



**City of Terrell Hills, Texas**

**Storm Water Management  
Program (SWMP)**

**TPDES (Phase II) Municipal  
Separate Storm Sewer System  
(MS4)**



## Table of Contents

<b>1.0</b>	<b>Background.....</b>	<b>5</b>
1.1	City Facilities and Storm Water Systems .....	5
1.2	Receiving Water Quality .....	5
1.3	303(d) List.....	6
1.4	Water Bodies with Concerns for Use Attainment and Screening Levels. 7	
1.5	Total Maximum Daily Loads (TMDLs) .....	9
1.6	Clean Rivers Program.....	9
<b>2.0</b>	<b>Storm Water Management Program Overview .....</b>	<b>10</b>
2.1	Development of the SWMP.....	10
2.2	Organization of the SWMP .....	10
2.2.1	<b>MCM #1 - Public Education, Outreach and Involvement.....</b>	<b>10</b>
2.2.2	<b>MCM #2 - Illicit Discharge Detection and Elimination .....</b>	<b>11</b>
2.2.3	<b>MCM #3 - Construction Site Storm Water Runoff Control .....</b>	<b>11</b>
2.2.4	<b>MCM #4 - Post-Construction Storm Water Management in New Development and Redevelopment .....</b>	<b>11</b>
2.2.5	<b>MCM #5 - Pollution Prevention/Good Housekeeping for Municipal Operations .....</b>	<b>11</b>
2.2.6	<b>MCM #6 – Industrial Storm Water Sources.....</b>	<b>12</b>
2.2.7	<b>MCM #7 - Authorization for Municipal Construction Activities.....</b>	<b>12</b>
2.3	List of Allowable Non-Storm Water Discharges.....	12
<b>3.0</b>	<b>MCM #1 - Public Education, Outreach and Involvement.....</b>	<b>14</b>
3.1	Regulatory Requirements .....	14
3.1.1	<b>Public Education and Outreach.....</b>	<b>14</b>
3.1.2	<b>Public Involvement.....</b>	<b>15</b>
3.1.3	<b>Selected Best Management Practices.....</b>	<b>16</b>
<b>4.0</b>	<b>MCM #2 - Illicit Discharge Detection and Elimination .....</b>	<b>25</b>
4.1	Regulatory Requirements .....	25
4.1.1	<b>Program Development.....</b>	<b>25</b>
4.1.2	<b>Allowable Non-Storm Water Discharges .....</b>	<b>25</b>
4.1.3	<b>MS4 Mapping.....</b>	<b>25</b>
4.1.4	<b>Education and Training.....</b>	<b>26</b>
4.1.5	<b>Public Reporting of Illicit Discharges and Spills.....</b>	<b>26</b>
4.1.6	<b>Source Investigation and Elimination .....</b>	<b>26</b>
4.1.7	<b>Inspections.....</b>	<b>26</b>
4.2	Selected Best Management Practices .....	27
<b>5.0</b>	<b>MCM #3 - Construction Site Storm Water Runoff Control .....</b>	<b>32</b>
5.1	Regulatory Requirements .....	32
5.2	Selected Best Management Practices .....	35
<b>6.0</b>	<b>MCM #4 - Post-Construction Storm Water Management in New Development and Redevelopment.....</b>	<b>40</b>
6.1	Regulatory Requirements .....	40



6.2	Selected Best Management Practices .....	41
<b>7.0</b>	<b>MCM #5 - Pollution Prevention/Good Housekeeping for Municipal Operations .....</b>	<b>47</b>
7.1	Regulatory Requirements .....	47
7.1.1	<i>Permittee-Owned Facilities and Control Inventory.....</i>	<i>47</i>
7.1.2	<i>Training and Education .....</i>	<i>48</i>
7.1.3	<i>Disposal of Waste Material.....</i>	<i>48</i>
7.1.4	<i>Contractor Requirements and Oversight.....</i>	<i>48</i>
7.1.5	<i>Municipal Operations and Maintenance Activities .....</i>	<i>48</i>
7.1.6	<i>Structural Control Maintenance .....</i>	<i>49</i>
7.2	Selected Best Management Practices .....	50
<b>8.0</b>	<b>MCM #7 - Authorization for Municipal Construction Activities.....</b>	<b>58</b>
<b>9.0</b>	<b>Record Keeping and Reporting.....</b>	<b>59</b>
9.1	Record Keeping .....	59
9.2	Reporting .....	59
9.2.1	<i>General Reporting Requirements.....</i>	<i>59</i>
9.2.2	<i>Annual Report .....</i>	<i>60</i>

## List of Figures

Figure 1- Stream Segments in the Vicinity of the City of Terrell Hills .....	7
--	---

## List of Tables

Table 1- Stream Segments and Impaired Parameters in the 2012 Texas 303(d) List .....	6
Table 2 - Segments with Concerns in the 2012 Texas Integrated Report.....	8
Table 3 - TMDLs in the San Antonio River Basin .....	9

## Appendix A

TPDES General Permit No. TXR040000, issued 1/24/2019



## 1.0 Background

The Federal Water Pollution Control Act was passed in 1972. After the law was amended in 1977, it became commonly known as the Clean Water Act. The Act established the structure for federal regulation of pollutant discharges into the waters of the United States, authorized the Environmental Protection Agency (EPA) to implement pollution control programs, extended the requirement to establish standards for surface water contaminants, and made it unlawful to discharge unpermitted point source pollutants into navigable waters. The Act also established funding for construction of sewage treatment plants and promoted planning to address non-point source pollution. In order to reduce storm water pollution, amendments were made to the Clean Water Act in 1987, requiring storm water discharges to be permitted in two phases.

Phase 1 applied, among other things, to larger cities (population > 100,000) with separate storm water sewer systems. The regulations required these cities to obtain National Pollutant Discharge Elimination System (NPDES) permits. The permit process imposed controls on the cities to reduce pollution in storm water discharges.

Phase 2 applies to smaller cities (population <100,000 with Urbanized Areas). In 1999, the EPA issued final regulations for Phase 2. The Texas Commission on Environmental Quality (TCEQ) issued the Texas Pollutant Discharge Elimination System (TPDES) General Permit Number TXR040000 (General Permit) for Phase 2 Storm Water on August 13, 2007 in order to create a mechanism for Phase 2 Texas cities to come into compliance with the federal regulations.

The processes of applying for coverage under and maintaining conformance to the General Permit begins with submittal of two documents to the TCEQ. The first document is a form provided by the TCEQ, called a Notice of Intent (NOI). The second document is the proposed Implementation for the Storm Water Management Program (SWMP).

The SWMP proposes to reduce storm water pollution by increasing the city's control of pollution sources.

The SWMP must be fully implemented within five years of the TCEQ's issuance of the General Permit. The general schedule is as shown.

### 1.1 City Facilities and Storm Water Systems

Phase 1 applied, among other things, to larger cities (population > 100,000) with separate storm water sewer systems. The regulations required these cities to obtain National Pollutant Discharge Elimination System (NPDES) permits. In 1999 the EPA started implementing Phase 2 of the MS4 program for cities smaller than 100,000 in population. In Texas the Small MS4 General Permit went into effect in August 2007, and as a municipality located in the San Antonio urbanized area, the City of Terrell Hills prepared a SWMP and NOI.

The permit process imposed controls on the cities to reduce pollution in storm water discharges. The BMPs in the City's SWMP has been reviewed for compliance of the 2019 small MS4 permit, dated January 24 2019, included in appendix A.

### 1.2 Receiving Water Quality

The City of Terrell Hills is located in the San Antonio River watershed. Based on review of the 2018 Texas Integrated Report of Surface Water Quality, associated 303(d) list, the Texas TMDL Program, and the San Antonio River Basin Clean Rivers Program, the following sections describe water quality in the vicinity of the City of Terrell Hills.



### 1.3 303(d) List

As required under Sections 303(d) and 304(a) of the federal Clean Water Act, the 303(d) list identifies the water bodies in or bordering Texas for which effluent limitations are not stringent enough to implement water quality standards, and for which the associated pollutants are suitable for measurement by maximum daily load. Texas' 303(d) list is included as part of the Texas Integrated Report of Surface Water Quality.

One of four subcategories is assigned to each impaired parameter to provide information about water quality status and management activities on that water body. The categories are defined as:

- a. Category 5: The water body does not meet applicable water quality standards or is threatened for one or more designated uses by one or more pollutants.
- b. Category 5a: TMDLs are underway, scheduled, or will be scheduled for one or more parameters.
- c. Category 5b: A review of the standards for one or more parameters will be conducted before a management strategy is selected, including the possible revision to the water quality standards.
- d. Category 5c: Additional data or information will be collected and/or evaluated for one or more parameters before a management strategy is selected.

The stream segments included on the Texas 303(d) list in the area of the City of Terrell Hills are included in **Table 1** below.

**Table 1- Stream Segments and Impaired Parameters in the 2018 Texas 303(d) List**

Segment ID	Name	Parameter	Category	Year First Listed
1911	Upper San Antonio River	impaired fish community	5c	2006
1911H	Picosa Creek	depressed dissolved oxygen	5c	2012

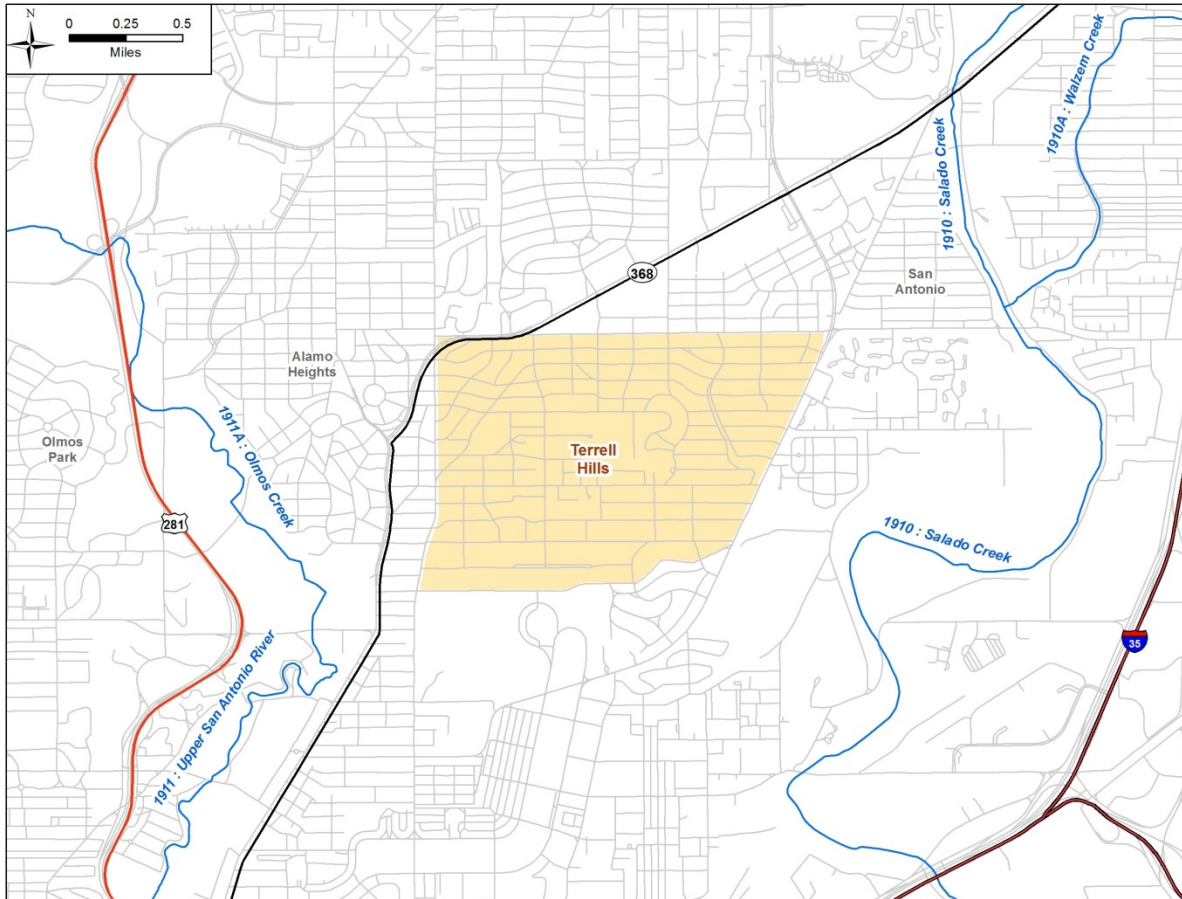




Western portions of Terrell Hills drain to the Upper San Antonio River and eastern portions of Terrell Hills drain to Salado Creek, as shown in **Figure 1** on the next page.

A map of stream segments in the vicinity of the City of Terrell Hills is shown in Figure 1.

**Figure 1- Stream Segments in the Vicinity of the City of Terrell Hills**



\\nause-srv2\Marketing\Lemonds\20140403\_City of Terrell Hills\GIS\map\_docs\arcmap\Terror\_Hills\_fcsegments.mxd

#### 1.4 Water Bodies with Concerns for Use Attainment and Screening Levels

The 2018 Texas Integrated Report includes a list of water bodies of concern. The level of concern is classified as the following:

- CN - Concern for near-nonattainment of the Water Quality Standards
- CS - Concern for water quality based on screening levels

**Table 2** includes the list of stream segments in the area of the City of Terrell Hills where sampling results have led to a level of concern. Potential pollution sources as indicated in the 2018 Texas Integrated Report include non-point sources and municipal point source discharges of nutrients, including nitrate, total phosphorus, and bacteria. In the case of dissolved oxygen grab samples in



Menger Creek and Beitel Creek, the source is indicated as urban runoff and storm sewers.

**Table 2 - Segments with Concerns in the 2012 Texas Integrated Report**

Segment ID	Name	Parameter	Level of Concern
1910	Salado Creek	Impaired fish community	CN
1910	Salado Creek	depressed dissolved oxygen	CN
1910	Salado Creek	Impaired microbenthic community	CN
1910C	Salado Creek Tributary	bacteria	CN
1911_08	Upper San Antonio River	impaired fish community	CN
1911_07	Upper San Antonio River	impaired habitat	CS
1911_01,1911_02, 1911_03, 1911_04, 1911_05, 1911_06,1911_07, 1911_08, 1911_09	Upper San Antonio River	nitrate	CS
1911_01, 1911_02	Upper San Antonio River	Total phosphorus	CS
1911B	Apache Creek	depressed dissolved oxygen	CS
1911C	Alazan Creek	chlorophyll-a	CS
1911D	San Pedro Creek	nitrate	CS



## 1.5 Total Maximum Daily Loads (TMDLs)

The Texas TMDL Program works to restore Texas waterways that are not meeting one or more of their assigned uses, such as recreation, fishing, or a healthy aquatic environment. TMDLs exist in the vicinity of the City of Terrell Hills. TMDL's in the San Antonio River basin are shown in **Table 3**.

*Table 3 - TMDLs in the San Antonio River Basin*

Segment ID	Name	Parameter
1901	Lower San Antonio River	Bacteria, Dissolved Oxygen
1910A	Upper San Antonio River	Bacteria
1911	Upper San Antonio River	Bacteria

## 1.6 Clean Rivers Program

The San Antonio River Authority (SARA) administers the Texas Clean Rivers Program (CRP). According to the Mission Statement contained in the CRP Long Term Action Plan, 2006: The goal of the CRP is to maintain and improve the quality of water resources within each river basin in Texas through an ongoing partnership involving the TCEQ, other agencies, river authorities, regional entities, local governments, industry and citizens. The program's watershed management approach will identify and evaluate water quality issues, establish priorities for corrective action, work to implement those actions, and adapt to changing priorities.

To aid in achieving consensus within river basins, the TCEQ contracts with local agencies to administer the program within their respective river basins. SARA is the Planning Agency in the San Antonio River Basin. The City of Terrell Hills is located within the San Antonio River watershed. The 2012 San Antonio River Basin Summary Report<sup>1</sup> summarizes water quality for the San Antonio River basin. The 2012 San Antonio River Basin Highlight Report describes future work to be completed on the Upper San Antonio Watershed Protection Plan Revision in the area that includes the City of Terrell Hills as:

In an effort to enhance the urban reaches of the Upper San Antonio River (segment 1911) and improve and protect water quality, SARA is proposing to update, revise and implement the 2006 Upper San Antonio River Watershed Protection Plan (WPP). The revised WPP will identify and propose water quality Best Management Practices (BMPs) that would serve to abate or control Non-Point Source (NPS) pollution of bacteria, sediments and excess nutrients (nitrogen and phosphorous). The water quality goals of the program are to develop a plan for implementation of approved BMPs that would aid in reducing E. coli bacteria NPS loads to segment 1911 of the San Antonio River. SARA and Bexar Regional Watershed Management (BRWM) partner's objective is to have the Upper San Antonio River compliant with State of Texas Surface Water Quality Standards (less than 126 organisms per 100 ml).

---

<sup>1</sup> 2013, San Antonio River Authority, 2012 Basin Highlight Report and Watershed Characterization for Selected Watersheds.





## **2.0 Storm Water Management Program Overview**

### **2.1 Development of the SWMP**

The current update of the SWMP included a team comprised of several City Departments. The City of Terrell Hills has developed the SWMP in accordance with the requirements of the TPDES General Permit TXR040000 administered under the Texas Commission on Environmental Quality (TCEQ) for obtaining authorization for storm water discharges and certain non-storm water discharges.

All of the City limits are located within the San Antonio Urbanized Area as identified by the 2010 Census by the U.S. Census Bureau. If the City Limit area expands, then the City will comply with permit requirements for implementing SWMP in the incorporated City Limits. The 2010 Census population for Terrell Hills was 4,878. As such, Terrell Hills is a Level 1 MS4 Operator (serve a population of less than 10,000 within a UA), as defined in Part II (A)(5) of the permit.

The SWMP addresses the six minimum control measures (MCM's) that are required under the EPA Storm Water Phase II Final Rule for small MS4's and the BMPs that will be implemented to reduce pollutants discharging from the City's MS4. The City has chosen not to develop and include the optional seventh minimum control measure in the SWMP.

As an existing permittee, the City assessed program elements in the previous permit, made modifications as necessary, and developed new BMPs to implement, as necessary, to continue reducing the discharge of pollutants from the MS4 to the MEP.

### **2.2 Organization of the SWMP**

The City of Terrell Hills's SWMP is organized around the following seven major minimum control measures and the selected best management practices:

#### **2.2.1 MCM #1 - Public Education, Outreach and Involvement**

- PE-1 Brochures and Fact Sheets
- PE-2 Speakers Bureau to Address Public Groups
- PE-3 Public Service Announcement Planning
- PE-4 Storm Water Page on Website
- PE-5 Storm Drain Marking
- PE-6 Storm Water Booth
- PE-7 NOI and NOC Public Comment
- PE-8 Recurring Public Comment
- PE-9 Volunteer Projects – Mutt Mitts



## **2.2.2 MCM #2 - Illicit Discharge Detection and Elimination**

- ID-1 Storm Sewer System Map
- ID-2 Illicit Discharge Detection Plan
- ID-3 Illicit Discharge Ordinance
- ID-4 Illicit Discharge and Dumping Hotline
- ID-5 Household Chemical Collection Program
- ID-6 Mutt Mitts Program

## **2.2.3 MCM #3 - Construction Site Storm Water Runoff Control**

- C-1 Technical Manual for Construction Storm Water Runoff
- C-2 Site Plan Review Program
- C-3 Construction Site Inspection Program
- C-4 Construction Storm Water Runoff Management Ordinance
- C-5 Construction Runoff Hotline

## **2.2.4 MCM #4 - Post-Construction Storm Water Management in New Development and Redevelopment**

- PC-1 Technical Manual for Post Construction Storm Water Management
- PC-2 Site Plan Review for Post Construction Runoff
- PC-3 Long Term Inspection and Maintenance
- PC-4 Post Construction Storm Water Management Ordinance
- PC-5 Sediment Trap Enhancements
- PC-6 Trash Trap Enhancements

## **2.2.5 MCM #5 - Pollution Prevention/Good Housekeeping for Municipal Operations**

- GH-1 Municipal Employee Pollution Prevention Manuals
- GH-2 Municipal Employee Training
- GH-3 Sediment Trap Enhancements
- GH-4 Trash Trap Enhancements
- GH-5 Public Works Yard Improvements
- GH-6 Public Works Storage Improvements
- GH-7 City Hall/Fire Station Improvements
- GH-8 Stabilized Alley Entrances



## 2.2.6 MCM #6 – Industrial Storm Water Sources

- Not Applicable for Level 1 Small MS4s

## 2.2.7 MCM #7 - Authorization for Municipal Construction Activities

- Not Applicable

Each of the minimum control measure sections describes regulatory permit requirements and selected best management practices with measurable goal(s), evaluation, implementation schedule, target audience and the responsible party. The City of Terrell Hills Storm Water Management Program will be implemented over a five-year permit period that coincides with the City's fiscal year. The five-year permit term begins September 30, 2019 and runs through September 30, 2024.

## 2.3 List of Allowable Non-Storm Water Discharges

The City has assessed a list of non-storm water discharges and identified them to be non-significant contributors of pollution to the City's MS4. Below is a list of common and incidental non-storm water discharges that will not be addressed in the City's SWMP. However, if any of these allowable discharges are identified as contributors of pollutants by City or TCEQ, then the SWMP will be amended to include BMPs for those discharges.

- a. Water line flushing (excluding discharges of hyper-chlorinated water, unless the water is first de-chlorinated and discharges are not expected to adversely affect aquatic life)
- b. Runoff or return flow from landscape irrigation, lawn irrigation and other irrigation utilizing potable water, groundwater, or surface water sources
- c. Discharges from potable water sources that do not violate Texas Surface Water quality standards
- d. Diverted stream flows
- e. Rising ground waters and springs
- f. Uncontaminated groundwater infiltration
- g. Uncontaminated pumped groundwater
- h. Foundation and footing drains
- i. Air conditioning condensation
- j. Water from crawl space pumps
- k. Individual residential vehicle washing
- l. Flows from wetlands and riparian habitats
- m. De-chlorinated swimming pool discharges that do not violate Texas Surface Water quality standards
- n. Street wash water excluding street sweeper waste water
- o. Discharges or flows from emergency fire fighting activities (fire fighting activities do not include washing of trucks, run-off water from training activities, test water from fire suppression systems, and similar activities).



- p. Other allowable non-storm water discharges listed in 40 CFR 122.26(d)(2)(iv)(B)(1)
- q. Non-storm water discharges that are specifically listed in the TPDES Multi-Sector General Permit (MSGP) TXR050000 or the TPDES Construction General Permit (CGP) TXR150000
- r. Discharges that are authorized by a TPDES or NPDES permit or that are not required to be permitted
- s. Other similar occasional incidental non-storm water discharges such as spray park water, unless the TCEQ develops permits or regulations addressing these discharges.



### **3.0 MCM #1 - Public Education, Outreach and Involvement**

The Public Education, Outreach and Involvement minimum control measure consists of BMPs that focus on the involvement, other engagement and distribution of educational materials designed to inform the public about the impacts that storm water discharges have on local water bodies. The BMPs describe how the target audience will be informed about the steps they can take to reduce storm water pollution; how to become involved in the SWMP; and the mechanisms that will be used to reach target audiences. The Public Education, Outreach and Involvement program is developed to reach all of the constituents (residents, visitors, public service employees, businesses, commercial and industrial facilities and construction site personnel) within the City Limits.

#### **3.1 Regulatory Requirements**

##### **3.1.1 Public Education and Outreach**

Develop, implement and maintain a comprehensive storm water education and outreach program to educate public employees, businesses and the general public of hazards associated with the illegal discharges and improper disposal of waste and about the impact that storm water discharges can have on local waterways, as well as steps that the public can take to reduce pollutants in storm water.

The program must at a minimum:

- a. Define the goals and objectives of the program based on high priority community-wide issues;
- b. Identify the target audience(s);
- c. Develop or utilize appropriate educational materials, such as printed materials, billboard and mass transit advertisements, signage at select locations, radio advertisements, television advertisements, and websites;
- d. Determine cost effective and practical methods and procedures for distribution of materials.

Throughout the permit term, make the education materials available to convey the program's message to the target audiences at least annually.





### 3.1.2 Public Involvement

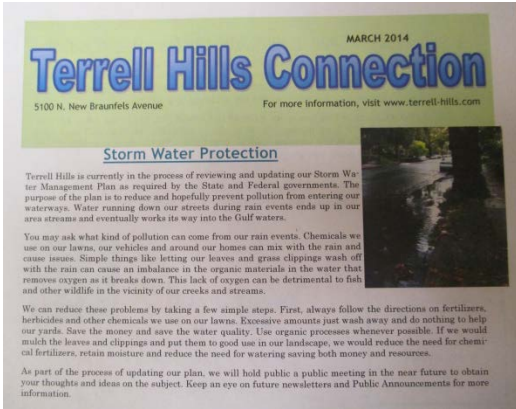
Involve the public, and, at a minimum, comply with any state and local public notice requirements in the planning and implementation activities related to developing and implementing the SWMP. At a minimum:

- a. If feasible, consider using public input (for example, the opportunity for public comment, or public meetings) in the implementation of the program;
- b. If feasible, create opportunities for citizens to participate in the implementation of control measures, such as stream cleanups, storm drain stenciling, volunteer monitoring, volunteer “Adopt-A-Highway” programs, and education materials;
- c. Ensure the public can easily find information about the SWMP.




### 3.1.3 Selected Best Management Practices

#### PE-1 Brochures and Fact Sheets

PE-1		Brochures and Fact Sheets	
		<p><b>BMP Description:</b></p> <p>The City will continue to develop or obtain informational brochures and fact sheets pertaining to the improvement and preservation of storm water quality. Distribute through city newsletter. Place brochures at City Hall. Coordinate with other nearby government entities and/or utilities to determine if resources might be shared in a productive manner. Brochures and fact sheets will educate residents on how to maintain their homes in an environmentally-friendly manner including proper fertilizer, herbicide, and pesticide use; and proper waste disposal. Other brochures and fact sheets will address commercial, industrial, and institutional pollution issues.</p>	
Responsible Department	Target Audience	Residents, visitors, public service employees, businesses, commercial and industrial facilities, construction site personnel	
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> Posting brochures at City Hall, business mailings, and Building Permit instructions are effective.	
Supporting Departments  none	Year	Measurable Goal	
	1	Identify 1 new issue with associated audience Distribute brochures/fact sheets	
	2	Identify 1 new issue with associated audience Distribute brochures/fact sheets	
	3	Identify 1 new issue with associated audience Distribute brochures/fact sheets	
	4	Identify 1 new issue with associated audience Distribute brochures/fact sheets	
	5	Identify 1 new issue with associated audience Distribute brochures/fact sheets	




**PE-2 Speakers Bureau to Address Public Groups**

PE-2		Speakers Bureau to Address Public Groups	
		<p>BMP Description:</p> <p>The City will invite environmental professionals, such as TCEQ or EPA representatives, our city engineer or others, to make presentations at City Council meetings on preventing storm water pollution.</p>	
Responsible Department	Target Audience	Residents, businesses, commercial and industrial facilities	
	Rationale & Effectiveness	<b>Existing BMP:</b> The speakers bureau was an effective method.	
Supporting Departments	Year	Measurable Goal	
	1	List of speakers and dates	
	2	List of speakers and dates	
	3	List of speakers and dates	
	4	List of speakers and dates	
	5	List of speakers and dates	




**PE-3 Public Service Announcement Planning**

PE-3	Public Service Announcement Planning	
		<p>BMP Description:</p> <p>The City will determine what existing efforts are in place to issue Public Service Announcements on general environmental and storm water topics. Coordinate with other regional agencies and utilities to determine the feasibility of joining existing efforts. Consider web page slide shows and videos.</p>
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The public service announcements were an effective method.
Supporting Departments  none	Year	Measurable Goal
	1	List of PSAs and dates
	2	List of PSAs and dates
	3	List of PSAs and dates
	4	List of PSAs and dates
	5	List of PSAs and dates




**PE-4 Storm Water Page on City Website**

PE-4	Storm Water Page on City Website	
		<p><b>BMP Description:</b></p> <p>The City will include storm water information as well as Storm Water Management Program (SWMP) on the Storm Water page of the City's website.</p>
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>New BMP:</b> School book covers was not effective (only 1 school, students did not want), so the City replaced this distribution method with an enhanced storm water page on the City website
Supporting Departments	Year	Measurable Goal
none	1	1 new article on the Storm Water page
none	2	1 new article on the Storm Water page
none	3	1 new article on the Storm Water page
none	4	1 new article on the Storm Water page
none	5	1 new article on the Storm Water page






**PE-5 Storm Drain Marking**

PE-5	Storm Drain Marking	
		<p>BMP Description:</p> <p>The City staff marked public storm drains with a durable aluminum plaque during 2008-2013. Modify the City's drainage standards to require all new City inlets to be marked prior to the City's acceptance.</p> <p>City staff will inspect all of the inlets in the city annually, and will replace any missing markers.</p>
Responsible Department	Target Audience	Residents, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The City was not able to identify a group of volunteers to install the storm drain markers, so City staff installed them.
Supporting Departments  none	Year	Measurable Goal
	1	List of speakers and dates
	2	List of speakers and dates
	3	List of speakers and dates
	4	List of speakers and dates
	5	List of speakers and dates




**PE-6 Storm Water Booth**

PE-6		Storm Water Booth	
		<p><b>BMP Description:</b></p> <p>The City staff will man a booth at city events, such as the annual 4<sup>th</sup> of July Parade and Picnic, national night out and other city events which draws several hundred citizens and people from around the area.</p>	
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities	
	Public Works	Rationale & Effectiveness	<b>New BMP:</b> Questionnaires were not effective, so public input will be obtained from residents by City staff manning a booth at City events.
Supporting Departments	Year	Measurable Goal	
	1	List of events and dates	
	2	List of events and dates	
	3	List of events and dates	
	4	List of events and dates	
	5	List of events and dates	




**PE-7 NOI and NOC Public Comment**

PE-7		NOI and NOC Public Comment	
		<p>BMP Description:</p> <p>The City staff will discuss any proposed NOI or NOC actions at their regular City Council meetings.</p>	
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities	
	Rationale & Effectiveness	<b>Existing BMP:</b> The City will discuss any proposed NOI or NOC actions at their regular City Council meetings, which is the most reliable and effective method to receive public comments.	
Supporting Departments	Year	Measurable Goal	
	1	List of public meetings and dates	
	2	List of public meetings and dates	
	3	List of public meetings and dates	
	4	List of public meetings and dates	
	5	List of public meetings and dates	
none			



**PE-8 Recurring Public Comment**

PE-8	Recurring Public Comment	
	<p>BMP Description:</p> <p>The City staff will post this SWMP in a public place at City Hall for public review. When comments from the TCEQ's Executive Director are received regarding this SWMP. The City will publish in the City's official notice newspaper a notice that states that the comments have been received and that public review and comment are invited. Provide at least 30 days for public comment. In the event that significant public interest exists, host a public meeting at City Hall that would be facilitated by the TCEQ and that would allow for public participation.</p>	
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> Following the public notice requirements was an effective method.
Supporting Departments  none	Year	Measurable Goal
	1	Record copies of the Executive Director's comments Public newspaper notice
	2	Public meeting records if a NOC is submitted
	3	Public meeting records if a NOC is submitted
	4	Public meeting records if a NOC is submitted
	5	Public meeting records if a NOC is submitted





**PE-9 Volunteer Projects - Mutt Mitts**

PE-9	Volunteer Projects – Mutt Mitts	
 		<p>BMP Description:</p> <p>The volunteers of the Terrell Hills Playground Association and city staff maintain dispensers of Mutt Mitts at City parks.</p> 
Responsible Department	Target Audience	Residents
Public Works	Rationale & Effectiveness	<b>New BMP:</b> The most active volunteer group in Terrell Hills is the Playground Association.
Supporting Departments	Year	Measurable Goal
	1	List of Mutt Mitt locations
	2	List of Mutt Mitt locations
	3	List of Mutt Mitt locations
	4	List of Mutt Mitt locations
none	5	List of Mutt Mitt locations





## **4.0 MCM #2 - Illicit Discharge Detection and Elimination**

The Illicit Discharge Detection and Elimination (IDDE) minimum control measure consists of BMPs that focus on the detection and elimination of illicit discharges into the City's 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 storm water and not authorized by an NPDES permit." The BMPs describe development and update of storm sewer map; the legal authority mechanism (to the extent allowable under State or local law) which will be used to effectively prohibit illicit discharges; enforcement procedures and actions to ensure that the regulatory mechanism is implemented; and programs to detect and eliminate non-storm water discharges from the City's MS4. BMPs also focus on education and training of public service employees, businesses, and the general public with regard to the hazards associated with illegal discharges and improper disposal of waste as described in the Public Education and Outreach minimum control measure.

The City of Terrell Hills sold their sanitary sewer collection system to the San Antonio Water Systems (SAWS) in 2010, so the City has no jurisdiction over maintenance of the sanitary sewer system.

### **4.1 Regulatory Requirements**

#### **4.1.1 Program Development**

Develop, implement and enforce a program to detect, investigate and eliminate illicit discharges into the small MS4. The SWMP must include a plan to detect and address non-storm water discharges, including illegal dumping to the MS4 system. Elements must include:

- a. An up-to-date MS4 map (see Part III.B.2.(c)(1))
- b. Methods for informing and training MS4 field staff
- c. Procedures for tracing and removing the source of an illicit discharge

#### **4.1.2 Allowable Non-Storm Water Discharges**

Non-storm water flows listed in Part II.C of the TPDES General Permit do not need to be considered by the MS4 operator as an illicit discharge requiring elimination unless the operator of the MS4 or the TCEQ identifies the flow as a significant source of pollutants to the MS4.

#### **4.1.3 MS4 Mapping**

Maintain an up-to-date MS4 map which must be located on site and available for review by the TCEQ. The MS4 map must show at a minimum the following information:

- a. The location of all MS4 outfalls that are operated by the City and discharge into the waters of the U.S.
- b. The names and locations of all waters of the U.S. that receive discharges from the outfalls; and
- c. Priority areas identified under Part III.B.2.(e)(1) if applicable.



#### **4.1.4 Education and Training**

Implement a method for informing or training all of the City field staff that may come into contact with or otherwise observe an illicit discharge or illicit connection to the small MS4 as part of their normal job responsibilities. Training program materials and attendance lists must be maintained on site and made available for review by the TCEQ.

#### **4.1.5 Public Reporting of Illicit Discharges and Spills**

To the extent feasible, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from the small MS4. Provide a central contact point to receive reports, for example by including a phone number for complaints and spill reporting. Develop and maintain on site procedures for responding to illicit discharges and spills.

#### **4.1.6 Source Investigation and Elimination**

Minimum Investigation Requirements – Upon becoming aware of an illicit discharge, conduct an investigation to identify and locate the source of such illicit discharge as soon as practicable. The investigation shall include:

- a. Prioritize the investigation of discharges based on their relative risk of pollution. For example sanitary sewage may be considered a high priority discharge.
- b. Report to the TCEQ immediately upon becoming aware of the occurrence of any illicit flows believed to be an immediate threat to human health or the environment.
- c. Track all investigations and document, at a minimum, the date(s) the illicit discharge was observed, the results of the investigation, any follow-up of the investigation and the date the investigation was closed.
- d. If the source of the illicit discharge extends outside the City's jurisdiction, notify the adjacent permitted MS4 operator or TCEQ's Field operations Support division in accordance with Part III.A.3.b
- e. If and when the source of the illicit discharge has been determined, immediately notify the responsible party of the problem, and require the responsible party to perform all necessary corrective actions to eliminate the illicit discharge.

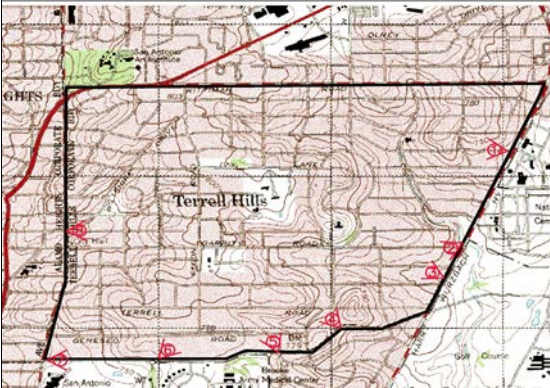
#### **4.1.7 Inspections**

Conduct inspections, as determined appropriate, in response to complaints, and conduct follow-up inspections as needed to ensure that corrective measures have been implemented by the responsible party.




## 4.2 Selected Best Management Practices

### ID-1 Storm Drain System Map

ID-1	Storm Drain System Map	
	<p><b>BMP Description:</b></p> <p>As part of the previous SWMP, the City developed a map of the storm drain system, including the location of all outfalls, the names and locations of all waters of the U.S. that receive discharges from the outfalls, underground storm drain lines, manholes, inlets, surface channels, culverts and public detention ponds. A comprehensive map of the City's storm water system will increase the effectiveness and efficiency of response to illicit discharges entering the City's storm water system.</p>	
Responsible Department  Public Works	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities
	Rationale & Effectiveness	<b>Existing BMP:</b> A comprehensive map of the City's storm water system will increase the effectiveness and efficiency of response to illicit discharges entering the MS4
Supporting Departments  none	Year	Measurable Goal
	1	Copy of the current map, with new features drawn in.
	2	Copy of the current map, with new features drawn in.
	3	Copy of the current map, with new features drawn in.
	4	Copy of the current map, with new features drawn in.
5	Copy of the current map, with new features drawn in. Evaluate alternatives to update the map digitally.	




**ID-2 Illicit Discharge Detection Plan**

ID-2	Illicit Discharge Detection Plan	
	<p><b>BMP Description:</b></p> <p>The City will write a plan listing techniques to be used to detect illicit discharges and will include forms to be used to document the results of the inspection. The plan will identify City staff that will perform the inspections. Inspection techniques may include: visual observation, conventional photography, in-pipe photography, sampling and analysis of water quality and water characteristics, dye testing, and smoke testing. The plan will also provide actions for eliminating the illicit discharges and provide the basis for establishing an ordinance. City staff will use the Storm Drain System Map to develop an inspection plan. The map will be used to divide the city into inspection zones. The City will determine a regular time each year for each zone to be inspected for illicit discharges.</p>	
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The current Illicit Discharge Detection Plan is effective.
Supporting Departments  Police Fire	Year	Measurable Goal
	1	Review the Illicit Discharge Detection Plan to identify any updates necessary to comply with the 2019 Small MS4 TPDES permit.
	2	None
	3	None
	4	None
	5	None




**ID-3 Illicit Discharge Ordinance**

ID-3	Illicit Discharge Ordinance	
	<p><b>BMP Description:</b></p> <p>The City passed an ordinance on April 12, 2010 which, to the extent allowable under state and local law, prohibits discharges to the MS4 that are not entirely composed of water (Section 8-2.3). The ordinance also includes identify illicit discharges, prohibit illicit discharges, and establish enforcement procedures to remove the sources of illicit discharges.</p> <p>The City will determine whether the small MS4 may be a source of the pollutant(s) of concern and if discharges pollutants of concern to an impaired water body, than the City will develop focused BMPs, along with corresponding measurable goals to reduce the discharge of pollutant(s) of concern.</p>	
Responsible Department	Target Audience	Residents, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The current illicit discharge ordinance is effective.
Supporting Departments  Police  Fire	Year	Measurable Goal
	1	Review the illicit discharge portions of the ordinance to identify any updates necessary to comply with the 2019 Small MS4 TPDES permit.
	2	Adopt ordinance with any updates necessary to comply with the 2019 Small MS4 TPDES permit.
	3	None
	4	None
5	None	





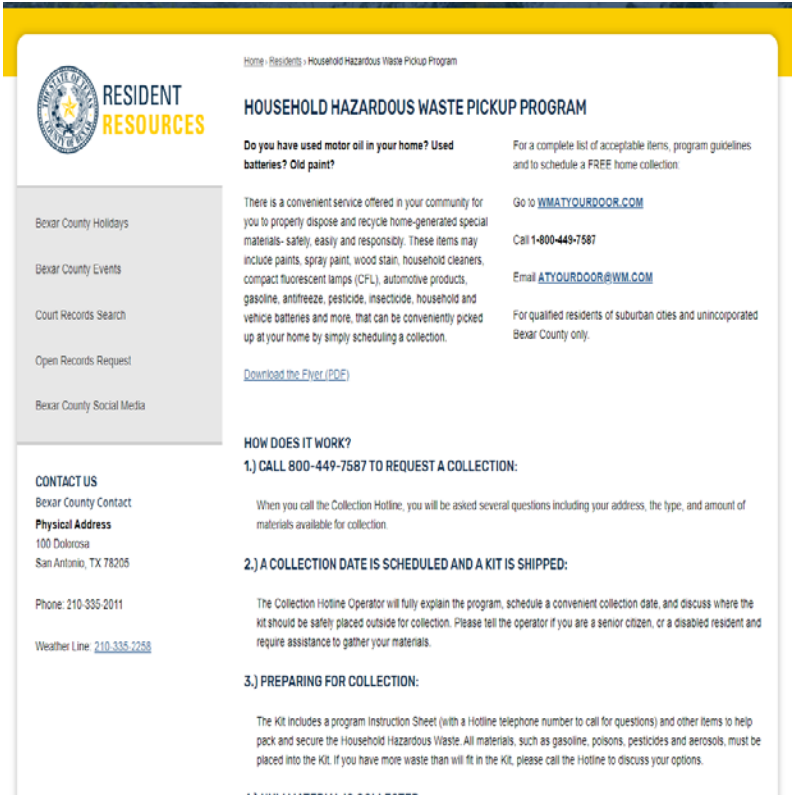
**ID-4 Illicit Discharge and Dumping Hotline**

ID-4	Illicit Discharge and Dumping Hotline	
		<p>BMP Description:</p> <p>The City established a phone number for reporting illicit discharges and published the phone number in places that are readily accessible to the public. At the special number, the phone is answered by trained City staff who are equipped with forms for recording incoming phone calls and trained in how to refer the information for action. A recording system will accept phone calls after hours.</p>
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The current illicit discharge hotline is effective.
Supporting Departments  Police  Fire	Year	Measurable Goal
	1	List of calls received, including dates, investigation results, follow-up actions and closure dates
	2	List of calls received, including dates, investigation results, follow-up actions and closure dates
	3	List of calls received, including dates, investigation results, follow-up actions and closure dates
	4	List of calls received, including dates, investigation results, follow-up actions and closure dates
5	List of calls received, including dates, investigation results, follow-up actions and closure dates	





**ID-5 Household Hazardous Chemical Collection**

ID-5	Household Hazardous Chemical Collection	
	<p><b>BMP Description:</b></p> <p>Bexar County operates a free home pickup service for household hazardous waste through a grant administered by the Alamo Area Council of Governments. This service is available to all of the residents of Terrell Hills.</p>	
<p>Responsible Department</p> <p>Public Works</p>	<p>Target Audience</p> <p>Residents</p> <p>Rationale &amp; Effectiveness</p> <p><b>New BMP:</b> Proper disposal of household hazardous waste prevents it from entering the MS4.</p>	
<p>Supporting Departments</p> <p>none</p>	<p>Year</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p>	<p>Measurable Goal</p> <p>List of Terrell Hills addresses that used the service</p> <p>List of Terrell Hills addresses that used the service</p> <p>List of Terrell Hills addresses that used the service</p> <p>List of Terrell Hills addresses that used the service</p> <p>List of Terrell Hills addresses that used the service</p>



## 5.0 MCM #3 - Construction Site Storm Water Runoff Control

The Construction Site Runoff minimum control measure consists of BMPs that focus on the reduction of pollutants in any storm water runoff to the City's MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. The BMPs describe the legal authority mechanism (to the extent allowable under State or local law); procedures for site plan review and project acceptance; procedures for site inspection and enforcement; development of a list of appropriate erosion and sediment control BMPs; construction community education; citizen complaint hotline and construction site storm water runoff employee training.

### 5.1 Regulatory Requirements

Develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the small 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 has obtained a waiver from permit requirements under NPDES or TPDES construction permitting requirements based on a low potential for erosion.

- I. 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.
- II. Requirements for construction site contractors to, at a minimum:
  1. Implement appropriate erosion and sediment control BMPs to minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters; minimize the exposure to precipitation of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides. Detergents, sanitary waste and other materials present on the site; and minimize the discharge of pollutants from spills and leaks; or
  2. Ensure that all small and large construction activities have developed and implements a SWP3 in accordance with the TPDES CGP TXR150000.
- III. Prohibited Discharges  
The following discharges are prohibited:
  1. Wastewater from washout of concrete and wastewater from water well drilling operations, unless managed by an appropriate control;
  2. Wastewater from washout and cleanout of stucco, paint, from release oils, and other construction materials;
  3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
  4. Soaps or solvents used in vehicle and equipment washing; and
  5. Discharges from dewatering activities, including discharges from dewatering of



trenches and excavations, unless managed by appropriate BMPs.

#### IV. Construction Plan Review Procedures

Maintain and implement site plan review procedures that describe which plans will be reviewed as well as when an operator may begin construction. The site plan review procedures must meet the following minimum requirements:

1. Site plan review which incorporate consideration of potential water quality impacts;
2. The small MS4 may not approve any plans unless the plans contain appropriate site specific construction site control measures that, at a minimum, meet the requirements described in Part III.B.3.(a) or in the TPDES CGP, TXR150000.

The small MS4 may require and accept a plan, such as a SWP3, that has been developed pursuant to the TPDES CGP, TXR150000.

#### V. Construction Site Inspections and Enforcement

Implement procedures for inspecting large and small construction projects. Inspections must occur at a frequency determined by the small MS4, based on the evaluation of factors that are a threat to water quality, such as: soil erosion potential; site slope; project size and type; sensitivity of receiving water bodies; proximity to receiving waterbodies; non-storm water discharges; past record of non-compliance by the operators of the construction site.

Inspections must occur during the construction phase. Develop, implement and revise as necessary written procedures outlining the inspection and enforcement requirements. These procedures must be maintained on site or in the SWMP and be made available to the TCEQ. Inspections of construction sites must at a minimum:

1. Determine whether the site has appropriate coverage under the TPDES CGP, TXR150000. If no coverage exists, notify the owner or operator of the need for permit coverage;
2. Conduct a site inspection to determine if control measures have been selected, installed, implemented and maintained according to the small MS4's requirements;
3. Assess compliance with the small MS4's ordinances and other regulations;
4. Provide a written or electronic inspection report.

Based on inspection findings, take all necessary follow-up actions (for example, follow-up inspections or enforcement) to ensure compliance with permit requirements. These follow-up and enforcement actions must be tracked and maintained for review by the TCEQ.

#### VI. Information Submitted by the Public

Develop, implement and maintain procedures for receipt and consideration of information submitted by the public.

#### VII. MS4 Staff Training

Ensure that all MS4 staff whose primary job duties are related to implementing the construction storm water program (including permitting, plan review, construction site inspections and

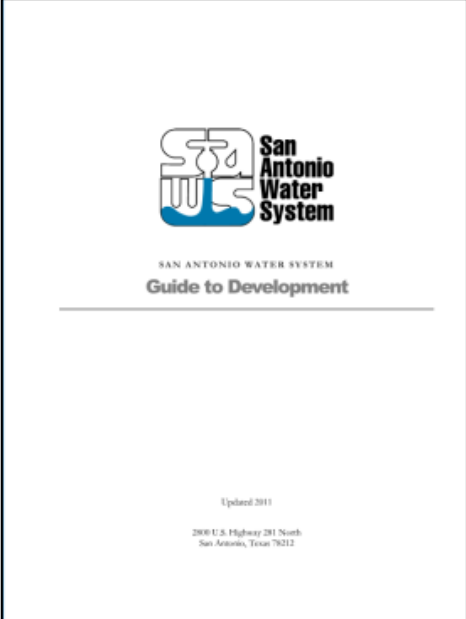


enforcement) are informed or trained to conduct these activities. The training may be conducted by the small MS4 or outside trainers.



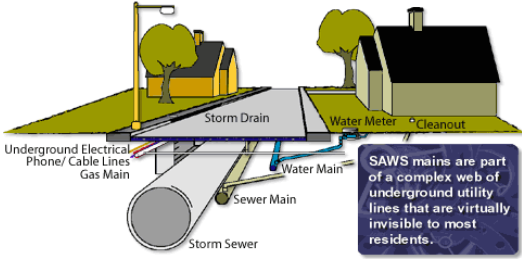
## 5.2 Selected Best Management Practices

### C-1 Technical Manual for Construction Runoff

C-1	Technical Manual for Construction Runoff	
	<p>BMP Description:</p> <p>The City uses the SAWS design manual to explain appropriate erosion and sedimentation controls for construction sites. The SAWS manual provides alternative solutions and gives guidance as to when those alternatives are appropriate. The SAWS manual also establishes minimum control thresholds and proper maintenance criteria. The regional manual was developed with the intent of establishing consistency with other small cities in the region and providing a streamlined approach that will be user-friendly for designers and contractors.</p> <p>All development projects over the Edwards Aquifer Recharge Zone (EARZ) will adhere to the EARZ rules (30 TAC § 213) as administered by the TCEQ. For development within the EARZ, a SWP3 must be submitted to TCEQ, which must include documentation of WPAP to control site runoff both during and after construction.</p>	
	<p>Responsible Department</p> <p>Public Works</p>	<p>Target Audience</p> <p>Rationale &amp; Effectiveness</p>
<p>Supporting Departments</p> <p>none</p>	<p>Year</p>	<p>Measurable Goal</p>
	<p>1</p>	<p>Post a link to the SAWS manual on the storm water website.</p>
	<p>2</p>	<p>Maintain the link to the SAWS manual on the storm water website.</p>
	<p>3</p>	<p>Maintain the link to the SAWS manual on the storm water website.</p>
	<p>4</p>	<p>Maintain the link to the SAWS manual on the storm water website.</p>
<p>5</p>	<p>Maintain the link to the SAWS manual on the storm water website.</p>	




**C-2 Site Plan Review Program**

C-2	Site Plan Review Program	
 <p>SAWS mains are part of a complex web of underground utility lines that are virtually invisible to most residents.</p>	<p><b>BMP Description:</b></p> <p>The City developed a program to review site plans and storm water pollution prevention plans for eligible projects. The review process is attached to the building permit process which ensures that proper measures are incorporated into the construction procedures to control erosion, sedimentation, and other sources of storm water pollution. The plan identifies City staff to perform the reviews discharges.</p>	
Responsible Department	Target Audience	Residents, businesses, commercial and industrial facilities, construction site personnel
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The current Construction Site Plan Review program is effective.
Supporting Departments  none	Year	Measurable Goal
	1	List of developments reviewed
	2	List of developments reviewed
	3	List of developments reviewed
	4	List of developments reviewed
5	List of developments reviewed	






**C-3 Construction Site Inspection Program**

C-3	Construction Site Inspection Program	
	<p>BMP Description:</p> <p>The City developed procedures for inspecting construction sites for erosion, sedimentation, and other sources of storm water pollution. The program identifies which City staff will perform inspections. It provides a protocol for inspectors and inspection forms.</p>	
Responsible Department	Target Audience	Residents, businesses, commercial and industrial facilities, construction site personnel
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The current Construction Inspection program is effective.
Supporting Departments  none	Year	Measurable Goal
	1	List of inspections and dates
	2	List of inspections and dates
	3	List of inspections and dates
	4	List of inspections and dates
5	List of inspections and dates	




**C-4 Construction Storm Water Management Ordinance**

C-4	Construction Storm Water Management Ordinance	
	<p><b>BMP Description:</b></p> <p>The City passed an ordinance on April 12, 2010 which, to the extent allowable under state and local law, establishes eligibility for construction sites to be inspected and enforced by the City; establish requirements for contractors to reduce pollutants in construction storm water runoff; specify sanctions to ensure compliance; establish requirements to control construction waste; and require City review of site plans.</p>	
<p>Responsible Department</p> <p>Public Works</p>	<p>Target Audience</p>	<p>Residents, businesses, commercial and industrial facilities, construction site personnel</p>
	<p>Rationale &amp; Effectiveness</p>	<p><b>Existing BMP:</b> The current Construction Ordinance is effective, but was written to comply with the 2008 TPDES CGP.</p>
<p>Supporting Departments</p> <p>Police</p> <p>Fire</p>	<p>Year</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p>	<p>Measurable Goal</p> <p>Review the construction portions of the ordinance to identify changes needed to comply with the 2013 TPDES CGP</p> <p>Adopt ordinance with changes to comply with the 2013 TPDES CGP</p> <p>None</p> <p>None</p> <p>None</p>



**C-5 Construction Runoff Hotline**

C-5	Construction Runoff Hotline	
<p>See something suspicious? Call the...</p> <p><b>STORMWATER HOTLINE</b></p>  <p><b>5-STORMY</b></p>		<p>BMP Description:</p> <p>The City established a phone number for reporting illicit discharges and construction erosion and sedimentation and published the phone number in places that are readily accessible to the public. At the special number, the phone is answered by trained City staff who are equipped with forms for recording incoming phone calls and trained in how to refer the information for action. A recording system will accept phone calls after hours.</p>
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities, construction site personnel
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The current Construction Hotline is effective.
Supporting Departments  Police  Fire	Year	Measurable Goal
	1	List of calls received, including dates, investigation results, follow-up actions and closure dates
	2	List of calls received, including dates, investigation results, follow-up actions and closure dates
	3	List of calls received, including dates, investigation results, follow-up actions and closure dates
	4	List of calls received, including dates, investigation results, follow-up actions and closure dates
5	List of calls received, including dates, investigation results, follow-up actions and closure dates	



## **6.0 MCM #4 - Post-Construction Storm Water Management in New Development and Redevelopment**

The Post-Construction Storm Water Management minimum control measure consists of BMPs that focus on the prevention or minimization of water quality impacts from new development and redevelopment projects that disturb greater than or equal to one acre. The BMPs describe the legal authority mechanism (to the extent allowable under State or local law); plan review, project acceptance and site inspection procedures; permanent erosion and sediment control BMPs and long term operation and maintenance plan to address post construction runoff from new development and redevelopment projects.

### **6.1 Regulatory Requirements**

To the extent allowable under State and local law, the MS4 operator must develop, implement, and enforce a program to address storm water 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 be established for both public and private development sites that disturb greater than or equal to one acre.

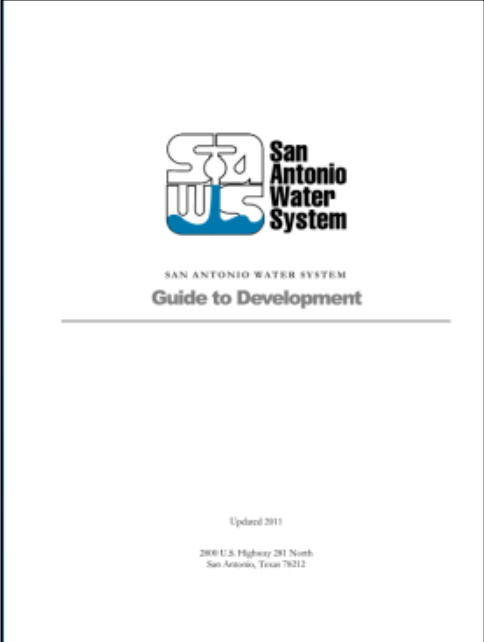
The MS4 Operator shall:

- 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 require that owners or operators of new or redevelopment sites design, install, implement and maintain a combination of structural and non-structural BMPs appropriate for the community that protects water quality. If the construction of permanent structures is not feasible due to space limitations, health and safety concerns, cost effectiveness or highway construction codes, the permittee may propose an alternative approach to the TCEQ.
- c. Document and maintain records of enforcement actions and make them available for review by the TCEQ
- d. Ensure adequate long-term operation and maintenance of structural storm water control BMPs through one of both of the following approaches:
  - i. Maintenance performed by the permittee, see Part III.B.5
  - ii. Maintenance performed by the owner or operator of a new development or redeveloped site under a maintenance plan. The maintenance plan must be filed in the real property records of Bexar County. Require the owner or operator of a new development or redeveloped site to document the maintenance and retain the documentation on site, such as at the offices of the owner or operator, and make it available for review by the small MS4.



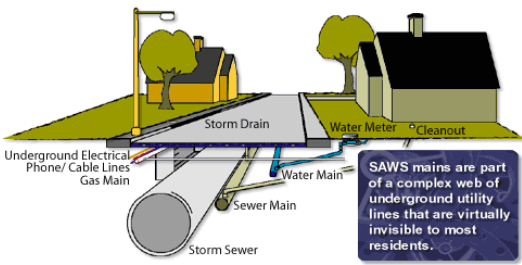
## 6.2 Selected Best Management Practices

### PC-1 Technical Manual for Post-Construction Runoff

PC-1	Technical Manual for Post-Construction Runoff	
		<p>BMP Description:</p> <p>The City uses the SAWS design manual to explain appropriate permanent water quality BMPs for development and redevelopment. The SAWS manual provides alternative solutions and gives guidance as to when those alternatives are appropriate. The SAWS manual also establishes minimum control thresholds and proper maintenance criteria. The regional manual was developed with the intent of establishing consistency with other small cities in the region and providing a streamlined approach that will be user-friendly for designers and contractors.</p>
Responsible Department	Target Audience	Residents, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The SAWS manual is an effective regional reference for Post-Construction BMPs.
Supporting Departments  none	Year	Measurable Goal
	1	Post a link to the SAWS manual on the storm water website.
	2	Maintain the link to the SAWS manual on the storm water website.
	3	Maintain the link to the SAWS manual on the storm water website.
	4	Maintain the link to the SAWS manual on the storm water website.
5	Maintain the link to the SAWS manual on the storm water website.	




**PC-2 Site Plan Review for Post-Construction Runoff**

PC-2	Site Plan Review for Post-Construction Runoff	
 <p>SAWS mains are part of a complex web of underground utility lines that are virtually invisible to most residents.</p>	<p><b>BMP Description:</b></p> <p>The City developed a program to review site plans and storm water pollution prevention plans for eligible projects. The review process will be attached to the building permit process and will ensure that proper measures are incorporated into the construction procedures that will control erosion, sedimentation, and other sources of storm water pollution. The plan will identify City staff to perform the reviews discharges.</p>	
Responsible Department	Target Audience	Residents, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The current Site Plan Review program is effective.
Supporting Departments  none	Year	Measurable Goal
	1	List of developments reviewed
	2	List of developments reviewed
	3	List of developments reviewed
	4	List of developments reviewed
5	List of developments reviewed	






**PC-3 Long Term Inspection and Maintenance**

PC-3	Long Term Inspection and Maintenance	
	<p>BMP Description:</p> <p>The City established a program for City staff to inspect post-construction storm water management controls on a long-term basis. The program identifies which City staff will perform the inspections, identifies control performance criteria, establishes the means for determining what maintenance would be required in order to maintain structural controls, and establishes a protocol for inspectors to follow and inspection forms.</p>	
	Responsible Department	Target Audience
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The small number of PC BMPs can be inspected and maintained annually.
Supporting Departments  none	Year	Measurable Goal
	1	List of PC BMPs inspected with dates
	2	List of PC BMPs inspected with dates
	3	List of PC BMPs inspected with dates
	4	List of PC BMPs inspected with dates
	5	List of PC BMPs inspected with dates Inspect and replace media if needed




**PC-4 Post-Construction Storm Water Management Ordinance**

PC-4	Post-Construction Storm Water Management Ordinance	
	<p><b>BMP Description:</b></p> <p>The City passed an ordinance on April 12, 2010 which, to the extent allowable under state and local law, establishes eligibility for construction sites to be inspected and enforced by the City; establish requirements for contractors to reduce pollutants in construction storm water runoff; specify sanctions to ensure compliance; establish requirements to control construction waste; and require City review of site plans.</p> <p>The EARZ requirements provide some Post Construction BMPs. The only additional Post Construction requirement is a limit of 30% impervious area in resident's front yards. These criteria are relatively easy to observe from the street and enforce.</p>	
Responsible Department	Target Audience	Residents, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The Post Construction requirements are effective at limiting pollution.
Supporting Departments	Year	Measurable Goal
	1	Review the Post Construction portions of the ordinance to identify changes
	2	Adopt ordinance with changes
	3	None
	4	None
Police	5	None




**PC-5 Sediment Trap Enhancements**

PC-5	Sediment Trap Enhancements	
		<p>BMP Description:</p> <p>For each Capital Improvement Project, the City will review the proposed improvements to determine if there are any locations that would be suitable for sediment traps. If an opportunity for a sediment trap is identified, the plans will include the design of the sediment trap with recommendations for regular maintenance.</p>
Responsible Department	Target Audience	Residents, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Revised BMP:</b> Sediment traps are most cost effective when they are included as part of a larger CIP project.
Supporting Departments  none	Year	Measurable Goal
	1	List of CIP projects and sediment trap opportunities
	2	List of CIP projects and sediment trap opportunities
	3	List of CIP projects and sediment trap opportunities
	4	List of CIP projects and sediment trap opportunities
5	List of CIP projects and sediment trap opportunities	



**PC-6 Trash Trap Enhancements**

PC-6	Trash Trap Enhancements	
	<p>BMP Description:</p> <p>For each Capital Improvement Project, the City will review the proposed improvements to determine if there are any locations that would be suitable for trash traps. If an opportunity for a trash trap is identified, the plans will include the design of the trash trap with recommendations for regular maintenance.</p>	
	Responsible Department	Target Audience
Public Works	Rationale & Effectiveness	<b>Revised BMP:</b> Trash traps are most cost effective when they are included as part of a larger CIP project.
Supporting Departments  none	Year	Measurable Goal
	1	List of CIP projects and trash trap opportunities
	2	List of CIP projects and trash trap opportunities
	3	List of CIP projects and trash trap opportunities
	4	List of CIP projects and trash trap opportunities
	5	List of CIP projects and trash trap opportunities



## **7.0 MCM #5 - Pollution Prevention/Good Housekeeping for Municipal Operations**

The Pollution Prevention/Good Housekeeping minimum control measure consists of BMPs that focus on training and on the prevention or reduction of pollutant runoff from municipal operations. The BMPs describe the specific maintenance activities, schedules and long term inspection procedures for controls to reduce floatables and other pollutants from municipal operations; employee training program to prevent and reduce storm water pollution from municipal operations; procedures for the proper disposal of waste removed from the MS4; structural control maintenance programs and developing an inventory of the municipally-owned facilities which require other storm water discharge permits.

### **7.1 Regulatory Requirements**

Develop and implement an operation and maintenance program, including an employee training component that has the ultimate goal of preventing or reducing pollutant runoff from municipal activities and municipally owned areas including: park and open space maintenance; street, road or highway maintenance; fleet and building maintenance; storm water system maintenance; new construction and land disturbances; municipal parking lots; vehicle and equipment maintenance and storage yards; waste transfer stations; and salt/sand storage locations.

#### **7.1.1 Permittee-Owned Facilities and Control Inventory**

Develop and maintain an inventory of facilities and storm water controls that the permittee owns and operates within the regulated area of the small MS4. If feasible, the inventory may include all applicable permit numbers, registration numbers and authorizations for each facility or control. The inventory must be available for review by the TCEQ, and must include, but is not limited to:

- a. Composting facilities;
- b. Equipment storage and maintenance facilities;
- c. Fuel storage facilities;
- d. Hazardous waste disposal facilities;
- e. Hazardous waste handling and transfer facilities;
- f. Incinerators;
- g. Landfills;
- h. Materials storage yards;
- i. Pesticide storage facilities;
- j. Buildings
- k. Parking lots;
- l. Golf courses;
- m. Swimming pools;
- n. Public works yards;
- o. Recycling facilities;



- p. Salt storage facilities;
- q. Solid waste handling and transfer facilities;
- r. Street repair and maintenance sites;
- s. Vehicle storage and maintenance yards; and
- t. Storm water structural controls.

### **7.1.2 Training and Education**

Develop a training program to inform or train appropriate employees involved in implementing pollution prevention and good housekeeping practices. Maintain a training attendance list for inspection by the TCEQ when requested.

### **7.1.3 Disposal of Waste Material**

Waste materials removed from the MS4 must be properly disposed or in accordance with 30 TAC Chapters 330 or 335, as applicable.

### **7.1.4 Contractor Requirements and Oversight**

Any contractors hired to perform maintenance activities on permittee-owned facilities must be contractually required to comply with all of the storm water control measures, good housekeeping practices and facility-specific operating procedures described in Parts III.B.5.(2) through (6). Provide oversight of contractor activities to ensure that they are using appropriate control measures and SOPs. Oversight procedures must be developed by the end of the permit term, maintained on site and made available for inspection by the TCEQ.

### **7.1.5 Municipal Operations and Maintenance Activities**

Evaluate O&M activities for their potential to discharge pollutants in storm water, including, but not limited to:

- a. Road and parking lot maintenance may include such areas as pothole repair, pavement marking, sealing, and repaving;
- b. Bridge maintenance may include such areas as re-chipping, grinding, and saw cutting;
- c. Cold weather operations, including plowing, sanding, and application of deicing and anti-icing compounds and maintenance of snow disposal areas; and
- d. Right-of-way maintenance, including mowing, herbicide and pesticide application, and planting vegetation.

Identify pollutants of concern that could be discharged from the above O&M activities (for example: metals, chlorides, hydrocarbons such as benzene, toluene, ethyl benzene, and xylenes, sediment and trash). Develop and implement a set of pollution prevention measures that will reduce the discharge of the identified pollutants in storm water from the above activities. These may include:

- a. Replacing materials and chemicals with more environmentally benign materials and methods;





- b. Changing operations to minimize exposure or mobilization of pollutants to prevent them from entering surface waters; and
- c. Placing barriers around or conducting runoff away from deicing chemical storage areas to prevent discharge into surface waters.

Visually inspect all BMPs at a determined frequency to ensure they are working properly. Maintain a log of inspections and make it available for TCEQ review upon request.


### **7.1.6 Structural Control Maintenance**

If BMPs include structural controls, maintenance of the controls must be performed at a frequency determined by the MS4 operator to maintain the effectiveness of the BMP.




## 7.2 Selected Best Management Practices

### GH-1 Municipal Employee Pollution Prevention Manuals

GH-1	Municipal Employee Pollution Prevention Manuals	
	<p>BMP Description:</p> <p>The City established a program for City staff to inspect post-construction storm water management controls on a long-term basis. The program identifies which City staff will perform the inspections, identifies control performance criteria, establishes the means for determining what maintenance would be required, and establishes a protocol for inspectors to follow and inspection forms. The City will also develop and maintain an inventory of the MS4's facilities and storm water controls. In addition, the city will also maintain a log of waste from the MS4 that is removed and properly disposed of.</p>	
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Existing BMP:</b> The City has a collection of training materials that will be formalized into a manual.
Supporting Departments	Year	Measurable Goal
	1	Collect and formalize the Municipal Employee Pollution Prevention Manual
	2	Review the Manual to identify updates
	3	Review the Manual to identify updates
	4	Review the Manual to identify updates
Police Fire	5	Review the Manual to identify updates




## GH-2 Municipal Employee Training

PC-4	Municipal Employee Training	
		<p><b>BMP Description:</b></p> <p>The City passed an ordinance on April 12, 2010 which, to the extent allowable under state and local law, establishes eligibility for construction sites to be inspected and enforced by the City; establish requirements for contractors to reduce pollutants in construction storm water runoff; specify sanctions to ensure compliance; establish requirements to control construction waste; and require City review of site plans. This BMP will also include documenting procedures for the implementation of informing and training MS4 field staff.</p>
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities
	Rationale & Effectiveness	<b>Existing BMP:</b> The City performed municipal employee training which was customized to each department's activities
Supporting Departments	Year	Measurable Goal
	1	Conduct training for all municipal employees using new Manual Dates of training and sign-in sheets of attendees
	2	Conduct training for new employees using new Manual Dates of training and sign-in sheets of attendees
	3	Conduct training for new employees using new Manual Dates of training and sign-in sheets of attendees
	4	Conduct training for new employees using new Manual Dates of training and sign-in sheets of attendees
	5	Conduct training for new employees using new Manual Dates of training and sign-in sheets of attendees




### **GH-3 Sediment Trap Enhancements**

GH-3		Sediment Trap Enhancements		
		<p>BMP Description:</p> <p>For each Capital Improvement Project, the City will review the proposed improvements to determine if there are any locations that would be suitable for sediment traps. If an opportunity for a sediment trap is identified, the plans will include the design of the sediment trap with recommendations for regular maintenance.</p>		
		Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities
Public Works		Rationale & Effectiveness	<b>Revised BMP:</b> Sediment traps are most cost effective when they are included as part of a larger CIP project.	
Supporting Departments  none		Year	Measurable Goal	
		1	List of CIP projects and sediment trap opportunities	
		2	List of CIP projects and sediment trap opportunities	
		3	List of CIP projects and sediment trap opportunities	
		4	List of CIP projects and sediment trap opportunities	
		5	List of CIP projects and sediment trap opportunities	





**GH-4 Trash Trap Enhancements**

GH-4	Trash Trap Enhancements	
	<p>BMP Description:</p> <p>For each Capital Improvement Project, the City will review the proposed improvements to determine if there are any locations that would be suitable for trash traps. If an opportunity for a trash trap is identified, the plans will include the design of the trash trap with recommendations for regular maintenance.</p>	
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities
Public Works	Rationale & Effectiveness	<b>Revised BMP:</b> Trash traps are most cost effective when they are included as part of a larger CIP project.
Supporting Departments  none	Year	Measurable Goal
	1	List of CIP projects and trash trap opportunities
	2	List of CIP projects and trash trap opportunities
	3	List of CIP projects and trash trap opportunities
	4	List of CIP projects and trash trap opportunities
5	List of CIP projects and trash trap opportunities	





**GH-5 Public Works Yard Improvements**

GH-5	Public Works Yard Improvements	
		<p>BMP Description:</p> <p>All of the concrete parking lot of the Public Works Yard drains towards a 4'x4' grate inlet at the northwest corner. This grate inlet is connected to the storm drain network in the City Hall parking lot.</p> <p>City staff has installed straw wattles around the 4x4 grate inlet to prevent debris from entering the storm drain</p>
		
Responsible Department	Target Audience	Municipally owned and operated facilities.
Public Works	Rationale & Effectiveness	<b>New BMP:</b> It is most effective to capture and manage pollution close to the point of origin.
Supporting Departments  none	Year	Measurable Goal
	1	Maintain the filter type BMP
	2	Maintain the filter type BMP
	3	Maintain the filter type BMP
	4	Maintain the filter type BMP
5	Maintain the filter type BMP	





**GH-6 Public Works Storage Improvements**

PC-6	Public Works Storage Improvements	
		<p>BMP Description: A sand box was installed to store sand for city projects</p>
		<p>A pipe rack with awning is located in the northwest corner of the public works yard. It is used to store various materials for the public works department.</p>
Responsible Department	Target Audience	Municipally owned and operated facilities.
Public Works	Rationale & Effectiveness	<b>New BMP:</b> Additional storage measures will reduce exposure and prevent pollution in runoff.
Supporting Departments  Fire	Year	Measurable Goal
	1	Inspect pipe rack and sandbox, repair and maintain as needed
	2	Inspect pipe rack and sandbox, repair and maintain as needed
	3	Inspect pipe rack and sandbox, repair and maintain as needed
	4	Inspect pipe rack and sandbox, repair and maintain as needed
5	Inspect pipe rack and sandbox, repair and maintain as needed	




**GH-7 City Hall/Fire Station Improvements**

GH-7	City Hall/Fire Station Improvements	
	<p><b>BMP Description:</b></p> <p>The City renovated City Hall and the Fire Station in 2010. Several Post Construction BMPs were included as part of this renovation, including a water quality detention pond, an oil/water separator and a pervious pavement area for overflow parking.</p> <p>A diesel generator is located outside of the Fire Station that does not have secondary containment. Although the amount of diesel fuel is below the SPCC level to require secondary containment, a good practice would be to provide it. The City will provide temporary secondary containment and will evaluate options to provide permanent secondary containment.</p>	
		
Responsible Department	Target Audience	Municipally owned and operated facilities.
Public Works	Rationale & Effectiveness	<b>New BMP:</b> City Hall has several PC BMPs to maintain
Supporting Departments  Police Fire	Year	Measurable Goal
	1	Inspection and maintenance records for the PC BMPs Install a filter sock along the wall of the diesel generator
	2	Inspection and maintenance records for the PC BMPs
	3	Inspection and maintenance records for the PC BMPs
	4	Inspection and maintenance records for the PC BMPs
5	Inspection and maintenance records for the PC BMPs Inspect and replace media if needed	



**GH-8 Stabilized Alley Entrances**

GH-8		Stabilized Alley Entrances	
		<p><b>BMP Description:</b></p> <p>The City provides residential garbage collection in the alleys in some parts of the city. To reduce the amount of sediment that the garbage trucks track into the streets, the City has installed gravel to stabilize the alley entrances.</p>	
Responsible Department	Target Audience	Residents, public service employees, businesses, commercial and industrial facilities	
	Rationale & Effectiveness	<b>New BMP:</b> Stabilized alley entrances reduce the amount of sediment tracked into the streets.	
Supporting Departments	Year	Measurable Goal	
	1	Inspect and maintain the stabilized alley entrances	
	2	Inspect and maintain the stabilized alley entrances	
	3	Inspect and maintain the stabilized alley entrances	
	4	Inspect and maintain the stabilized alley entrances	
none	5	Inspect and maintain the stabilized alley entrances	



## **8.0 MCM #7 - Authorization for Municipal Construction Activities**

The City has chosen not to develop the Authorization for Municipal Construction Activities, the optional seventh minimum control measure.



## **9.0 Record Keeping and Reporting**

The City will keep records and follow reporting procedures in compliance with the TPDES General Permit. The record keeping and reporting will allow the City to evaluate the implementation of the SWMP. In the first year of the program, the City will develop a report format to follow when completing and submitting their annual report to the TCEQ.

### **9.1 Record Keeping**

The City will retain the following documents for the permit period of five years to comply with the General Permit requirements:

- a. Copy of the TPDES General Permit TXR040000.
- b. Records of all data used to complete the NOI.
- c. Any Notice of Changes (NOC's).
- d. City's SWMP retained at a location accessible by TCEQ.
- e. Copy of each annual report.
- f. Any correspondence with TCEQ.

The original files will be kept at the Administration Building. The City will make the NOI and SWMP available to the public if requested to do so in writing. All other records will be provided in accordance with the Texas Public Information Act and Freedom of Information Act. See the General Permit for additional record keeping requirements.

## **9.2 Reporting**

### **9.2.1 General Reporting Requirements**

The City will report any noncompliance, which may endanger human health or safety, or the environment to the TCEQ. Within 24 hours of becoming aware of each noncompliance, an oral or fax notification will be sent to the TCEQ regional office. Within five days of becoming aware of each noncompliance, a written report will be sent to the TCEQ Regional office and to the TCEQ Enforcement Division (MC-224). The Written report will contain the following:

- a. a description of the noncompliance and its cause;
- b. the potential danger to human health or safety, or the environment;
- c. the period of the noncompliance, including exact dates and times;
- d. if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
- e. steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

If the City becomes aware that it submitted incorrect information or failed to submit complete and accurate information in any of the reports, records, NOI, NOT or NOC, then the City will promptly correct facts and send notification or information to the TCEQ executive director.





## 9.2.2 Annual Report

The City will submit a concise annual report to the TCEQ Executive Director within 90 days of the end of each permit year. The City will keep a copy of the annual report in the original files at the Administration Building, which will be readily available for review by authorized TCEQ personnel upon request. An annual report will be prepared whether or not the NOI and SWMP have been approved by the TCEQ. If the City has not received approval of the NOI and SWMP, then this information will be included in the report.

The annual report will include the following:

- a. 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 to the maximum extent practicable (MEP), the measurable goals for each of the MCM's, and an evaluation of the success of the implementation of the measurable goals;
- b. The status of any additional control measures implemented by the City;
- c. Any MCM activities initiated before permit issuance may be included, under appropriate headings, as part of the first year's annual report;
- d. A summary of the results of information (including monitoring data) collected and analyzed, if any, during the reporting period used to assess the success of the program at reducing the discharge of pollutants to the MEP;
- e. A summary of the storm water activities the City is planning to undertake during the next reporting cycle;
- f. Proposed changes to the SWMP including changes to any BMPs or any identified measurable goals that apply to the program elements;
- g. The number of municipal construction activities authorized under this general permit and the total number of acres disturbed.
- h. The number of non-municipal construction activities that have occurred within the jurisdiction of the City (as given notice to the City by the construction operator);
- i. An Indication if any requirements of the permit are being satisfied by another government agency;

A signature and certification by the City that the annual report is in accordance with 30 TAC §305.128.

The annual report will be submitted to the following address (with a copy to the TCEQ Regional Office):

Texas Commission on Environmental Quality  
Storm Water & Pretreatment Team; MC – 148  
P.O. Box 13087  
Austin, Texas 78711-3087  
**Or electronically at [www.tceq.state.tx.us](http://www.tceq.state.tx.us)**

