goals, schedules, and responsible parties for existing and new BMPs are presented in Table 6-1.

### 6.4.6 Contractor Training

Description: The City has developed a training video that outlines stormwater pollution prevention techniques utilized at construction sites. All contractors performing construction activities are offered the video as part of the permit application process for the City of Baytown. Video is also available for viewing on the City of Baytown Homepage.

Measurable Goals: Document the number of contractors viewing the training video.

Evaluation: Document the number of sites meeting stormwater pollution prevention requirements before and after implementation of training program.

### 6.4.7 Enforcement Action Records

Records of all enforcement actions will be maintained by the City of Baytown Health Department

**Implementation, activities, measurable goals, schedules, and responsible parties for existing and new BMPs are presented in Table 6-1.**

<b>Table 6-1 BMP</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability*</b>
<b>EXISTING</b>				
Development Review Committee/ Plan Review and Approval Procedures	1. Develop construction site plan review procedures to address potential water quality impacts.	Complete activity.	Health Dept.	PSE, CIF, CSP
	2. Participate in construction site plan review procedures to address potential water quality impacts	Review new construction starts greater than 1 acre using new procedures.	Health Dept.	PSE, CIF, CSP
Citizen Complaint/Illegal Dumping Hotline	Investigate and inspect construction sites associated with public complaints received by the hotline to aid in identifying violations of the Stormwater Pollution Prevention Ordinance.	Track the number of complaints received, record the results of the inspections.	Health Dept.	R, V, B, PSE, CIF, CSP
City of Baytown Development Guide	Update the Development Guide to include the latest information regarding stormwater regulations adopted by the City.	Document the number of guides distributed.	Planning	B, PSE, CIF, CSP
Galveston Bay Construction Alliance	1. Participate in GBCA and work with other cities to educate local developers about stormwater regulations.	Track meeting participation.	Health Dept.	B, PSE, CIF, CSP
	2. Distribute the GBCA guidebook to developers working in Baytown.	Track the number of guides distributed.	Health Dept.	B, PSE, CIF, CSP
City Capital Improvement Projects Review	1. Develop construction site plan review procedures to address potential water quality impacts.	Complete activity.	Health Dept.	PSE, CSP
	2. Participate in construction site plan review procedures to address potential water quality impacts	Review new construction starts greater than 1 acre using new procedures.	Health Dept.	PSE, CSP

<b>Table 6-1 BMP</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability*</b>
Construction Site Brochure	1. Develop and produce construction site brochure informing developers/contractors of their duty to control waste and implement E&S controls.	Provide brochure at Building Permit office and compile distribution numbers.	Health Dept.	B, PSE, CIF, CSP
	2. Distribute construction site brochure when infrastructure requirements are reviewed and/or permit applications are received.	Distribute to inspected sites and compile distribution numbers	Engineering	B, PSE, CIF, CSP
	3. Distribute construction site brochure when external requirements are reviewed and/or when permit applications are received.	Distribute to inspected sites and compile distribution numbers.	Building Services	B, PSE, CIF, CSP
	4. Distribute at site inspections as necessary.	Distribute to inspected sites and compile distribution numbers	Health Dept.	B, PSE, CIF, CSP
Stormwater Ordinance – Erosion and Sediment Control Section	Develop and adopt ordinance requiring erosion and sediment control BMPs to include land clearing as well as sanctions to ensure compliance.	Develop and adopt an ordinance by the end of Year 2.	Health Dept.	R, B, PSE, CIF, CSP
Stormwater Ordinance - Onsite Waste Control Section	Develop and adopt ordinance requiring onsite waste control.	Develop and adopt an ordinance by the end of Year 2.	Health Dept.	R, B, PSE, CIF, CSP
Site Inspections and Enforcement	1. Develop site inspection checklists.	Complete activity.	Health Dept.	PSE, CIF, CSP B, PSE, CIF, CSP
	2. Develop inspection protocol, method of site prioritization, and record-keeping system.	Complete activity.	Health Dept.	B, PSE, CIF, CSP
	3. Train inspectors.	Complete activity.	Health Dept.	B, PSE, CIF, CSP

<b>Table 6-1 BMP</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability*</b>
	4. Initiate site inspections and enforcement.	Document inspections of construction starts permitted under TXR150000 that notify City of permitted activity. Document inspections of known construction starts that fail to notify or fail to obtain permit coverage. Record inspection results, and follow-up actions.	Health Dept.	B
	5. Conduct site inspections and enforcement.	Document 100% of known construction starts inspected. Record inspection results, and follow-up actions.	Health Dept.	B
	6. Enforcement proceedings	Enforcement proceedings	Health Dept.	B, PSE, CIF, CSP
Contractor Certification and Training	Develop a training video that outlines stormwater pollution prevention techniques utilized at construction sites. All contractors performing construction activities will be required to view the video as part of the permit application process for the City of Baytown.	Document the number of contractors completing the training.	Health Dept. and Building Dept.	CSP

\* For Applicability of the BMP the following abbreviations apply: Residents - R, Visitors - V, Public Service Employees - PSE, Businesses - B, Commercial And Industrial Facilities – CIF, and Construction Site Personnel - CSP.



## **7.0 MCM-4 POST-CONSTRUCTION RUNOFF CONTROL**

The Post Construction Runoff Control minimum control measure is intended to increase the inclusion of site planning and design considerations which will reduce runoff, and thus stormwater pollution, from developed sites.

### **7.1 REGULATORY REQUIREMENTS**

40 CFR 122.34 (b)(5) states that “The MS4 operator must develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to 1 acre, including projects less than 1 acre that are part of a larger common plan of development or sale, that discharge into your small MS4. Your program must ensure that controls are in place that would prevent or minimize water quality impacts.

The MS4 operator must:

- Develop and implement strategies that include a combination of structural and/or non-structural BMPs appropriate for your community;
- Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under state, tribal, or local law; and
- Ensure adequate long-term operation and maintenance of BMPs.”

### **7.2 TPDES PERMIT REQUIREMENTS**

To the extent allowable under State and local law, the MS4 operator must develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre of land, including projects less than one acre that are part of a larger common plan of development or sale that will result in disturbance of one or more acres, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. The MS4 Operator shall:

- (a) Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for the community;
- (b) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State and local law; and
- (c) Ensure adequate long-term operation and maintenance of BMPs.

### **7.3 DISCUSSION OF CURRENT PROGRAMS**

#### **7.3.1 Development Review Committee/Plan Review and Approval Procedures**

Description: See Section 6.3.1.



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### **7.3.2 City of Baytown Development Guide**

Description: See Section 6.3.3.

### **7.3.3 City of Baytown Model Detention Pond Project**

Description: The City of Baytown has upgraded two existing stormwater detention ponds into “model detention ponds” as part of a Supplemental Environmental Project with the EPA. Upgrades to the ponds included conversion of the existing detention ponds to include stormwater quality features and to improve sustained maintenance for silt build up and vegetation control. The City will utilize the ponds to educate the local development/construction community of post-construction BMPs for stormwater quality through brochures, tours, and site plan reviews at the Development Review Committee Meetings.

Measurable Goal: Compile the number of contractors that visit/learn about the project.

Evaluation: Monitor the number of new construction sites/redevelopment sites that utilize similar water quality features.

## **7.4 SELECTED BMPS**

The following BMPs will be implemented:

### **7.4.1 Stormwater Pollution Prevention Ordinance - Post-Construction Runoff Control Section**

Description: The City developed and adopted an ordinance that will address stormwater runoff from new development and significant redevelopment activities of one acre and greater including new/re-development activities that are part of a larger common plan of development. The ordinance will be sufficient to ensure that the quality and quantity of stormwater runoff leaving new developments and significant redevelopments meets regulatory requirements.

Measurable Goals: The ordinance was developed, presented to the City Council, and adopted. City residents and businesses were notified of the ordinance implementation via the City newsletter, website and other appropriate Public Notice measures.

Evaluation: Ensure ordinance is adopted and enforced according to schedule and appropriate notification is provided for the public.

### **7.4.1 Criteria Manual City of Baytown Development Guide**

Description: See Section 6.3.3.

### **7.4.2 City of Baytown Model Detention Pond Project**

Description: The City of Baytown has upgraded two existing stormwater detention ponds into “model detention ponds” as part of a Supplemental Environmental Project with the EPA. Upgrades to the ponds included conversion of the existing detention ponds to include stormwater quality features and to improve sustained maintenance for silt build up and vegetation control. The City will utilize the ponds to educate the local development/construction community of post-



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construction BMPs for stormwater quality through brochures, tours, and site plan reviews at the Development Review Committee Meetings.

Measurable Goal: Compile the number of contractors that visit/learn about the project.

Evaluation: Monitor the number of new construction sites/redevelopment sites that utilize similar water quality features.

### 7.5 SELECTED BMPS

The following BMPs will be implemented:

#### 7.5.1 Stormwater Pollution Prevention Ordinance - Post-Construction Runoff Control Section

Description: The City developed and adopted an ordinance that will address stormwater runoff from new development and significant redevelopment activities of one acre and greater including new/re-development activities that are part of a larger common plan of development. The ordinance will be sufficient to ensure that the quality and quantity of stormwater runoff leaving new developments and significant redevelopments meets regulatory requirements.

Measurable Goals: The ordinance will be developed, presented to the City Council, and adopted. City residents and businesses will be notified of the ordinance implementation via the City newsletter, website and other appropriate Public Notice measures.

Evaluation: Ensure ordinance is adopted according to schedule and appropriate notification is provided for the public.

#### 7.5.2 Criteria Manual

Description: The City will review existing criteria manuals and develop and adopt a criteria manual that will define appropriate BMPs for new development and significant redevelopment and guidance on permanent stormwater BMPs.

Measurable Goals: The criteria manual will be researched, developed and published. The City Engineer and Development Review Committee will maintain copies of the manual. Copies of the manual will be distributed to construction operators during the building permit application process for new development and significant redevelopment.

#### 7.5.3 Research of Local Governments for Manual

Description: The City will review existing criteria manuals and develop and adopt a criteria manual that will define appropriate BMPs for new development and significant redevelopment and guidance on permanent stormwater BMPs.

Measurable Goals: The criteria manual will be researched, developed and published. The City Engineer and Development Review Committee will maintain copies of the manual. Copies of the manual will be distributed to construction operators during the building permit application process for new development and significant redevelopment.

Evaluation: Ensure manual is completed per schedule and compare number of building permits applied for to number of criteria manuals distributed. Allow for multiple projects submitted by the same contractor.



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### 7.5.4 Inspections and Long Term O&M Provisions

Description: The City will review and update inspection programs and long-term O&M provisions for City-owned and private stormwater treatment and detention facilities. The City will conduct installation and O&M inspections of all facilities. The City will request and review annual O&M reports from privately maintained facilities.

Measurable Goals: Inspect 100% of newly constructed privately maintained facilities. Maintain log of facilities inspected, inspection findings & follow up activities. Maintain log of reports reviewed, review findings & follow up activities.

Evaluation: Document inspections completed and compare to target.

Implementation, activities, measurable goals, schedules, and responsible parties for existing and new BMPs are presented in Table 7-1.

7.6.1 Potential Problem areas. The city will develop a list of potential problem areas in the storm sewer system for increased inspection in areas with recurring illegal dumping or system failures.

<b>Table 7 1. BMP</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability</b>
<b>EXISTING</b>				
Development Review Committee/ Plan Review and Approval Procedures	1. Develop construction site plan review procedures to address potential water quality impacts of newly constructed development.	Complete activity.	Health Dept.	PSE, CIF, CSE
	2. Participate in construction site plan review procedures to address potential water quality impacts.	Review new construction starts greater than 1 acre using new procedures. Document reviews and meetings attended.	Health Dept.	PSE, CIF, CSE
City of Baytown Development Guide	Evaluate existing development guide relating to new development and revise to include appropriate guidance on permanent stormwater BMPs, including operations and maintenance.	Update as needed.	Planning	PSE, CIF, CSE
City of Baytown Model Detention Pond Project	Utilize the ponds to educate the local development/construction community of post-construction BMPs for stormwater quality through brochures, tours, and site plan reviews at the Development Review Committee Meetings.	Compile the number of local contractors/engineers educated about the project.	Health	PSE, CIF, CSE
Stormwater Ordinance – Post Construction Runoff Control Section	1. Evaluate existing ordinances relating to new development and redevelopment, zoning, and landscaping to require permanent stormwater quality controls in new development and significant redevelopment, sanctions to ensure compliance, and long-term O&M provisions.	Prepare brief memorandum documenting necessary ordinance additions or changes.	Health Dept.	R, B, PSE, CIF, CSE
	2. Revise and adopt ordinances relating to new development and redevelopment.	Develop and adopt an ordinance by the end of Year 5.	Health Dept.	R, B, PSE, CIF, CSE
Criteria Manual	Develop criteria manual relating to new development outlining various permanent stormwater BMPs.	Complete activity.	Engineering	PSE, CIF, CSE

<b>Table 7 1. BMP</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability</b>
Inspections and Long-Term O&M Provisions	1. Review and update inspection programs and long-term O&M provisions.	Complete activity.	Health Dept.	PSE, CIF, CSE
	2. Inventory City-owned and private stormwater treatment and detention facilities.	Complete activity.	Engineering	PSE, CIF, CSE
	3. Conduct installation inspections of newly constructed privately maintained facilities.	Inspect 100% of newly constructed privately maintained facilities.	Health Dept.	PSE, CIF, CSE
	4. Conduct O&M inspections at existing privately maintained facilities.	Maintain log of facilities inspected, inspection findings & follow up activities.	Health Dept.	PSE, CIF, CSE
	5. Review annual O&M reports from privately maintained facilities.	Maintain log of reports reviewed, review findings & follow up activities.	Health Dept.	PSE, CIF, CSE

\* For Applicability of the BMP the following abbreviations apply: Residents - R, Visitors - V, Public Service Employees - PSE, Businesses - B, Commercial And Industrial Facilities – CIF, and Construction Site Personnel - CSP.



## **8.0 MCM-5 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS**

The purpose of the minimum control measure for Municipal Operations/Good Housekeeping Practices is to assure that the City's delivery of public services occurs in a manner protective of stormwater quality. In this way the City may serve as a model to the community.

### **8.1 REGULATORY REQUIREMENTS**

40 CFR 122.34 (b)(6) state that "The MS4 operator must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, your state, tribe, or other organizations, your program must include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance."

### **8.2 TPDES PERMIT REQUIREMENTS**

A section within the SWMP must be developed to establish an operation and maintenance program, including an employee training component that has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

- (a) **Good Housekeeping and Best Management Practices (BMPs)**  
Housekeeping measures and BMPs (which may include new or existing structural and non-structural controls) must be identified and either continued or implemented with the goal of preventing or reducing pollutant runoff from municipal operations. Examples of municipal operations and municipally owned areas include, but are not limited to:
  - (1) park and open space maintenance;
  - (2) street, road, or highway maintenance;
  - (3) fleet and building maintenance;
  - (4) stormwater system maintenance;
  - (5) new construction and land disturbances.
  - (6) municipal parking lots;
  - (7) vehicle and equipment maintenance and storage yards;
  - (8) waste transfer stations; and
  - (9) salt/sand storage locations.
  
- (b) **Training**  
A training program must be developed for all employees responsible for municipal operations subject to the pollution prevention/good housekeeping program. The training program must include training materials directed at preventing and reducing stormwater pollution from municipal operations. Materials may be developed, or obtained from the EPA, states, or other organizations and sources. Examples or descriptions of training materials being used must be included in the SWMP.
  
- (c) **Structural Control Maintenance**  
If BMPs include structural controls, maintenance of the controls must be performed at a frequency determined by the MS4 operator and consistent with maintaining the effectiveness of the BMP. The SWMP must list all of the following:



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- (1) maintenance activities;
  - (2) maintenance schedules; and
  - (3) long-term inspection procedures for controls used to reduce floatables and other pollutants.
- (d) **Disposal of Waste**  
Waste removed from the MS4 and waste that is collected as a result of maintenance of stormwater structural controls must be properly disposed. A section within the SWMP must be developed to include procedures for the proper disposal of waste, including:
- (1) dredge spoil;
  - (2) accumulated sediments; and
  - (3) floatables.
- (e) **Map of Municipal Operations and Industrial Activities**  
The SWMP must include a following list of all:
- (1) municipal operations that are subject to the operation, maintenance, or training program developed under the conditions of this section; and
  - (2) municipally owned or operated industrial activities that are subject to TPDES stormwater regulations
  - (3) map that identifies Ms4 facilities and stormwater controls.

### 8.3 DISCUSSION OF CURRENT PROGRAMS

#### 8.3.1 Catch Basin Cleaning/Drainage System O&M

Description: Reduce sediment and floatable materials discharges by routinely cleaning MS4 catch basin and stormwater inlet structures. Conduct activities to maintain proper operation of stormwater drainage, detention and water quality features including post construction BMPs owned, operated and/or maintained by the city. All waste that is removed from the storm sewer system including dredge spoil, accumulated sediment, and floatables will be properly disposed of in a permitted landfill.

Measurable Goals: Clean City-owned catch basins on a regular basis. Record the number cleaned, document the dates of cleaning and amount of material removed. Maintain log of O&M activities.

Evaluation: Compare number of catch basins cleaned with total number of catch basins. Use documented amount of material removed to determine if maintenance should be conducted more regularly.

#### 8.3.2 Pesticide/Herbicide/Fertilizer Applicator Training

Description: The Texas Department of Agriculture (TDA) licenses applicators using restricted-use and state-limited-use pesticides and regulated herbicides in a number of agricultural and rural-use categories. The Texas Pesticide Regulations contain re-certification requirements for maintaining applicator skills and competency for safety and proper pesticide use through continuing education. Commercial and noncommercial applicators must earn a minimum of 5



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credits per year, including a minimum of 1 CEU each in a choice of two of the following categories: laws and regulations, integrated pest management (IPM), or drift minimization. (TDA, 2003) The City will ensure that staff responsible for handling pesticides and herbicides will maintain appropriate licensing.

Measurable Goals: The City will document the name and license/certification number of staff in charge of pesticide and herbicides.

Evaluation: Compare number of personnel requiring licensing to those who hold current licenses.

### 8.3.3 Street Sweeping

Description: The City will sweep streets and roadways in order to reduce the amount of sediment and associated pollutants discharged to the MS4 from roadways.

Measurable Goals: Sweep residential roads once per year. Sweep main thoroughfares monthly. Track the number of road miles swept and the amount of debris collected.

Evaluation: Compare goal miles to actual miles swept. If debris accumulation is excessive, increase sweeping as necessary.

## 8.4 SELECTED BMPS

The following BMPs will be implemented:

### 8.4.1 Municipal Operations Survey

Description: The City operates many different kinds of facilities over a wide and varied area. In order to address the need for stormwater protection for all facilities and operations, the City will conduct a self-audit of its facilities to determine the nature of activities, identify appropriate BMPs, and provide for their implementation. The City will use the information to compile information regarding maintenance activities; maintenance schedules; and long-term inspection procedures for controls used to reduce floatables and other pollutants.

Measurable Goals: Develop a questionnaire for the survey to ensure appropriate detailed and standardized information is collected. Conduct the survey and use the results to identify appropriate BMPs for each facility.

Evaluation: Compare number of facilities surveyed to actual number of facilities. Compare maintenance activities and schedules that meet stormwater specifications to those that don't and track updates to bring all facilities into compliance.

### 8.4.2 Hazardous Materials Management

Description: The City will review the hazardous materials used in municipal operations and will consider less toxic alternatives where appropriate.

Measurable Goals: Compile a list of hazardous materials purchased and utilized by the City. Conduct research on possible less toxic alternatives and conduct a cost/benefit assessment of



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those alternatives to determine if purchasing the less toxic alternative is feasible and fiscally responsible.

Evaluation: Compare number of materials exchanged for less hazardous alternatives as well as those considered for exchange to the frequently used materials that are the most hazardous.

### 8.4.3 Spill Response/Kits

Description: The City will comply with federal spill prevention control and counter measures plan regulations, and review spill response procedures to ensure stormwater quality protection measures are considered during spill response. The City will maintain spill response kits at all City facilities with activities likely to contribute pollutants to stormwater. Spill kits will be clearly visible and accessible to facility staff. An inspection and maintenance schedule will be developed for the kits.

Measurable Goals: The City will review spill response procedures to ensure stormwater quality protection measures are considered during spill response. The City will ensure that spill kits are located at appropriate facilities. The location of and directions for use for each spill kit will be described in the Good Housekeeping manual.

Evaluation: Compare number of spill kits needed to those obtained. Determine number of spills documented and determine if kits were used to contain and clean up the spill.

### 8.4.4 Good Housekeeping Rules Manual

Description: The City will develop a Good Housekeeping Rules Manual for all city employees and contractors. The manual will incorporate a discussion of all topics required by the TCEQ general permit. The manual will provide checklists and procedures for common municipal activities that may impact stormwater quality. The manual will include a list of all municipal facilities that may impact runoff quality. The manual will also include procedures relating to operation and maintenance activities and will provide procedures for the proper disposal of waste, including dredge spoil, accumulated sediments, and floatables. The rules manual will provide information for the following: park and open space maintenance, street and road maintenance, fleet and building maintenance, stormwater system maintenance, new municipal construction and land disturbances, municipal parking lots, vehicle and equipment maintenance and storage yards, waste transfer stations, and sand/gravel storage locations.

Measurable Goals: The Good Housekeeping Rules Manual will be developed. A copy of the manual will be maintained at each municipal facility that may impact stormwater runoff quality. The locations of manuals will be recorded.

Evaluation: Compare target completion date to actual completion and distribution date.

### 8.4.5 Employee/Contractor Training

Description: The City will develop and implement an employee training program regarding stormwater quality issues and good housekeeping procedures. The training program will be based on the program developed by the North Central Texas Council of Governments entitled: *Preventing Stormwater Pollution: What We Can Do*. The training program was developed by the North Central Texas Council of Governments to assist local governments and state agencies in



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training their employees on stormwater pollution prevention. In addition to NCTCOG materials, the City of Baytown's good housekeeping manual will also be discussed during the training program. The training will be targeted to employees conducting the following municipal operations: park and open space maintenance, street and road maintenance, fleet and building maintenance, stormwater system maintenance, new municipal construction and land disturbances, municipal parking lots, vehicle and equipment maintenance and storage yards, waste transfer stations, and sand/gravel storage locations.

**Measurable Goals:** The City will conduct annual training. The date, agenda, and attendees for training sessions will be recorded.

**Evaluation:** Compare targeted number of employees to number of employees trained.

### **8.4.6 Wash Racks**

**Description:** The City will plan, design and install new vehicle wash racks at five municipal facilities. The schedule for the maintenance activities and inspections for the wash racks will also be developed.

**Measurable Goals:** The City will install new wash racks at the police and fire stations as well as at three municipal service centers.

**Evaluation:** Compare number of upgrades of wash rack stations compared to target.

Implementation, activities, measurable goals, schedules, and responsible parties for existing and new BMPs are presented in Table 8-1.

<b>Table 8-1 BMPs</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability</b>
<b>EXISTING</b>				
Catch Basin Cleaning/Drainage System O&M	Reduce sediment and floatable materials discharges by routinely cleaning MS4 catch basin and stormwater inlet structures. Conduct activities to maintain proper operation of stormwater drainage, detention and water quality features including post construction BMPs owned, operated and/or maintained by the city.	Clean City-owned catch basins on a regular basis. Record the number cleaned, document the dates of cleaning and amount of material removed. Maintain log of O&M activities.	Public Works	PSE
Pesticide/Herbicide Applicator Training	Train pesticide application staff. Document number and name of trained employees.	Train once per year.	Parks Dept.	PSE
Street Sweeping	The City will sweep streets and roadways in order to reduce the amount of sediment and associated pollutants discharged to the MS4 from roadways.	Sweep residential roads once per year. Sweep main thoroughfares monthly. Track the number of road miles swept and the amount of debris collected.	Public Works	PSE
Municipal Operations Survey	The City will conduct a self-audit of its facilities to determine the nature of activities, identify appropriate BMPs, and provide for their implementation.	Develop a questionnaire for the survey to ensure appropriate detailed and standardized information is collected. Conduct the survey and use the results to identify appropriate BMPs for each facility.	Health Dept.	PSE
Hazardous Materials Management	The City will review the hazardous materials used in municipal operations and will consider less toxic alternatives where appropriate.	Compile a list of hazardous materials purchased and utilized by the City. Conduct research on possible less toxic alternatives and conduct a cost/benefit assessment of those alternatives to determine if purchasing the less toxic alternative is feasible and fiscally responsible.	Fire Dept.	PSE
Spill Response Kits	Review spill response procedures to ensure stormwater quality protection measures are considered during spill response. Maintain spill response kits at all City facilities with activities likely to contribute pollutants to stormwater. Audit facilities to verify.	Document deployment of kits at all inventoried municipal facilities each year.	Fire Dept.	PSE

<b>Table 8-1 BMPs</b>	<b>Activity</b>	<b>Measurable Goals</b>	<b>Responsible Party</b>	<b>Applicability</b>
Good Housekeeping Rules Manual	1. Analyze and inventory municipal operations, service centers, and procedures that impact stormwater quality including parks, streets and drainage, equipment and fleet servicing, wastewater treatment, utility work, capital projects, and neighborhood protection, and environmental health.	Complete inventory.	Health Dept.	PSE
	2. Develop manual.	Complete manual	Health Dept.	PSE
	3. Implement program and conduct an annual audit.	Document annual audit results.	Health Dept.	PSE
Employee Training	Conduct and document annual employee training.	Train once per year.	Health Dept.	PSE
Wash Racks	1. Inspect current facilities	Identify deficiencies.	Public Works	PSE
	2. Determine corrective actions.	Implement corrections on existing wash racks by close of Year 5.	Public Works	PSE



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### 9.0 RECORD KEEPING AND REPORTING

The purpose of record keeping and reporting is to document successful implementation of the SWMP. Annual reports (based on calendar year) on SWMP implementation will be required by TCEQ and this update will be brought each year to the City Council.

#### 9.1 RECORD KEEPING

Several documents are required to be kept per the TCEQ General Permit. The City of Baytown shall retain the following documents for the permit period to comply with the General Permit:

- Copy of the TCEQ General Permit TXR040000,
- Records of all data used to complete the NOI,
- This SWMP shall be retained at a location accessible by TCEQ,
- A copy of each annual report.

Additionally, the City of Baytown shall make the records, NOI, SWMP and annual reports available to the public as required in the General Permit and / or the Open Records Act. Other records shall be provided as per the Open Records Act. See the General Permit for additional information regarding record keeping requirements.

#### 9.2 REPORTING

The City of Baytown is required to report to the TCEQ at various times. A summary of the reporting requirements is below:

- Noncompliance Notification – According to 30 TAC §305.125(9) any noncompliance which may endanger human health or safety, or the environment, must be reported by the MS4 Operator to the TCEQ.
- Other Information – If the City becomes aware that any incorrect information has been submitted in an NOI, NOT, NOC, or any other report it shall submit the facts to the Executive Director of TCEQ.
- Annual Report – The City shall submit an annual report to the TCEQ by November 13 (of the following year) for each year of the permit term. The annual report shall contain the following:
  - The status of the compliance with permit conditions, an assessment of the appropriateness of the identified BMPs, progress towards achieving the statutory goal of reducing the discharge of pollutants, the measurable goals for each of the minimum control measures, and an evaluation of the success of the implementation of the goals;
  - Status of any additional control measures implemented by the City (if applicable);



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- A summary of the results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants;
- A summary of the stormwater activities the City plans to undertake during the next reporting cycle (including implementation schedule);
- Proposed changes to the stormwater management program, including changes to any BMPs or any identified measurable goals that apply to the program elements;
- The number of municipal construction activities authorized under the General Permit and the total number of acres disturbed;
- The number of non-municipal construction activities authorized under the General Permit and the total number of acres disturbed;
- Notice that the City is relying on another government entity to satisfy some of the General Permit obligations (not currently applicable);
- If co-permitting, all MS4 Operators must contribute to a system-wide report (not currently applicable);
- The City must sign and certify the annual report in accordance with Part VII.E.1.(a) of the General Permit; and

Stormwater and Pretreatment Team Leader

- TCEQ Water Quality Division
  - MC-148
  - P.O. Box 13087
  - Austin, Texas 78711-3087
- Or electronically, instructions at <http://www.tceq.state.tx.us>



## City of Baytown Stormwater Management Plan

### 10.0 REFERENCES

National Pollutant Discharge Elimination System (NPDES)

<https://www.epa.gov/npdes>

Total Maximum Daily Load Program: Improving Water Quality

<http://www.tceq.state.tx.us/waterquality/tmdl>

Texas Department of Agriculture. Pesticides

<https://texasagriculture.gov/RegulatoryPrograms/Pesticides.aspx>

Texas Pollutant Discharge Elimination System General Permit No. TXR040000, General Permit to Discharge Waste from Small Municipal Separate Storm Sewer Systems.

[https://www.tceq.texas.gov/permitting/stormwater/ms4/WQ\\_ms4\\_small\\_TXRO4.html](https://www.tceq.texas.gov/permitting/stormwater/ms4/WQ_ms4_small_TXRO4.html)

USDA. 1976. United States Department of Agriculture. Soil Survey. Harris County Texas. Map No 86, 97,98, 108, 109 and 119. 1976