

City of Round Rock

STORMWATER MANAGEMENT PROGRAM



Phase II Municipal Separate Storm Sewer System
2019

TXR040253

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Introduction

Overview

The City of Round Rock (City) storm water team in collaboration with staff from multiple City departments prepared this Storm Water Management Program (SWMP) which documents a comprehensive plan to manage the quality of the discharges from the Municipal Separate Storm Sewer System (MS4) and ultimately protect and improve water quality in our creeks and waterways.

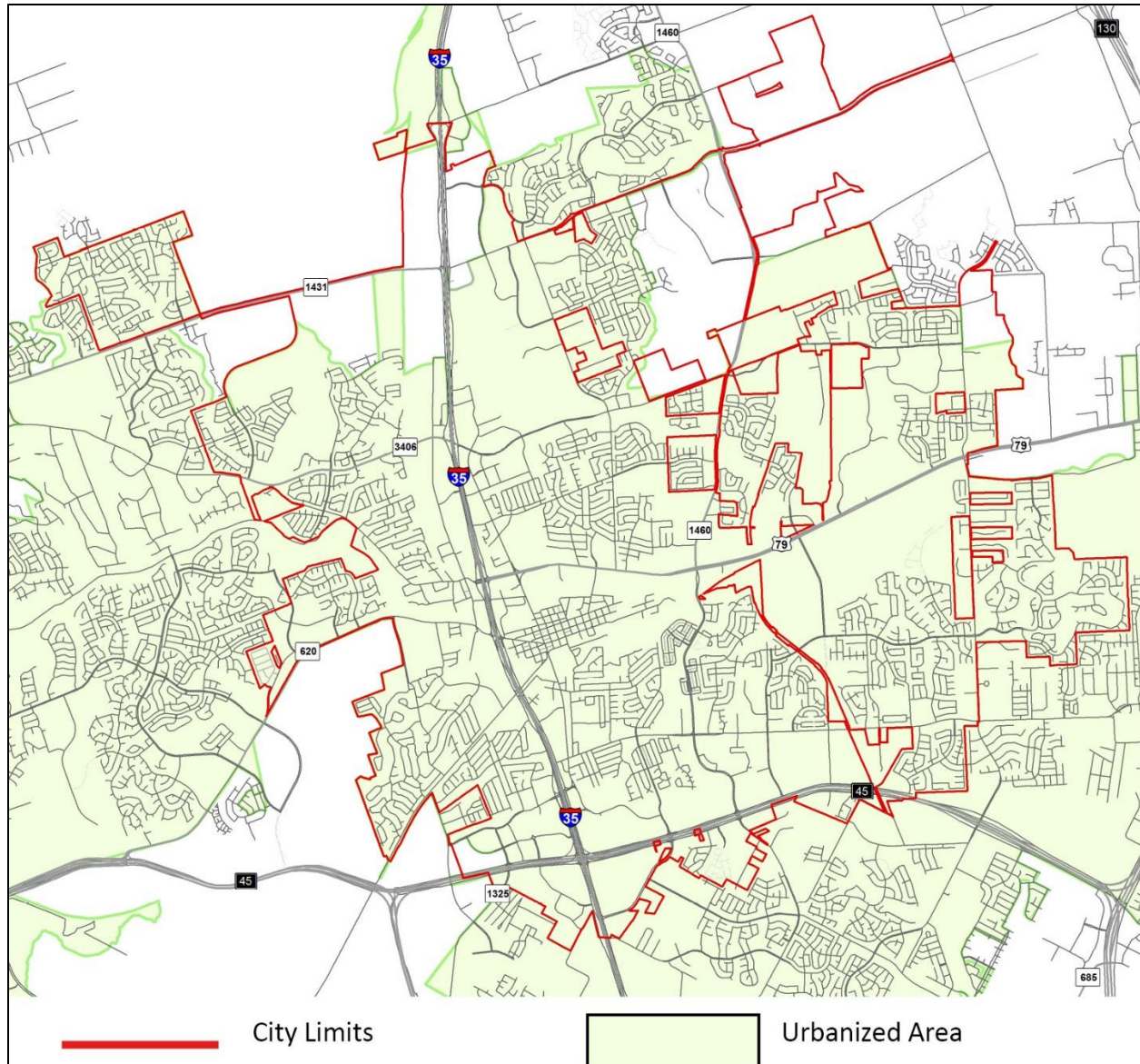
The City is required under the Texas Pollutant Discharge Elimination System (TPDES) to obtain permit coverage from the Texas Commission on Environmental Quality (TCEQ) for discharges from its MS4. The SWMP describes the five Minimum Control Measures (MCMs) and Best Management Practices (BMPs) that the City will implement over a five-year period. The City will enhance existing activities that are designed to protect the environment and water quality and supplement those activities with new BMPs. The BMPs were selected based on the requirements of the TCEQ general permit, a general assessment of their effectiveness, applicability to the City, and implementation cost.

The City's SWMP follows many of the recommendations in the U.S. Environmental Protection Agency's (EPA) MS4 Permit Improvement Guide especially where those recommendations align with community goals. Particularly, the Guide emphasizes a focused education program to help the public "gain a greater understanding of stormwater management...which is likely to gain more support for the SWMP and increased compliance" with the associated regulations. The City's SWMP emphasizes education and proactive BMPs to facilitate voluntary compliance and minimize the amount of enforcement required to meet goals.

The Guide further recommends that the "public education and outreach program be tailored and targeted to specific water quality issues of concern in the relevant community". The SWMP focuses on the 'Big 3' – bacteria, floatables, and fertilizers. These three areas of emphasis were chosen based on our unique community profile while considering our most sensitive areas, our current water quality opportunities and associated challenges.

The SWMP and associated Notice of Intent demonstrate the City's eligibility for small MS4 permit coverage per the TPDES General Permit TXR040000. With a census population of fewer than 100,000, the City is categorized as a Tier 3 MS4 operator. The General Permit provides coverage for MS4 discharges.

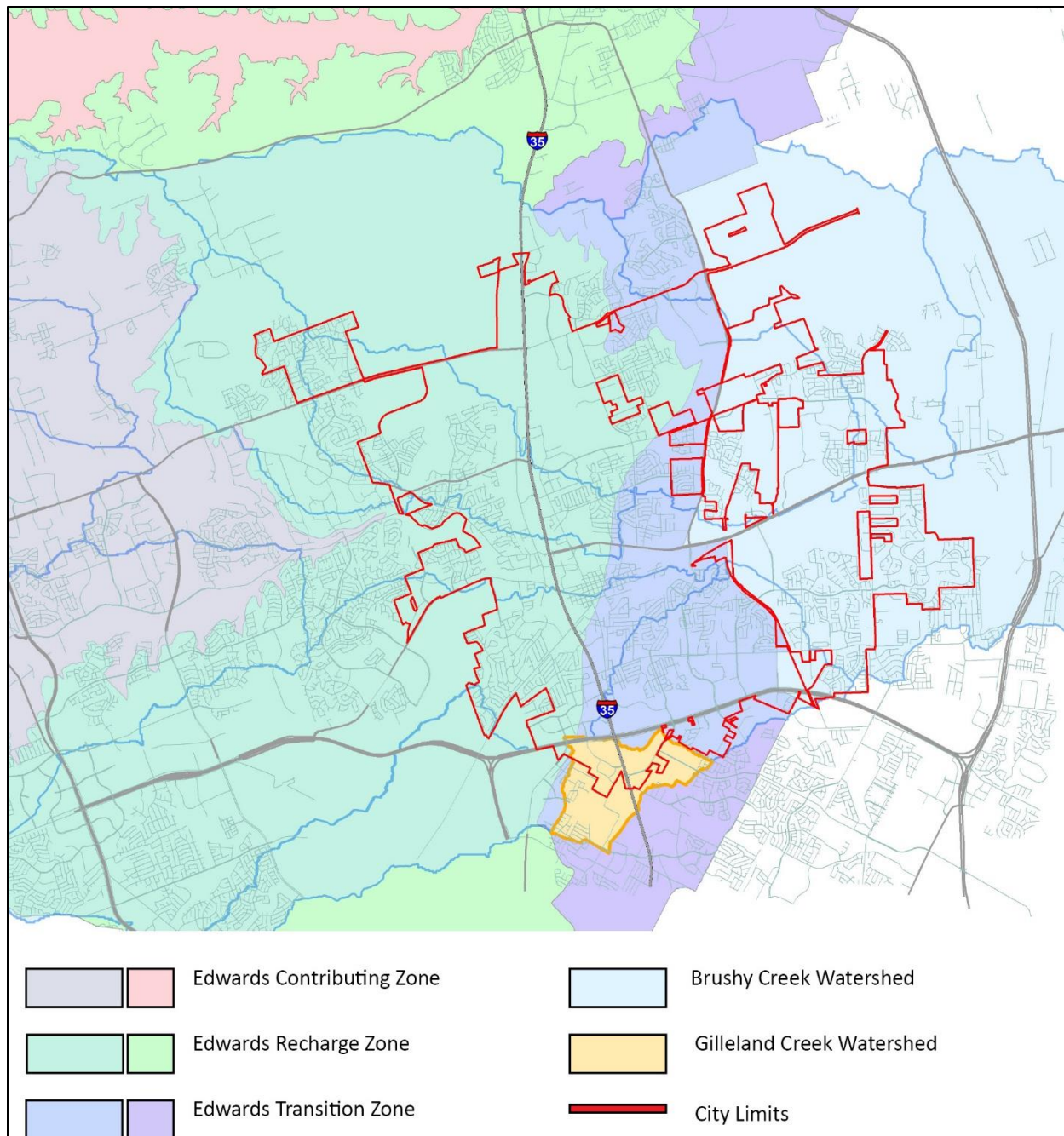
City Limits and 2010 Census Urbanized Area



Round Rock Watersheds

The City is located approximately 20 miles north of Austin primarily within Williamson County with just a small area in Travis County to the south along Interstate Highway 35. The overwhelming majority of the City (98%) drains to classified segments of Brushy Creek in the Brazos River Basin. The remainder of the City (2%) drains to Gilleland Creek which is in the Colorado River Basin.

City of Round Rock Watersheds and Edwards Aquifer



Often referred to as the Central Texas hill country, the City straddles both sides of the Balcones Escarpment and the abutting Balcones Fault Zone. Areas east of the escarpment are generally characterized as having black, fertile soils of the Blackland Prairie; while areas west of the escarpment generally consist of hilly, karst-like terrain with little topsoil. The western portion of the City is over the Edwards Aquifer Recharge Zone (EARZ) which is composed of karstic groundwater reservoirs.

The EARZ is an environmentally sensitive area that is regulated by the TCEQ according to the Edwards Aquifer Rule (EAR). The Rule and its requirements are in addition to the requirements of the MS4 General Permit. In compliance with the Rule, the City files Water Pollution Abatement Plans (WPAPs) for TCEQ approval and implements those WPAPs as directed. The City installs and maintains permanent structural and non-structural BMPs to meet the Rule requirements for reduction of suspended solids. Additionally, the City selected targeted BMPs within the SWMP to ensure protection of both surface and subsurface waters.

TMDL and Impaired Waterways

Introduction

Section 303(d) of the federal Clean Water Act requires States to identify waters that do not meet, or are not expected to meet, applicable water quality standards. For Texas, the standards for water quality are defined in the Texas Water Quality Standards (Chapter 307 of the Texas Administrative Code). TCEQ publishes a list of impaired waterways every two years; the list identifies which stream segments are impaired and identifies the pollutant of concern (POC). TCEQ coordinates Total Maximum Daily Loads (TMDLs) for impaired surface waters. Approval of the TMDL is followed by the development of an Implementation Plan (I-Plan) that includes control measures to reduce the POC.

The 2013 Phase II MS4 General Permit requires targeted BMPs when an MS4 drains to an impaired waterway. For bacteria impairment, the permit gives specific direction regarding those BMPs. Specifically, page 19 of the permit requires that “where the impairment is for bacteria, the permittee shall identify potential significant sources and develop and implement focused BMP for those sources. The permittee may implement the BMPs listed in Part II.D.4 (a) (5) or proposed alternative BMPs as appropriate.” Like most Texas water bodies, the classified segments that the City discharges to are impaired for bacteria.

For convenience, a summary of those targeted BMPs are listed below along with a reference to the full BMP description in the SWMP.

Bacteria Impairment – Perspective

In 2000, Texas adopted new bacteria criteria in the Surface Water Quality Standards for primary contact recreation use based on criteria developed by the US EPA in 1986 using epidemiological studies at public swimming beaches in lakes and on the coast. These criteria were designed to be protective of the swimming use, as part of a national effort to make our waters “fishable and swimmable”.

According to the 2010 Water Quality Assessment, approximately 300 water bodies were identified by the TCEQ as failing to support primary contact recreation because of high bacteria levels; however, much of the data indicating impairment was collected during high-flows when swimming is not safe and many of the water bodies listed either do not or cannot support primary contact recreation. Consequently, there is little confidence that the list indicates actual water quality impairments in need of corrective action.

The Draft 2010 Texas Surface Water Quality Standards included a proposal to raise the *E. coli* geometric mean criteria from 126 colonies/100ml to 206 colonies/100ml for primary contact recreation. Although the EPA was willing to approve 206 colonies, ultimately the TCEQ choose to retain the geometric mean criteria at 126. If the criteria are revised in the future, there is a strong likelihood that Brushy Creek segments 1244_03 and 1244_04 would no longer be considered impaired and would be removed from the 303(d) list.

Brushy Creek – Bacteria Impairment

The overwhelming majority of the City (98%) drains to Segments 1244_03 and 1244_04 in Brushy Creek which are impaired for bacteria. TCEQ first identified the impairment for Brushy Creek in the *2006 Texas Water Quality Inventory and 303(d) List*. Data the TCEQ analyzed from the assessment period from 1999-2004 showed slightly higher concentrations of *E. coli* and fecal coliform bacteria. Since 2004, *E. coli* bacteria levels in Brushy Creek have remained relatively stable (under 206 colonies/100ml) despite the City's rapid urbanization.

Selected Bacteria Impairment BMPs

As required by the TPDES General Permit, the City has selected the following BMPs to specifically target bacteria loading reductions.

Sanitary Sewer Systems

Overflows from sanitary collection systems are infrequent, but when they occur, they can be a significant source of *E. coli* bacteria. Aging infrastructure in need of repair can also contribute to bacteria loadings. The City routinely inspects and repairs the sanitary sewer system in our most sensitive areas which are over the Edwards Aquifer. Other areas of the cities are inspected and repaired as necessary.

On-Site Sewage Facilities

On-Site Sewage Facilities (OSSFs) can be potential sources of *E. coli* bacteria. There are very few OSSFs within the City because population growth primarily began in the mid-1970s and new users are required to connect to the City's wastewater collection system. The Williamson County and Cities Health District (WCCHD) is the designated agent of the TCEQ overseeing OSSFs in our area. The City's role in monitoring these facilities is limited to enforcement of the Illicit Discharge ordinance. In the event the City receives a complaint or observes a problem with an OSSF, staff will coordinate with the WCCHD.

Illicit Discharges and Dumping

The public can be our greatest ally in preventing illicit discharges, including sanitary sewer overflows, which can contribute to increased *E. coli* bacteria levels in the City's waterways. Educating the public on the proper disposal of fats, oils, and grease can reduce the potential for overflows. Providing a financial incentive to businesses can assist in amending long held company policies.

Animal Sources

Animals can be potential sources of *E. coli* bacteria. From March through November of each year, the City is home to a population of Mexican free-tailed bats who reside under the TxDOT operated IH-35 bridge at McNeil Road. Other species native to the Round Rock area are feral hogs, ducks, opossums, raccoons, turtles, etc.

There are no zoos within the City and there is minimal agricultural activity. Household pets are present in numbers consistent with a primarily urban landscape. During the previous permit term, pet waste stations were installed throughout city parks.

Gilleland Creek – TMDL and I-Plan

Less than 2% of the City (the southernmost portion located in Travis County) drains to Gilleland Creek Segment 1428C. The TCEQ first identified the Gilleland Creek impairment for primary contact recreation use in the *2004 Texas Water Quality Inventory and 303(d) List*. Data the TCEQ analyzed from the assessment period of March 1, 1998 through February 28, 2003 showed high concentrations of *E. coli* and fecal coliform bacteria.

Since then, a TMDL and I-Plan were approved. Only point sources were allotted an individual waste load allocation (WLA) in the I-Plan; thus, the City is part of an aggregate WLA. The small drainage area in Round Rock that drains to the Gilleland watershed is above the headwaters. The City will utilize monitoring data from the LCRA for the SWMP annual reports. The City was and will contribute to be a participant in the I-Plan.

Selected TMDL BMPs

As required by the TPDES General Permit, the City has selected the following BMPs to specifically target bacteria loading reductions.

Sanitary Sewer Systems

Overflows from sanitary collection systems are infrequent, but when they occur, they can be a significant source of *E. coli* bacteria. Aging infrastructure in need of repair can also contribute to bacteria loadings. Although not a component of the I-Plan, the City will proactively inspect and make any necessary repairs to the sanitary sewer in the Gilleland watershed this permit term.

On-Site Sewage Facilities

On-Site Sewage Facilities (OSSFs) can be potential sources of *E. coli* bacteria. There are very few OSSFs within the City because population growth primarily began in the mid-1970s and new users are required to connect to the City's wastewater collection system. The Transportation and Natural Resources department of Travis County and the City of Austin are the designated agents of the TCEQ overseeing OSSFs in the Gilleland Creek Watershed. As part of the I-Plan, Travis County has held several workshops to educate owners on the proper maintenance and inspection of OSSFs. The City's role in monitoring these facilities is limited to enforcement of the illicit Discharge ordinance. In the event the City receives a complaint or observes a problem with an OSSF, staff will coordinate with Travis County.

Illicit Discharges and Dumping

The public can be our greatest ally in preventing illicit discharges, including sanitary sewer overflows, which can contribute to increased bacteria levels in the City's waterways. Educating the public on the proper disposal of fats, oils, and grease (FOG) can reduce the potential for overflows. Providing a financial incentive to businesses can assist in amending long held company policies.

Animal Sources

Animals can be potential sources of *E. coli* bacteria. From March through November of each year, the City is home to a population of Mexican free-tailed bats who reside under the TxDOT operated IH-35 bridge at McNeil Road. Other species native to the Round Rock area are feral hogs, ducks, opossums, raccoons, turtles, etc.

There are no zoos within the City and there is minimal agricultural activity. Household pets are present in numbers consistent with a primarily urban landscape. During the previous permit term, pet waste stations were installed throughout city parks. One of the components of the I-Plan targets pet waste education and reduction.

Annual Reporting and Adaptive Management

As outlined in 40 CFR 122.34(g)(3), the SWMP includes measurable goals which assist in evaluating progress toward achieving goals and the appropriateness of selected control measures. The City has selected the fiscal year (October 1 to September 30) option for annual reporting since staff are already assessing programs and preparing reports for other purposes. Each annual report will be due on December 29th.

Comprehensive reporting provides an opportunity to evaluate the program and BMP effectiveness which informs the adaptive management process. Adaptive management is an iterative process that helps reduce uncertainty in natural resource management by incorporating new information into flexible management plans. The basic foundation of the adaptive management concept is the '*learn by doing*' experimentation process that allows managers to learn more about the complex environmental systems they are charged to protect. Walters (1986) described an approach to the adaptive management process as beginning "with the central tenet that management involves a continual learning process that cannot conveniently be separated into functions like 'research' and 'ongoing regulatory activities', and probably never converges to a state of blissful equilibrium involving full knowledge and optimum productivity".

City staff will continue to adjust, refocus, modify, and replace control measures as necessary to ensure the program is effectively and efficiently moving toward the overall goal of protecting and improving water quality.

MCM #1

Public Education Outreach and Involvement

Introduction

The Phase II Regulations require MS4 permittees to develop programs to educate the public about the impact of stormwater discharges on local waterways and the steps that citizens, businesses, and other organizations can take to reduce the contamination of stormwater. As the public gains a greater understanding of the benefits of stormwater management, an MS4 is likely to gain more support for the SWMP and increased compliance with the applicable regulatory requirements as the public understands how their actions influences water quality. Education and awareness programs help change human behavior with respect to reducing the amount of pollution generated from stormwater sources within the MS4 system. In addition to education, encouraging public participation in local stormwater programs can lead to program improvement as well as enabling people to identify and report a pollution-causing activity, such as spotting an illicit discharge.

Summary

During the previous permit term, the City began educating the public about stormwater quality issues using a variety of methods such as brochures, website information, blogs, printed materials, and PSAs. During the new permit term, the City will continue outreach and involvement efforts by developing a comprehensive outreach campaign targeting our Big 3 – Bacteria, Floatables, and Fertilizer. Public employee and construction community education are addressed under Good Housekeeping and Construction and Post Construction BMPs, respectively.

Public Notice for SWMP Development

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments
Communications

Annual Goals	
Permit Year 1	No goals scheduled for year one. <u>Reporting data:</u> N/A
Permit Year 2	Publish public notice as required upon notification from TCEQ and maintain records of publication. <u>Reporting data:</u> Data and method of notice.

Attitude Survey

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments
Communications

Annual Goals	
Permit Year 1	<p>Conduct attitude survey to assess the public’s present knowledge. Utilize survey results in outreach campaign development.</p> <p><u>Reporting data:</u> Survey completed.</p>
Permit Year 2	<p>Update survey based on new outreach campaign and priority issues.</p> <p><u>Reporting data:</u> Survey updated.</p>
Permit Year 3	<p>Conduct survey with updates.</p> <p><u>Reporting data:</u> Survey completed.</p>
Permit Year 4	<p>Analyze past survey results and revise outreach materials as necessary.</p> <p><u>Reporting data:</u> Outreach materials updated.</p>
Permit Year 5	<p>Conduct end of permit survey and analyze responses.</p> <p><u>Reporting data:</u> Survey completed.</p>

Public Outreach and Education Campaign Development

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments
Communications

Annual Goals	
Permit Year 1	<p>Conduct attitude survey to assess the public's present knowledge. Begin campaign development.</p> <p><u>Reporting data:</u> Survey completed.</p>
Permit Year 2	<p>Develop a public education and outreach campaign focused on the reduction of the Big 3 – bacteria, floatables, and fertilizer. Additionally, develop implementation procedures and schedule.</p> <p><u>Reporting data:</u> Campaign outlined, procedures and schedule developed.</p>
Permit Year 3	<p>Begin implementing education campaign.</p> <p><u>Reporting data:</u> Methods utilized and distribution statistics.</p>
Permit Year 4	<p>Full implementation of campaign.</p> <p><u>Reporting data:</u> Methods utilized and distribution statistics.</p>
Permit Year 5	<p>Continue educational campaign.</p> <p><u>Reporting data:</u> Methods utilized and distribution statistics.</p>

Pet Waste Education Campaign – Bacteria Impairment

Primary Department
Parks and Recreation – Parks Manager
Supporting Departments
Stormwater Communications

Annual Goals	
Permit Year 1	<p>Begin researching pet waste education both locally and nationally. Determine which methods to incorporate into the campaign.</p> <p><u>Reporting data:</u> Methods selected for campaign.</p>
Permit Year 2	<p>Develop schedule and implementation plan for campaign.</p> <p><u>Reporting data:</u> Plan completed.</p>
Permit Year 3	<p>Begin implementing education campaign.</p> <p><u>Reporting data:</u> Methods utilized and distribution statistics.</p>
Permit Year 4	<p>Full implementation of campaign.</p> <p><u>Reporting data:</u> Methods utilized and distribution statistics.</p>
Permit Year 5	<p>Continue educational campaign.</p> <p><u>Reporting data:</u> Methods utilized and distribution statistics.</p>

Cease the Grease – Bacteria Impairment

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments
Wastewater Line Maintenance Utilities and Environmental Services Communications

Annual Goals	
Permit Year 1	Evaluate current city and surrounding community efforts and determine best course of action considering outreach levels, impacts, and costs. <u>Reporting data:</u> Evaluation completed.
Permit Year 2	Outline education and outreach plan. Begin implementation. <u>Reporting data:</u> Plan completed. Distribution statistics.
Permit Year 3	Continue implementation. <u>Reporting data:</u> Distribution statistics.
Permit Year 4	Continue implementation. <u>Reporting data:</u> Distribution statistics.
Permit Year 5	Continue implementation. <u>Reporting data:</u> Distribution statistics.

Event Participation

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments
Parks and Recreation Neighborhood Services Utilities and Environmental Services

Annual Goals	
Permit Years 1 – 5	Continue to sponsor special events that encourage public involvement and enhance water quality. Continue to provide educational materials as appropriate. <u>Reporting data:</u> Special events held and related data.

Inlet Markers

Primary Department
Transportation – Assistant Superintendent
Supporting Departments
Stormwater

Annual Goals	
Permit Years 1 – 5	Continue annual installation of inlet markers. Update GIS layer as appropriate. <u>Reporting data:</u> Number of inlet markers installed.

Household Hazardous Waste Collection

Primary Department
Solid Waste and Recycling Services – Solid Waste Management Coordinator
Supporting Departments
Communications

Annual Goals	
Permit Years 1 – 5	<p>Continue to collect Household Hazardous Waste from residents on designated dates. Continue to advertise these events.</p> <p><u>Reporting data</u>: Advertising methods and number of participants.</p>

Brush Recycling and Mulch Program

Primary Department
Parks and Recreation – Forestry Manager
Supporting Departments

Annual Goals	
Permit Years 1 – 5	Continue brush recycling program. <u>Reporting data:</u> Amount of brush collected. Amount of mulch dispersed.

MCM #2

Illicit Discharge, Detection, and Elimination

Introduction

Phase II stormwater management programs are required to address illicit discharges into the MS4 system. An illicit discharge is defined as any discharge to a municipal separate storm sewer system that is not composed entirely of stormwater, except allowable discharges pursuant to the TPDES general permit. In addition to requiring permittee to have the legal authority to prohibit non-stormwater and discharges from entering storm drains, MS4 permits must also require the development of an Illicit Discharge Detection Elimination (IDDE) program.

In order to trace the origin of a suspected illicit discharge or connection, the permittee must have an updated map of the storm drain system and a formal plan of how to locate illicit discharges and how to respond to them once they are located or reported. The permittee must provide a mechanism for public reporting of illicit discharges and spills. Proper investigation and enforcement procedures must be in place to eliminate the sources of the discharges as well. In order for the permittee to adequately detect and eliminate sources of illicit discharges, field staff must be properly trained to recognize and report the discharges to the appropriate parties.

OSSF

On-Site Sewage Facilities (OSSFs) can be potential sources of *E. coli* bacteria. There are very few OSSFs within the City because population growth primarily began in the mid-1970s and new users are required to connect to the City's wastewater collection system. The Williamson County and Cities Health District (WCCHD) is the designated agent of the TCEQ overseeing OSSFs in our area. The City's role in monitoring these facilities is limited to enforcement of the Illicit Discharge ordinance. In the event the City receives a complaint or observes a problem with an OSSF, staff will coordinate with the WCCHD.

Summary

During the previous permit term, the City adopted an Illicit Discharge ordinance, set up a reporting hotline, and began training employees and responding to complaints. During this permit term, the City will document and revise, as necessary, the processes and procedures for illicit discharges including investigation and enforcement, implement the follow-up investigation for illicit discharges, and continue training employees.

Illicit Discharge Ordinance Review

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments

Annual Goals	
Permit Year 1	Review existing ordinance and begin drafting amendments as necessary. <u>Reporting data:</u> Review completed.
Permit Year 2	Finalize any amendments and adopt as necessary. <u>Reporting data:</u> Amendments adopted, or current ordinance determined compliant.

IDDE Procedures

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments

Annual Goals	
Permit Year 1	Document current procedures and review against new permit requirements. <u>Reporting data:</u> Current procedures documented.
Permit Year 2	Update and implement updated procedures for responding to illicit discharges. <u>Reporting data:</u> Implementation of updated procedures completed.
Permit Year 3	No goals for year three. <u>Reporting data:</u> N/A
Permit Year 4	Review procedures and amend if necessary. <u>Reporting data:</u> Review completed.
Permit Year 5	No goals for year five. <u>Reporting data:</u> N/A

IDDE – Reporting Hotline

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments

Annual Goals	
Permit Years 1 – 5	Continue citizen complaint hotline and employee reporting. Develop written procedures for documentation of complaints through resolution. <u>Reporting data</u> : Number of complaints and reports resolved.

Staff Training (IDDE)

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments
Water Line Maintenance Wastewater Line Maintenance Transportation Parks and Recreation

Annual Goals	
Permit Year 1	No goals for permit year one. Training completed previous year. <u>Reporting data:</u> N/A
Permit Year 2	Coordinate with O&M staff to ensure employees receive the appropriate training at least every two years. <u>Reporting data:</u> Number of employees receiving training.
Permit Year 3	Review and revise training material as appropriate. <u>Reporting data:</u> Review completed.
Permit Year 4	Coordinate with O&M staff to ensure employees receive the appropriate training at least every two years. <u>Reporting data:</u> Number of employees receiving training.
Permit Year 5	No goals for permit year five. <u>Reporting data:</u> N/A

MS4 Mapping

Primary Department
Stormwater – Stormwater Tech
Supporting Departments

Annual Goals	
Permit Years 1 – 5	<p>Update the City’s storm drain map as needed with new, altered, and newly discovered storm drain features.</p> <p><u>Reporting data</u>: Annual update completed.</p>

Gilleland Sewer Leak Detection – TMDL

Primary Department
Utilities and Environmental Services – Utility Engineer
Supporting Departments
Wastewater Line Maintenance

Annual Goals	
Permit Year 1	Identify limits of City system within the Gilleland Creek basin, develop a project, and schedule for identifying potential system leaks. <u>Reporting data:</u> Analysis completed.
Permit Year 2	Perform investigation of wastewater system identified in PY1. Document any necessary repairs. <u>Reporting data:</u> Progress made.
Permit Year 3	Perform identified repairs of wastewater system identified in PY2. <u>Reporting data:</u> Progress made and repair statistics.
Permit Year 4	Continue to perform identified repairs of wastewater system identified in PY2. <u>Reporting data:</u> Progress made and repair statistics.
Permit Year 5	Complete any remaining repairs. <u>Reporting data:</u> Repairs completed.

Edwards Aquifer Recharge Zone Leak Detection – Bacteria Impairment

Primary Department
Utilities and Environmental Services – Utility Engineer
Supporting Departments
Wastewater Line Maintenance

Annual Goals	
Permit Years 1 – 5	Continue the annual sanitary sewer leak detection and elimination program. <u>Reporting data:</u> Number of leaks identified. Linear feet repaired.

Grease Surcharge Program – TMDL/Bacteria Impairment

Primary Department
Utilities and Environmental Services
Supporting Departments

Annual Goals	
Permit Years 1 – 5	Continue education, monitoring, and enforcement program. <u>Reporting data:</u> Number of facilities monitored.

Household Hazardous Waste Collection

Primary Department
Solid Waste and Recycling Services – Solid Waste Management Coordinator
Supporting Departments

Annual Goals	
Permit Years 1 – 5	<p>Continue to collect Household Hazardous Waste from residents on designated dates.</p> <p><u>Reporting data</u>: Amount of material collected.</p>

Oil Recycling Stations

Primary Department
Solid Waste and Recycling Services – Solid Waste Management Coordinator
Supporting Departments

Annual Goals	
Permit Years 1 – 5	<p>Continue to collect used oil at stations throughout the City.</p> <p><u>Reporting data:</u> Amount of material collected.</p>

Recycling

Primary Department
Solid Waste and Recycling Services – Solid Waste Management Coordinator
Supporting Departments

Annual Goals	
Permit Years 1 – 5	Continue to operate the drop off recycling center. <u>Reporting data:</u> Amount of material collected.

MCM #3

Construction Site Stormwater Runoff Control

Introduction

MS4 permittees must ensure that construction site operators select and implement appropriate erosion and sediment control measures to reduce or eliminate the impacts to receiving waters. The permit can require that permittees develop their own standards and specifications, but often it is preferable to require the permittees to utilize existing guidance that is approved by the permitting authority.

The permittee must establish review procedures for construction site plans to determine potential water quality impacts and ensure the proposed controls are adequate. These procedures must include the review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. In addition, the permit must include requirements for inspection and enforcement of erosion and sediment control measures once construction begins. Educational materials for construction site operators can be useful in achieving cooperative compliance and minimize the necessity for enforcement actions.

Summary

During the previous permit term, the City amended its Temporary Erosion Control Standard Construction Details, adopted an Illicit Discharge Ordinance, updated plan review and inspection procedures, trained inspectors, and developed educational material for site operators. During this permit term, previous program elements will be continued and enhanced, an inventory will be established, and procedures documented and revised as necessary.

Construction Site Complaint Hotline

Primary Department
Development Services – Engineering Services Manager
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	<p>Develop written procedures for responding to construction complaints. Continue to investigate complaints as they are received.</p> <p><u>Reporting data</u>: Number of complaints received and resolved.</p>
Permit Years 2 – 5	<p>Continue to investigate complaints as they are received.</p> <p><u>Reporting data</u>: Number of complaints received and resolved.</p>

Plan Review and Site Inventory – Development

Primary Department
Development Services – Engineering Services Manager
Supporting Departments

Annual Goals	
Permit Year 1	Continue CGP and EAR compliance and current project inventory methods. <u>Reporting data:</u> Number of projects permitted.
Permit Year 2	Document procedures for plan review and inventory. Implement updated plan review and inventory for all projects. <u>Reporting data:</u> Number of projects permitted.
Permit Years 3 – 5	Continue plan review and inventory for all projects. <u>Reporting data:</u> Number of projects permitted.

Construction Site Inspection – Development

Primary Department
Development Services – Engineering Services Manager
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	Document procedures for inspecting site BMPs, reporting inspection activities and enforcing regulations. Continue inspecting sites for compliance. <u>Reporting data:</u> Procedures documented. Number of sites inspected. Number of Warnings issued.
Permit Years 2 – 5	Continue inspecting sites for compliance. <u>Reporting data:</u> Number of sites inspected. Number of warnings issued.

Staff Training - Development

Primary Department
Development Services – Engineering Services Manager
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	<p>Coordinate with staff that missed previous training and ensure employees receive the appropriate training.</p> <p><u>Reporting data:</u> Number of additional employees receiving training.</p>
Permit Year 2	<p>Coordinate with staff to ensure all employees receive appropriate training.</p> <p><u>Reporting data:</u> Number of employees receiving training.</p>
Permit Year 3	<p>Coordinate with staff that missed previous training and ensure staff receives the appropriate training.</p> <p><u>Reporting data:</u> Number of additional employees receiving training.</p>
Permit Year 4	<p>Coordinate with staff to ensure all employees receive appropriate training.</p> <p><u>Reporting data:</u> Number of employees receiving training.</p>
Permit Year 5	<p>Coordinate with staff that missed previous training and ensure employees receive the appropriate training.</p> <p><u>Reporting data:</u> Number of additional employees receiving training.</p>

Plan Review and Site Inventory – Capital Improvement Program

Primary Departments
Utilities and Environmental Services – Utility Engineer Transportation – Assistant Superintendent Parks and Recreation – Park Development Manager General Services – Development Construction Manager
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	Continue CGP and EAR compliance and current project inventory methods. <u>Reporting data:</u> Number of projects permitted. Number of new WPAPs.
Permit Year 2	Document procedures for plan review and inventory. Implement updated plan review and inventory for all CIP projects. <u>Reporting data:</u> Number of projects permitted. Number of new WPAPs. Status of updated process implementation.
Permit Years 3 – 5	Continue plan review and inventory for all CIP projects. <u>Reporting data:</u> Number of projects permitted. Number of new WPAPs.

Construction Site Inspection – Capital Improvement Program

Primary Department
Development Services – Engineering Services Manager
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	Document procedures for inspecting site BMPs, reporting inspection activities and enforcing regulations. Continue inspecting sites for compliance. <u>Reporting data</u> : Procedures documented. Number of sites inspected. Number of warnings issued.
Permit Years 2 – 5	Continue inspecting sites for compliance. <u>Reporting data</u> : Number of sites inspected. Number of warnings issued.

Staff Training – CIP Staff

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments
Utilities and Environmental Services Transportation Parks and Recreation General Services

Annual Goals	
Permit Year 1	Coordinate with CIP staff that missed previous CIP training and ensure employees receive the appropriate training. <u>Reporting data:</u> Number of additional employees receiving training.
Permit Year 2	Coordinate with CIP staff to ensure all employees receive the appropriate training. <u>Reporting data:</u> Number of employees receiving training.
Permit Year 3	Coordinate with CIP staff that missed previous CIP training and ensure employees receive the appropriate training. <u>Reporting data:</u> Number of additional employees receiving training.
Permit Year 4	Coordinate with CIP staff to ensure all employees receive the appropriate training. <u>Reporting data:</u> Number of employees receiving training.
Permit Year 5	Coordinate with CIP staff that missed previous CIP training and ensure employees receive the appropriate training. <u>Reporting data:</u> Number of additional employees receiving training.

MCM #4

Post Construction Stormwater Management in New and Redevelopment ***Introduction***

Permittees are required to address new development and significant redevelopment in their SWMPs through controls to reduce pollutants in stormwater discharges after construction is completed.

The Phase II regulations require regulated small MS4 operators to develop, implement, and enforce a program to address stormwater discharges from new development and redevelopment sites that disturb greater than or equal to one acre to the MS4 (including projects that disturb less than one acre that are part of a larger common plan of development or sale). The regulations also require that the MS4 ensure that control measures are installed and implemented that prevent or minimize water quality impacts.

As part of these Phase II requirements, the MS4 must:

- Develop and implement approaches to addressing post-construction stormwater discharges that include a combination of structural and/or non-structural controls;
- Adopt adequate legal authority to enable the MS4 to address post-construction stormwater discharges from new development and redeveloped sites; and
- Ensure adequate long-term operation and maintenance of applicable post-construction control measures.

Summary

During the previous permit term, the City adopted an Illicit Discharge Ordinance, updated plan review and inspection procedures, trained inspectors, responded to complaints, and assisted the TCEQ with permanent BMP compliance issues. During this permit term, previous program elements will be continued and enhanced, and procedures documented and revised as necessary.

Legal Authority

Primary Department
Development Services – Engineering Services Manager
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	Begin review of existing ordinances and enforcement programs. <u>Reporting data:</u> N/A
Permit Year 2	Draft any proposed ordinance amendments and begin public outreach. <u>Reporting data:</u> Status of proposed amendments.
Permit Year 3	Adopt and implement amendments revising processes as needed. <u>Reporting data:</u> Status of implementation.
Permit Year 4	Evaluate revised processes and amend as necessary. <u>Reporting data:</u> Document any changes.

Permanent BMPs Plan Review - CIP

Primary Departments
Utilities and Environmental Services – Stormwater Engineer Transportation – Assistant Superintendent Parks and Recreation – Park Development Manager General Services – Development Construction Manager
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	Continue current plan review methods. <u>Reporting data:</u> Number of projects permitted.
Permit Year 2	Update and document revised plan review procedures as required for compliance with the current MS4 General Permit. Implemented updated plan review for all CIP projects. <u>Reporting data:</u> Number of projects permitted. Status of updated process implementation.
Permit Years 3 – 5	Continue plan review for all CIP projects. <u>Reporting data:</u> Number of projects permitted.

Permanent BMPs Plan Review – Development and Redevelopment

Primary Department
Development Services – Engineering Services Manager
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	Continue current plan review procedures. <u>Reporting data:</u> Number of projects permitted.
Permit Year 2	Continue current plan review procedures. Update plan review procedures as required for any ordinance changes and start outreach and education. <u>Reporting data:</u> Number of projects permitted.
Permit Year 3	Document revised procedures for plan review. Implement updated plan review for all projects. <u>Reporting data:</u> Number of projects permitted. Status of update review procedures.
Permit Years 4 – 5	Continue plan review. <u>Reporting data:</u> Number of projects permitted.

Post Construction Site Inspection

Primary Department
Development Services – Engineering Services Manager
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	Continue current inspection process. <u>Reporting data:</u> N/A
Permit Year 2	Document and implement revised inspection process for CIP projects. Start outreach and education for modified Development and Redevelopment inspection process. <u>Reporting data:</u> Documentation and implementation status for CIP projects.
Permit Year 3	Document and implement revised inspection process for Development and Redevelopment projects. Continue revised inspection processes for CIP projects. <u>Reporting data:</u> Documentation and implementation status for development.
Permit Years 4 – 5	Continue revised inspection processes for CIP, Development, and Redevelopment projects. <u>Reporting data:</u> N/A

Long Term O&M – Permanent BMPs Permittee Owned

Primary Department
Transportation – Assistant Superintendent
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	<p>Continue regular maintenance and record keeping of City owned permanent BMPs.</p> <p><u>Reporting data:</u> Statistics reporting under Structural Control Maintenance in Good Housekeeping.</p>
Permit Year 2	<p>Review current maintenance standards and plans. Revise standards as necessary. Continue regular maintenance and record keeping of City owned permanent BMPs.</p> <p><u>Reporting data:</u> Review complete. Revisions as necessary completed. Statistics reporting under Structural Control Maintenance in Good Housekeeping.</p>
Permit Years 3 – 5	<p>Continue regular maintenance and record keeping of City owned permanent BMPs.</p> <p><u>Reporting data:</u> Statistics reporting under Structural Control Maintenance in Good Housekeeping.</p>

Long Term O&M and Enforcement – Permanent BMPs Privately Owned

Primary Department
Development Services – Engineering Services Manager
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	Continue to respond to maintenance issues as they arise. <u>Reporting data:</u> Status of cases investigated and resolved.
Permit Year 2	Continue to respond to maintenance issues as they arise. <u>Reporting data:</u> Status of cases investigated and resolved.
Permit Year 3	Revise and implement development processes to ensure recordation of maintenance plans with the County. <u>Reporting data:</u> Status of implementation.
Permit Year 4	Continue to respond to maintenance issues as they arise. <u>Reporting data:</u> Status of cases investigated and resolved.

MCM #5

Good Housekeeping

Introduction

The TPDES General Permit requires the operator of a regulated MS4 community to develop a program to:

- Prevent or reduce the amount of stormwater pollution generated by municipal operations and conveyed into receiving waters.
- Train employees on how to incorporate pollution prevention/good housekeeping techniques into municipal operations.
- Identify appropriate control measures and measurable goals for preventing or reducing the amount of stormwater pollution generated by municipal operations.

The first step is to evaluate and assess the areas and municipal facilities that it controls in order to determine which activities may have a negative impact on water quality and to find solutions for these activities. The simplest solution is to limit the number of activities that are conducted outside and exposed to stormwater.

Storm drain systems need maintenance to ensure that structures within the storm drain do not become sources of pollution. Regular maintenance of catch basins prevents the accumulation of pollutants that are later released during rain events as well as blockages, backups, and flooding.

System mapping and regular maintenance are key to a successful pollution prevention program. It is also important for material that is collected to be disposed of in a responsible manner. Employee training to carry out these pollution prevention measures is a required component of the program. Specific pollution prevention requirements related to pollutant-generating activities such as landscaping techniques and operating and maintaining public streets, should also be considered. For example, typical pollutants associated with street repair and maintenance includes heavy metals, chlorides, hydrocarbons, concrete dust, sand, deicers, sediment, and trash. Training and educating staff is important to ensure that everyone is knowledgeable in the most effective approaches to minimize pollutant discharges from municipal facilities and activities.

Summary

During the previous permit term, the City performed structural control maintenance, street sweeping, and vehicle maintenance and began training employees. Spill Prevention and Response Plans were also implemented at appropriate facilities. This permit term, the City will continue previous program elements, amend contract language, and enhance its facility mapping.

Permittee Owned Facility Map and Inventory

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments

Annual Goals	
Permit Year 1	<p>Continue to update the City’s storm system map. Develop layer and attributes of the permittee owned facilities and control inventory.</p> <p><u>Reporting data:</u> Report progress on developing framework of the new inventory.</p>
Permit Year 2	<p>Continue to update the City’s storm system map and implement the facility and control inventory.</p> <p><u>Reporting data:</u> Report status of implementation of facility and control inventory.</p>
Permit Years 3 – 5	<p>Continue to update the City’s storm system map and the facility and control inventory.</p> <p><u>Reporting data:</u> N/A</p>

Contractor Requirements and Oversight

Primary Department
Purchasing
Supporting Departments
Utilities and Environmental Services Transportation Parks and Recreation General Services Stormwater

Annual Goals	
Permit Year 1	Develop standard contract language requiring City contractors to use appropriate control measures and SOPs to minimize the release of pollutants to the MS4. <u>Reporting data</u> : Contract language created.
Permit Years 2 – 5	Add standard language to all applicable new or renewed contracts. Develop and implement oversight for contracts. <u>Reporting data</u> : Number of new or renewed contracts.

Operations and Maintenance Activity SOPs

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments
Utilities and Environmental Services Transportation Parks and Recreation General Services Stormwater

Annual Goals	
Permit Year 1	No activities scheduled for permit year one. <u>Reporting data:</u> N/A
Permit Year 2	Begin identification and assessment of O&M activities that will require SOPs. <u>Reporting data:</u> Progress of assessment.
Permit Year 3	Finish assessment of O&M activities. <u>Reporting data:</u> Assessment complete. Number of needed SOPs identified.
Permit Year 4	Prepare 50% of identified SOPs. <u>Reporting data:</u> Number of SOPs created. Number of SOPs implemented.
Permit Year 5	Prepare remaining identified SOPs. <u>Reporting data:</u> Number of SOPs created. Number of SOPs implemented.

High Priority Facilities SOPs

Primary Department
Stormwater – MS4 Coordinator
Supporting Departments
Utilities and Environmental Services Transportation Parks and Recreation General Services

Annual Goals	
Permit Year 1	Assess City owned facilities to determine which ones have a high potential to release pollutants to the MS4. <u>Reporting data:</u> Assessment completed. Number of facilities identified as high-priority.
Permit Year 2	Prepare SOPs for 25% of identified high priority facilities. <u>Reporting data:</u> Number of SOPs created. Number of SOPs implemented.
Permit Year 3	Prepare SOPs for second 25% of identified high priority facilities. Implement PY2 created SOPs. <u>Reporting data:</u> Number of SOPs created. Number of SOPs implemented.
Permit Year 4	Prepare SOPs for third 25% of identified high priority facilities. Implement PY3 created SOPs. Begin bi-annual inspections of high-priority facilities. <u>Reporting data:</u> Number of SOPs created. Number of SOPs implemented. Number of facilities inspected.
Permit Year 5	Prepare SOPs for fourth 25% of identified high priority facilities. Implement PY4 created SOPs. Continue bi-annual inspections of high-priority facilities. <u>Reporting data:</u> Number of SOPs created. Number of SOPs implemented. Number of facilities inspected.

Staff Training Good Housekeeping

Primary Department
Utilities and Environmental Services Transportation – Assistant Superintendent Parks and Recreation – Parks Development Manager General Services – Development Construction Manager
Supporting Departments
Stormwater

Annual Goals	
Permit Year 1	No goals for permit year one. Training completed previous year. <u>Reporting data:</u> N/A
Permit Year 2	Coordinate with O&M staff to ensure employees receive the appropriate training at least every two years. <u>Reporting data:</u> Number of employees receiving training.
Permit Year 3	Review and revise training material as appropriate. <u>Reporting data:</u> Review completed.
Permit Year 4	Coordinate with O&M staff to ensure employees receive the appropriate training at least every two years. <u>Reporting data:</u> Number of employees receiving training.
Permit Year 5	No goals for permit year five. <u>Reporting data:</u> N/A

Street Sweeping

Primary Department
Transportation – Assistant Superintendent
Supporting Departments

Annual Goals	
Permit Year 1	Continue sweeping public streets and facilities. Document disposal procedure. <u>Reporting data:</u> Number of curb miles swept. Number of parking lots swept.
Permit Years 2 – 5	Continue sweeping public streets and facilities. <u>Reporting data:</u> Number of curb miles swept. Number of parking lots swept.

Structural Control Maintenance

Primary Department
Transportation – Assistant Superintendent
Supporting Departments

Annual Goals	
Permit Years 1 – 5	Continue annual maintenance program. <u>Reporting data:</u> Number of controls cleaned. Yards of material removed.

Acronyms

303d	Refers to Section 303d of the CWA requiring a listing of impaired waters
BMP	Best Management Practice
CGP	Construction General Permit
CFR	Code of Federal Regulations
CWA	Clean Water Act
DACS	City of Round Rock's Design and Construction Standards
EAR	Edwards Aquifer Rule
EARZ	Edwards Aquifer Recharge Zone
ETJ	Extraterritorial Jurisdiction
EPA	Environmental Protection Agency
GIS	Geographic Information System
Hazmat	Hazardous Materials
HHW	Household Hazardous Waste
I-Plan	Implementation Plan associated with a TMDL
MCM	Minimum Control Measure
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
NOC	Notice of Change
NOI	Notice of Intent
NOT	Notice of Termination
PSA	Public Service Announcements
ROW	Right of Way
SOP	Standard Operating Procedure
SPRP	Spill Prevention and Response Plan
SWMP	Storm Water Management Program
SWP3	Storm Water Pollution Prevention Plan
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TMDL	Total Maximum Daily Load
TPDES	Texas Pollution Discharge Elimination System
WPAP	Water Pollution Abatement Plan