

CITY OF NEW BRAUNFELS STORMWATER MANAGEMENT PROGRAM



June 2019

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EXECUTIVE SUMMARY

The City of New Braunfels (the “City”) was initially authorized for coverage under the Texas Commission on Environmental Quality’s (TCEQ) Texas Pollutant Discharge Elimination System (TPDES) Phase II (Small) MS4 General Permit (TXR040000) on December 4, 2014. Since that time, the City has implemented a Stormwater Management Program (SWMP) and submitted annually to TCEQ annual reports summarizing activities and actions taken to meet MS4 permit requirements and achieve goals set forth in its SWMP.

On January 16, 2019, the TCEQ adopted the 2019 TPDES General Permit for small MS4s in Texas. The general permit became effective on January 24, 2019. As such, the City is required to submit to TCEQ within 180 days from the effective date a Notice of Intent (NOI) for coverage under the new permit along with an updated SWMP.

Under the general permit, the City is required to reduce through activities outlined in its SWMP the discharge of pollutants to Waters of the United States to the “maximum extent practicable” in order to protect water quality. At a minimum, the SWMP must address the following issues:

- Identify and implement Best Management Practices (BMPs) required for all appropriate minimum control measures (MCMs) as deemed by the City’s population within the Census defined UA;
- Identify measurable goals for the control measures;
- Develop an implementation schedule for the control measures; and
- Define the responsible entity to implement the control measures.

This SWMP describes in detail the BMPs New Braunfels has developed to address each of the required MCMs. An implementation schedule has been included for each measurable goal and will show SWMP implementation over the course of the five-year permitting term. The City has a dedicated stormwater program manager leading this effort and is supported by the Public Works Director in coordination with all City departments.

1.0 OVERVIEW

1.1 INTRODUCTION AND HISTORY

In 1972, Congress amended the Clean Water Act (CWA) to prohibit the discharge of pollutants into the waters of the United States from a point source unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. The NPDES program initially targeted easily detectable sources of water pollution such as municipal sewage and industrial process wastewater and was successful in improving water quality. However, the NPDES program was not addressing other significant sources of water quality impairment – nonpoint sources such as runoff from agricultural and forestry operations, and stormwater runoff.

In 1987, Congress, once again, amended the CWA in order to address the additional sources of water quality impairment throughout the United States. In response to the 1987 amendments to the CWA, the U.S. Environmental Protection Agency (EPA) initiated a comprehensive, two-phase approach to stormwater quality. On November 15, 1990, the EPA published Phase I of the NPDES program requiring permit coverage for stormwater discharges from medium and large municipal separate storm sewer systems (MS4s) with populations of 100,000 or more and several categories of industrial activities, including construction sites that disturb five or more acres of land. Phase I of the NPDES program addresses sources of stormwater runoff with the greatest potential to impact water quality. On December 8, 1999, the EPA published Phase II of the NPDES program requiring that small MS4s with populations less than 100,000 residents served within the U.S. Census Bureau’s defined Urbanized Area (UA) and construction activities disturbing between one and five acres of land obtain permit coverage.

In response to the NPDES permit requirements, the EPA delegated regulatory authority in Texas to the State of Texas, and with the authority of the Texas Water Code and the CWA, the Texas Commission on Environmental Quality (TCEQ) assumed the authority to issue MS4 stormwater permits. As a regulatory entity, the TCEQ developed the Texas Pollutant Discharge Elimination System (TPDES) program, a program patterned after the federal NPDES stormwater program, which now has federal regulatory authority over discharges to Waters of the United States.

On August 13, 2007, the TCEQ issued TPDES General Permit No. TXR040000 for stormwater discharges from Phase II cities in Texas. Small Phase II communities were required to obtain permit coverage within 180 days of the permit issuance and develop a five-year Stormwater Management Program (SWMP) and summarize all stormwater activities in permit required annual report submittals to the TCEQ. The permit expired on August 13, 2012.

The TCEQ reissued the TPDES Small MS4 General Permit No. TXR040000 on December 11, 2013. The City of New Braunfels submitted to TCEQ an NOI and a SWMP to obtain initial coverage under the TPDES Small MS4 program. The NOI and SWMP plan were received by TCEQ on June 6, 2014 and coverage under the 2013 Small MS4 permit was authorized by TCEQ on December 1, 2014. The City’s MS4 authorization number is TXR040469. The 2013 permit expired on December 13, 2018 and has been superseded and replaced by the new TPDES General Permit that became effective on January 24, 2019. The new permit is based on the 2010 U.S. Census.

As per the 2013 permit, the new permit requires permittees to seek coverage on a tiered basis according to the population of residents served under the UA as determined by the 2010 Census. The four levels, based on population in the UA, are as follows:

- Level 1: Up to 10,000;
- Level 2: 10,000 to 40,000 (including non-traditional MS4s);
- Level 3: 40,000 to 100,000;
- Level 4: More than 100,000.

According to the 2010 census, the population of the City of New Braunfels is 57,740. Therefore, the City of New Braunfels will remain a Level 3 entity under the new Phase II MS4 permit. The City will implement this SWMP throughout the five-year permit period and will submit a report annually to TCEQ summarizing activities and actions taken to meet MS4 permit requirement and goals set forth in the SWMP.

1.2 CITY OF NEW BRAUNFELS

The City of New Braunfels is located along Interstate Highway I-35 between San Antonio and San Marcos, Texas and is the county seat of Comal County. During the U.S. Census periods of 2000 and 2010, New Braunfels experienced a 51.42% population increase (CensusViewer 2012). According the 2010 U.S Census, the population of New Braunfels was 57,740. As of July 1st, 2017, the population estimate of New Braunfels was 79,152 (U.S. Census Bureau 2018). New Braunfels has a large tourist industry with a focus on river and water-related recreation. New Braunfels discharges to multiple creeks and rivers within the Guadalupe River Basin that include the Comal River, Dry Comal Creek, Blieders Creek, Alligator Creek as well as the Guadalupe River itself. A portion of the City is located on the Edwards Aquifer recharge zone. . The area receives approximately 34-inches of rain annually.

New Braunfels is one of several partners in the Edwards Aquifer Habitat Conservation Plan program (EAHCP) (see <http://eahcp.org/>). The EAHCP is intended to provide assurance that suitable habitat is protected at Comal and San Marcos River systems for several endangered aquatic species. The EAHCP is the basis for an Incidental Take Permit (ITP) that was issued by the United States Fish and Wildlife Service in 2013 under the Endangered Species Act. The EAHCP includes habitat and springflow protection measures, as well as biological and water quality monitoring activities, that are implemented by the permittees of the ITP (City of New Braunfels, City of San Marcos, Edwards Aquifer Authority, Texas State University and the City of San Antonio-represented by the San Antonio Water System). The City of New Braunfels primary obligation is the implementation of various habitat restoration and improvement projects within the Comal River system and its watershed area. The City's EAHCP activities include a water quality protection component that aims to protect water quality and minimize pollutant loading to the Comal River. The City has been implementing various EAHCP-related habitat restoration activities since 2013 and fully anticipates to continue implementation through the term of the MS4 permit.

1.3 STORMWATER REGULATON

1.3.1 TPDES Phase II Minimum Control Measures

The TPDES permit requires the permittee to select *appropriate* BMPs as a Level 3 entity for each of the required MCMs. In other words, the TCEQ expects Phase II permittees to tailor their stormwater management plans and their BMPs to fit the characteristics and needs of the permittee and the area served by its MS4.

To qualify for permit coverage, the MS4 operator must develop a SWMP that describes the BMPs the City will develop and implement to minimize the discharge of pollutants from the MS4 to the maximum extent practicable. The six MCMs defined by the TCEQ that are applicable to the City of New Braunfels as Level 3 permit holder are as follows:

- *Public Education, Outreach, and Involvement* – The MS4 is required to develop, implement, and maintain a public education and outreach program to distribute information to the community about impacts of stormwater discharges on water quality, the hazards associated with illegal discharges and the improper disposal of waste, and steps the public can take to reduce pollutants in stormwater runoff. In addition, the MS4 operator must implement a public involvement/participation program to include opportunities for constituents within the MS4 area to participate in the SWMP development and implementation.
- *Illicit Discharge Detection and Elimination (IDDE)* – The MS4 must develop, implement, and enforce a program to detect and eliminate illicit discharges. As part of this program, the MS4 must develop a storm sewer system map with locations of all outfalls, establish an ordinance (or other regulatory mechanism) prohibiting illicit discharges, establish enforcement procedures and actions, detect and address illicit discharges (including illegal dumping), and inform employees, businesses, and the general public of the program.
- *Construction Site Stormwater Runoff Control* – The MS4 is required to develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities disturbing greater than or equal to one acre of land (including smaller sites that are part of a larger common plan of development), through the development of an ordinance (or other regulatory mechanism) to require erosion and sediment controls, as well as sanctions to ensure compliance, and procedures for site plan and public comment review. The MS4 must also require construction site operators to implement erosion and sediment control BMPs and to control waste.
- *Post-construction Stormwater Management in New Development and Redevelopment* – The MS4 is required to develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre of land (including smaller sites that are part of a larger common plan of development), through the development of an ordinance (or other regulatory mechanism) to address post-construction runoff, the development and implementation of structural and non-structural BMPs appropriate to the community, and procedures to ensure adequate long-term operation and maintenance.
- *Pollution Prevention and Good Housekeeping for Municipal Operations* – The MS4 is required to develop and implement an operation and maintenance program that has the goal of preventing or reducing pollutant runoff from municipal operations.

- *Authorization for Municipal Construction Activities* – As an optional MCM, the MS4 may develop a MCM for municipal construction activities as an alternative to the MS4 operator seeking coverage under TPDES general permit TXR150000 for each municipal construction activity performed. The City has opted not to participate in this MCM.

In the SWMP, the permittee must identify the BMPs implemented during the five-year permit term, a schedule for the implementation of the selected BMPs, the responsible persons accountable for the BMP implementation, and the measurable goals by which the permittee will self-report progress in an Annual Report to the TCEQ. Existing programs or BMPs may be used to fulfill the requirements of the general permit.

The City has evaluated stormwater management activities included in and implemented as part of the SWMP prepared in 2004 to develop a new SWMP detailing a series of selected BMPs for each of the five required minimum control measures for a Level 3 community. City staff selected these BMPs and associated measurable goals after reviewing EPA and TCEQ guidance documentation, consulting with other MS4s and assessing the developmental needs and resources of the City. The SWMP and selected BMPs were reviewed by the City's Watershed Advisory Committee to provide an opportunity for input and suggestions. The SWMP was then presented to City Council for consideration, comment and approval.

As outlined throughout the SWMP, each of the BMPs utilizes a series of measurable goals and evaluation techniques to ensure appropriate program implementation, and an implementation schedule details program development throughout the five-year permit period.

1.3.2 Capacity & Authority of MS4s to Implement and Enforce MCMs and BMPs

As per the Small MS4 general permit, the MS4 must develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. The MCMs that have specific enforcement requirements are:

- *Illicit Discharge Detection and Elimination* – The illicit discharge MCM states that the MS4 must establish a program to detect and eliminate illicit discharges to the small MS4, and to the extent allowable under state and local law, the permittee must utilize an ordinance or other regulatory mechanism to prohibit and eliminate illicit discharges.
- *Construction Site Stormwater Runoff Control* – This MCM requires the MS4 to develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre or less than one acre if it is part of a larger common plan of development. The program must include the development and implementation of an ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance.
- *Post-Construction Stormwater Management in New Development and Redevelopment* – The post-construction MCM requires the MS4 to develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre of land, including projects less than one acre that are part of a larger common plan of development. The program must ensure that controls are in place that would prevent or minimize water quality impacts. The strategy

must include a combination of structural and nonstructural controls, including the development of an ordinance to address post-construction runoff.

City of New Braunfels Ordinance No. 2016-74, approved by the New Braunfels City Council on December 12, 2016, provides authority for the City to effectively implement its SWMP and regulate pollutant discharges .

Ordinance No. 2016-74 is incorporated into Section 143 of the City’s Code of Ordinances and includes the following provisions:

- Section 143-6. Illicit Discharges
- Section 143-7. Stormwater Discharges Associated with Construction Activity
- Section 143-8. Permanent Stormwater Treatment Facilities
- Section 143-9. Authority to Enter and Inspect
- Section 143-10. Enforcement

In addition, the City’s Drainage and Erosion Control Design Manual, 2016 (with updates in 2017 and 2018) includes water quality treatment requirements for areas of new development and redevelopment that meet certain criteria. The use of the Drainage and Erosion Control Design Manual is required by Section 143-2 of the Code of Ordinances.

The ordinance will continue to be upheld and will be reviewed annually and revised as needed.

1.3.3 Municipal Facilities Subject to TPDES Permits

New Braunfels owns and operates a municipal airport that is subject to TPDES stormwater regulations. New Braunfels Utilities (NBU) is a utility service that does not own and operate the City’s MS4 and has permits for the different facilities they operate. NBU provides water and wastewater services to the residents of New Braunfels.

City of New Braunfels Municipal Facilities Subject to TCEQ Permits		
Facility Name	Facility Address	TCEQ Permits
New Braunfels Municipal Airport	1588 Entrance Dr. New Braunfels	TXR05Z417

2.0 IMPAIRED WATER BODIES

The City of New Braunfels discharges into several water bodies that are included on the 2014 Texas 303(d) list as impaired for bacteria. These include Alligator Creek and Dry Comal Creek (Segment 1811A). In addition, the draft 2016 Texas 303(d) list includes the Comal River (Segment 1811). Total Maximum Daily Load (TMDL) plans have not been issued for these waterbodies.

According to Part II.D.4.b.2 of the new Small MS4 permit, MS4s that discharge directly to bacteria impaired water bodies without approved TMDL's shall perform the following activities:

(a) Impairment of Bacteria

If bacteria are the impairment/pollutant of concern, the permittee shall identify significant sources and develop and implement focused BMPs for those sources. The permittee may implement the BMPs listed in Part II.D.4.a.5 of the permit.

2.1 DRY COMAL CREEK AND COMAL RIVER

The Dry Comal Creek (Segment 1811A) is defined as the stream portion “from the confluence of the Comal River in New Braunfels in Comal County to the upstream perennial portion of the stream southwest of New Braunfels in Comal County” (TCEQ, 2012). The Dry Comal Creek is monitored on a monthly basis at Seguin Avenue by the Guadalupe Blanco River Authority (GBRA) as part of the Guadalupe River Basin Surface Water Quality Monitoring Program and TCEQ Clean Rivers Program. The Dry Comal Creek does not meet water quality standards for bacteria and is therefore considered an impaired water body as per the latest TCEQ and EPA approved Texas 303(d) list (i.e. the 2014 Texas 303(d) list. The Dry Comal Creek was first listed in 2010 and has remained listed since that time. Currently there is no TMDL for the Dry Comal Creek. A large portion of the Dry Comal Creek and watershed lie outside of the City of New Braunfels city limits.

The Comal River (Segment 1811) extends from its confluence with the Guadalupe River to Klingemann Street in New Braunfels. The Comal River issues from the Comal Springs of the Edwards Aquifer and is considered the shortest navigable river in Texas at approximately 2.5 miles long. The Comal River lies entirely within the City of New Braunfels city limits. While the Comal River has not previously been listed as an impaired waterbody, it is included on the draft 2016 Texas 303(d) for bacteria impairment. The 2016 Texas 303(d) list was adopted by the TCEQ on October 17, 2018 but has yet to be approved by the EPA.

The City worked with local stakeholders and agencies to develop the Dry Comal Creek and Comal River Watershed Protection Plan (WPP) to address bacteria loading to both these waterbodies. The City worked with Texas A&M University and Guadalupe Blanco River Authority to perform bacterial source tracking (BST) analyses on the Dry Comal Creek and Comal River in 2013 and 2016. The results of the BST analyses indicated that approximately 65% of the bacteria found in the waterbodies was from avian and non-avian wildlife with approximately 20% and less than 10% from livestock and human sources, respectively. The WPP includes bacteria management measures to address bacteria from these sources and includes urban wildlife management, OSSF management, pet waste management and education/outreach initiatives. The WPP was accepted by both the TCEQ and EPA in September 2018. CWA 319 funding was secured by the City in September to help facilitate implementation of the

WPP.

2.2 ALLIGATOR CREEK AND GERONIMO CREEK

Alligator Creek begins on the west side of IH-35 and continues southeast before it meets the confluence with Geronimo Creek midway through the watershed. Alligator Creek crosses the City limits and the UA along the northeastern portion of the City. The area that it crosses is not very large, however the City's MS4 does discharge to it. Currently Alligator Creek is not listed on the 303(d) list as an impaired water body. This area is experiencing rapid growth. The upper portion of the watershed lies in the extra-territorial jurisdiction (ETJ) of New Braunfels and the lower portion is in the ETJ of Seguin. With continuing development and the conversion of rural land to urban land use will increasingly impact the hydrology and water quality in the watershed. Alligator Creek is a tributary to Geronimo Creek which is located outside of the New Braunfels city limits. Geronimo Creek is currently listed on the 303(d) for bacteria concerns.

The Geronimo and Alligator Creeks WPP was developed with the assistance of by regional stakeholders and was accepted by the EPA is September 2012. The Geronimo and Alligator Creeks Watershed Partnership, which is a collaboration of citizens, local city and county governments and agencies, was developed to implement bacteria and nitrate-nitrogen management measures included in the WPP. The portion of New Braunfels ETJ that might discharge to Geronimo Creek are not believed to be included in the regulated UA. Also, Alligator Creek has several surface water quality monitoring stations that do not indicate bacteria problems prior to its confluence with Geronimo Creek. Never the less, New Braunfels will continue to support bacteria reduction efforts along with public education, outreach and involvement measures to those creeks.

As stated, no TMDL's have been approved for these waterbodies; therefore, the City is required to focus on BMPs specifically targeting bacteria as per the Small MS4 general permit Part II.D.5. During the first year of the permit, the City will evaluate if it, as an MS4, is contributing to the bacteria issues. A list of the BMPs, measurable goals, and implementation schedule may be found in Table 2-1 as required by Part II.D.4.a.5.

**TABLE 2-1.
STRATEGIES FOR ADDRESSING BACTERIA IMPAIRED WATER BODIES**

Strategy	Best Management Practices	Measurable Goals	Evaluation	Evaluation Schedule
Sanitary Sewer Systems	Make Improvements to Reduce Overflows	NBU will develop recurring inspections for high-risk infrastructure such as aerial crossings, inverted siphons, and air release valves.	Verify scheduled inspections are performed.	Annually
		NBU will rehabilitate defective pipes as they are identified.	Report will be provided indicating quantity of pipe rehabilitated or replaced.	Annually
		NBU will inspect the portion of the collection system located outside of the Edwards Aquifer region at a rate of 150,000 feet of pipe, or ten percent of the non-Edwards system, per year.	Report will be provided indicating quantity of pipe inspected.	Annually
		NBU will inspect 72,000 feet of pipe, or twenty percent of the collection system located over the Edwards Aquifer on an annual basis.	Report will be provided indicating quantity of pipe inspected.	Annually
	Address Lift Station Inadequacies	NBU establish and follow predictive and preventive maintenance schedules for all lift stations.	All lift stations have preventive maintenance, and SOP's have been written for all lift station machinery. Information is documented in NBU's CMMS. Personnel use precision laser alignment, laser belt alignment, and vibration analysis on lift station. Personnel were trained and certified in these techniques. All lift stations are on telemetry. Each lift station is visited once per week and predictive maintenance is performed on all stations on a 90-day interval. All machinery is on a frequency-based lubrication cycle. Evaluation will be verification that maintenance is being performed.	Annually
	Improve Reporting of Overflows	NBU has a documented procedure for reporting SSOs.	Continue to report overflows to TCEQ and EAA. Evaluate number of overflows and their causes and compare to previous years for trends and root cause correction.	Annually
	Strengthen Requirements to Reduce Blockage from Fats, Oils, and Grease (FOG)	NBU will expand the FOG program to include stronger criteria on Food Service Establishments ("FSE") either by local city ordinance or by a permitting program, and by inspections of FSEs and other FOG dischargers.	NBU developed and implemented new Pretreatment Standards, Local Limits and General Prohibitions in the City of New Braunfels Ordinances. These ordinances called for the regular pumping of grease Interceptors every 90 days. Report will be provided indicating the number of customers subject to pumping versus the number who have submitted verification that pumping was completed.	Annually
On-site Sewage Facilities (OSSFs)	Identify and Address Failing Systems	The City will inspect local on-site sewage facilities and conduct enforcement.	Inspect OSSFs, provide technical assistance and execute enforcement if necessary.	Annually

**TABLE 2-1.
STRATEGIES FOR ADDRESSING BACTERIA IMPAIRED WATER BODIES**

Strategy	Best Management Practices	Measurable Goals	Evaluation	Evaluation Schedule
On-site Sewage Facilities (OSSFs) (Cont.)	Address Inadequate Maintenance of OSSFs	The City will find methods to provide technical assistance, which may include referring communities to the TCEQ, TEEX or other entities that can provide technical assistance. The City will have enforcement authority through its illicit discharge ordinance to address discharges from failing or inadequately maintained systems.	Record and report the number of OSSFs found with inadequate maintenance. Record and report the number of OSSF permit holders that were provided technical assistance or referred for assistance. Record and report the number for systems with enforcement filed against them.	Annually
Illicit Discharges and Dumping	Make Greater Effort to Reduce Waste Sources of Bacteria	The City's Stormwater Ordinance will provide enforcement against illicit discharges and illegal dumping. Through the City's Illicit Discharge Detection and Elimination program, dry weather screening efforts will focus on identifying bacteria discharges to the MS4 or local receiving waters	Record number of reported illicit discharges and dumping. Report dry weather screening activities and results in areas with previous illegal dumping activities related to bacteria.	Annually
Animal Sources	Expand Existing Management Programs to Identify and Target Animal Sources	Large deer populations and ducks are believed to be increasing concentrations of bacteria and nutrients in local waterways. A plan has been developed for controlling these populations that includes a City of New Braunfels wildlife feeding ordinance	Record and report the population reductions annually. Reductions will be reported in the form of number of animals removed or through social carrying capacity statistics such as water quality/ bacteria data and deer-auto collisions.	Annually
Residential Education	Bacteria Discharging from a Residential Site During Runoff Events or Directly	The City will develop educational materials for distribution under their Public Education, Outreach and Involvement program that will focus on bacteria impacts to receiving streams.	Record number of educational materials presented to residents on bacteria discharges and ways of reducing impacts to water quality.	Annually
	Fats, Oils, and Grease (FOG) Clogging Sanitary Sewer Lines & Resulting OverflowS	NBU will develop educational materials focusing on FOG issues and the reporting of overflows for distribution. Electronic (e.g. NBU website) and hardcopy materials will be developed and distributed.	Record number of educational materials distributed, along with the mechanisms to distribute.	Annually

TABLE 2-1. STRATEGIES FOR ADDRESSING BACTERIA IMPAIRED WATER BODIES				
Strategy	Best Management Practices	Measurable Goals	Evaluation	Evaluation Schedule
Residential Education (Cont.)	Pet Waste	The City will use their website and educational materials to reach out to the public regarding proper disposal of pet waste. The City will continue to maintain existing pet waste disposal stations in City parks.	Record number of website messages and educational materials regarding pet wastes were distributed. Report number of pet waste disposal stations in City parks.	Annually

3.0 MCM1: PUBLIC EDUCATION, OUTREACH AND INVOLVEMENT

3.1 TPDES PHASE II PERMIT REQUIREMENTS AND OVERVIEW

Public Education and Outreach

- (a) All permittees shall develop, implement, and maintain a comprehensive stormwater 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 stormwater discharges can have on local waterways, as well as the steps that the public can take to reduce pollutants in stormwater.
- Existing permittees shall assess program elements that were described in the previous permit, modify as necessary, and develop and implement new elements, as necessary, to continue reducing the discharge of pollutants from the MS4 to the MEP. New elements must be fully implemented by the end of this permit term and newly regulated permittees shall have the program fully implemented by the end of this permit term. The program must, at a minimum:
- (1) Define the goals and objectives of the program based on high priority community-wide issues (for example, reduction of nitrogen in discharges from the small MS4, promoting previous techniques used in the small MS4, or improving the quality of discharges to the Edwards Aquifer);
 - (2) Identify the target audience(s);
 - (3) 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;
 - (4) Determine cost effective and practical methods and procedures for distribution of materials.
- (b) Throughout the permit term, all permittees shall make the educational materials available to convey the program's message to the target audience(s) at least annually.
- (c) If the permittee has a public website, the permittee shall post its SWMP and the annual reports required or a summary of the annual report on the permittee's website. The SWMP must be posted no later than 30 days after the approval date, and the annual report no later than 30 days after the due date.
- (d) All permittees shall annually review and update the SWMP and MCM implementation procedures, as necessary. Any changes must be reflected in the annual report. Such written procedures must be maintained, either on site or in the SWMP and made available for inspection by the TCEQ.
- (e) MS4 operators may partner with other MS4 operators to maximize the program and cost effectiveness of the required outreach.

Public Involvement

- (a) All permittees shall involve the public, and, at minimum, comply with any state and local public notice requirements in the planning and implementation activities related to developing and implementing the SWMP, except that correctional facilities are not required to implement this portion of the MCM.
- Existing permittees shall assess program elements that were described in the previous permit, modify as necessary, and develop and implement new elements, as necessary, to continue reducing the discharge of pollutants from the MS4 to the MEP. New elements must be fully implemented by the end of this

permit term and newly regulated permittees shall have the program fully implemented by the end of this permit term. At a minimum, all permittees shall:

- (1) Consider using public input (for example, the opportunity for public comment, or public meetings) in the implementation of the program;
- (2) Create opportunities for citizens to participate in the implementation of control measures, such as stream clean-ups, storm drain stenciling, volunteer monitoring, volunteer “Adopt-A-Highway” programs, and educational activities;
- (3) Ensure the public can easily find information about the SWMP.

3.2 DISCUSSION OF STORMWATER PROGRAMS

The City of New Braunfels is required to develop and implement a Public Education Program to distribute information to the community about the impacts of stormwater discharges on water quality, hazards related to illegal discharges and dumping, concerns of bacteria, the improper disposal of waste, and steps the public can take to reduce pollutants in stormwater runoff. The City must also implement a public involvement/participation program to include opportunities for the constituents residing within the City’s permitted municipal separate storm sewer system (MS4) area to participate in the development and implementation of the Storm Water Management Plan.

The following are the specific BMPs, implementation activities, measurable goals and schedule of completion. It should be noted that some BMPs are new programs, while some BMPs are existing programs that the City will continue in support of the MS4 program.



MCM 1: Public Education, Outreach and Involvement

Responsible City Department:

Parks

Public Works

Stormwater Educational Materials and Strategies

PE - 1

BMP Description:

The Public Works and various City departments will develop a variety of educational materials to inform the community of the effects polluted stormwater runoff may have on water quality and how individuals can minimize the impacts they have on the environment. The City will also emphasize the impacts of bacteria.



Activities Planned:

- Disseminate stormwater information through the City website, and media outlets.
- Distribute stormwater fact sheet and retain on City website.
- Distribute stormwater brochures.

Measurable Goals:

- Update City website and media outlets annually.
- Evaluate the need to revise the stormwater fact sheet annually.
- Evaluate the need to revise the stormwater brochures annually.

Completion Dates:

- Year 1 - 5: Update City website annually; provide information to media outlets as needed; establish partnerships; review and update fact sheet and brochures annually



MCM 1: Public Education, Outreach and Involvement

Responsible City Department:

Parks

Public Works

Initiate Public Participation and Involvement Program

PE - 2

BMP Description:

The City of New Braunfels will continue to hold meetings and seek input from the New Braunfels Watershed Advisory Committee (WAC) as part of its public participation and involvement program.



Activities Planned:

- Hold routine meetings with the CoNB WAC.
- Work with citizen watch groups to prevent stormwater pollution via citizen field reports. Reports received will be used to follow up to assist in reducing pollution to water bodies and illegal dumping.

Measurable Goals:

- Hold a minimum of three WAC meetings annually. Record the number of meetings.
- Record number of water quality pollution and illegal dumping incidents reported by the citizen watch groups. Also categorize the incidents that were followed up on and log the number of incidents reported and resolved.

Completion Dates:

- Years 1 - 5:
 - Facilitate meetings with the New Braunfels Watershed Advisory Committee.



MCM 1: Public Education, Outreach and Involvement

Responsible City Department:

Parks

Public Works

River Operations

Watershed, Stream, and River Cleanup Events

PE - 2

BMP Description:

- Promote public participation and involvement, the City will sponsor, co-sponsor or participate in stream cleanup events.
 - Currently these include the Dos Rios Watershed Cleanup (Dry Comal Creek, Comal River, Guadalupe River, and Blieders Creek watersheds) and the Geronimo and Alligator Creek Watershed Cleanup (Geronimo Creek and Alligator Creek watersheds)



Activities Planned:

- Sponsor, co-sponsor or participate in at least one stream cleanup annually.

Measurable Goals:

- Annually sponsor, co-sponsor, or participate in at least one stream and river cleanup, including the Dos Rios Watershed Cleanup.
- Record number of attendees for events and amount of trash collected at each event. Report annually.

Completion Dates:

- Years 1 - 5:
 - Continue to sponsor, co-sponsor, or participate in annual stream cleanup events



MCM 1: Public Education, Outreach and Involvement

**Responsible City
Department:**

Public Works

Partnerships with Other Institutions and Organizations

PE - 3

BMP Description:

The City of New Braunfels will continue partnerships with other organizations and initiatives to protect water quality such as the Edwards Aquifer Habitat Conservation Plan (EAHCP), Dry Comal Creek/ Comal River WPP Stakeholder group, Geronimo and Alligator Creeks Watershed Partnership, and the Central Texas Stormwater Coalition (CTSC). Stormwater education and outreach materials, stormwater brochures, and a stormwater information network will be a collaborative effort with various watershed-based organizations.



Activities Planned:

- Participation in the EAHCP program.
- Use watershed-based organizations to collaborate on public education, outreach, and involvement materials for stormwater quality and bacteria concerns. Organizations may include, but not limited to, the Geronimo and Alligator Creeks Watershed Partnership, the Dry Comal Creek/ Comal River WPP Stakeholders and the CTSC.
- Develop regional public education partnerships with individuals such as local utility providers, the City Library, civic organizations, school districts and higher education institutions.

Measurable Goals:

- Report and record the number of events and meetings conducted annually with watershed-based organizations. Attend at least six meeting with a partner organization annually.

Completion Dates:

- Year 1 - 5:
 - Continue participation in the EAHCP Program and collaborate with watershed-based organizations such as the Geronimo and Alligator Creeks Watershed Partnership, Dry Comal Creek/ Comal River WPP Stakeholder group, and the CTSC. Record and report meetings to evaluate annually.



MCM 1: Public Education, Outreach and Involvement

Responsible City Department:

Parks

Public Works

Presentations to Local Schools and Youth Groups

PE - 4

BMP Description:

The City of New Braunfels will continue to utilize a variety of methods to educate local school students and youth groups on stormwater management and water quality issues. The goal is to provide an increased awareness and help develop habits that will improve and protect the environment.



Activities Planned:

- Continue to provide presentations to local schools and youth groups on the importance of protecting water quality and stormwater management.

Measurable Goals:

- Annually provide at least one educational presentation at local schools or at youth event.
- Record and report the number of presentations provided annually, including the number of participants at each event.

Completion Dates:

- Years 1 - 5: Provide presentations to local schools and youth groups



MCM 1: Public Education, Outreach and Involvement

Responsible City Department:

Parks

Public Works

Adopt-A-Spot Volunteer Program

PE - 5

BMP Description:

Adopt-A-Spot is a volunteer program that reduces litter accumulations in drainageways and rivers by using volunteers to collect litter through coordinated trash pick-ups. Through the Adopt-A-Spot program, the City will have an opportunity to distribute educational materials and answer resident questions regarding stormwater issues.



Activities Planned:

- Continue Adopt-A-Spot volunteer program to sponsor clean up events at local parks, natural areas and along waterways.

Measurable Goals:

- Coordinate watershed clean-up activities with volunteers and participating organizations. Provide clean-up supplies to volunteers.
- Record and report the number of volunteer clean-ups held annually, including the number of program participants.
- Record and report the volume of trash collected by entities participating in the Adopt-A-Spot program. Report annually.

Completion Dates:

- Years 1 - 5: Continue to coordinate and sponsor Adopt-A-Spot volunteer program.



MCM 1: Public Education, Outreach and Involvement

Responsible City Department:

Parks

Public Works

Tree City USA Program

PE - 6

BMP Description:

The City of New Braunfels participates in the Tree City USA Program through the Texas A&M Forest Service and the Arbor Day Foundation. The City has maintained its participation for over 30 years now and has received several growth awards for the last 18 years. The City staff selects locations annually for the implementation of the reforestation efforts. Representatives from the City are on hand at the events to answer resident questions and promote the program. The City also hosts an Arbor Day event each fall. The event is held on the third weekend in October, weather permitting. Tree saplings are distributed to event attendees and demonstrations describing the proper methods for planting are held throughout the day.



Activities Planned:

- Continue participation in Tree City USA Program.
- Continue to host reforestation outreach events including Arbor Day.

Measurable Goals:

- Annually sponsor at least one reforestation effort through the Tree City USA Program.
- Record the number of events held and number of trees distributed to residents. Report annually.

Completion Dates:

- Years 1- 5: Continue to sponsor at least one reforestation event annually. Continue participation in Tree City USA program.

3.3 PROGRAM IMPLEMENTATION SCHEDULE

The following is a summary program implementation table for the BMPs under MCM 1.

TABLE 3-1. MCM 1: PUBLIC EDUCATION, OUTREACH AND INVOLVEMENT								
Best Management Practice	BMP Number	Management Practices for Implementation	Permit Years					Responsible City Department
			1	2	3	4	5	
Stormwater Educational Materials and Strategies	PE - 1	Disseminate stormwater information through the City website.	X	X	X	X	X	Public Works
		The City will evaluate and update a stormwater fact sheet as needed.	X	X	X	X	X	Public Works
		The City will evaluate and update local stormwater brochures as needed.	X	X	X	X	X	Public Works
Initiate Public Participation and Involvement Programs	PE - 2	On-going participation by the CoNB WAC.	X	X	X	X	X	Public Works
		Sponsor at least one volunteer park clean-up event annually. Advertise the program to the community and coordinate with participating entities.	X	X	X	X	X	Public Works, Parks, River Operations
		Work with citizen watch groups to prevent stormwater pollution via citizen field reports.	X	X	X	X	X	Public Works
Partnerships with Other Institutions and Organizations	PE - 3	Continue to develop regional public education partnerships (e.g. local utilities, City library, civic organizations, school districts and higher education, etc.).	X	X	X	X	X	Public Works, Planning, and Parks
		Use Watershed-based organizations to collaborate on stormwater educational outreach, the development of stormwater brochures, and a stormwater information network (e.g. disseminate information). Work with watershed groups such as the, Central Texas Stormwater Coalition, Dry Comal Creek and Comal River WPP Stakeholders, and Alligator and Geronimo Creeks Watershed Partnership.	X	X	X	X	X	Public Works
		Participate in the Edwards Aquifer Habitat Conservation Plan Program.	X	X	X	X	X	Public Works and Parks
Presentations to Local Schools and Youth Groups	PE - 4	Give presentations to local school and youth groups regarding stormwater management and water quality. Evaluate educational presentation program for expansion annually.	X	X	X	X	X	Public Works and Parks
"Adopt-A-Spot" Volunteer Program	PE - 5	Evaluate expansion of volunteer program for expansion annually.	X	X	X	X	X	Public Works and Parks
Tree City USA Program	PE - 6	Evaluate expansion of reforestation program for expansion annually.	X	X	X	X	X	Public Works and Parks

4.0 MCM2: ILLICIT DISCHARGE DETENTION AND ELIMINATION

4.1 TPDES PHASE II PERMIT REQUIREMENTS AND OVERVIEW

The illicit discharge detection and elimination (IDDE) MCM is intended to detect and eliminate discharges to the MS4 system that are not entirely composed of stormwater. As identified in the Phase II TPDES permit, MS4 permittees are required to develop a strategy to detect and eliminate illicit discharges to the storm drain system. The EPA has defined an illicit discharge as “any discharge into a separate storm sewer system that is not composed entirely of storm water.”

The following are the program requirements for MCM 2: Illicit Discharge Detection and Elimination, according to Part III.B.2 of the general permit.

Program Development

- (a) All permittees shall develop, implement, and enforce a program to detect, investigate, and eliminate illicit discharges into the small MS4. The program must include a plan to detect and address non-stormwater discharges, including illegal dumping to the MS4 system.

Existing permittees must assess program elements that were described in the previous permit, modify as necessary, and develop and implement new elements, as necessary, to continue reducing the discharge of pollutants from the MS4 to the MEP. New elements must be fully implemented by the end of this permit term and newly regulated permittees shall have the program fully implemented by the end of this permit term.

The Illicit Discharge Detection and Elimination (IDDE) program must include the following:

- (1) An up-to-date MS4 map;
 - (2) Methods for informing and training MS4 field staff;
 - (3) Procedures for tracing the source of an illicit discharge;
 - (4) Procedures for removing the source of the illicit discharge;
 - (5) For Level 2, 3 and 4 small MS4s, if applicable, procedures to prevent and correct any leaking on-site sewage disposal systems that discharge into the small MS4;
- (b) For non-traditional small MS4s, if illicit connections or illicit discharges are observed related to another operator's MS4, the permittee shall notify the other MS4 operator within 48 hours of discovery. If notification to the other MS4 operator is not practicable, then the permittee shall notify the appropriate TCEQ Regional Office of the possible illicit connection or illicit discharge.
- (c) If another MS4 operator notifies the permittee of an illegal connection or illicit discharge to the small MS4, then the permittee shall follow the requirements specified in Part III.B.2.(c)(3) of the General Permit to Discharge Under the TPDES TX04000.
- (d) All permittees shall annually review and update as necessary, the SWMP and MCM implementation procedures required by Part III.A.2. Any changes must be reflected in the annual report. Such written procedures must be maintained, either on site or in the SWMP and made available for inspection by the TCEQ.

Allowable Non-Stormwater Discharges

- (a) Non-stormwater flows listed below in “4.2 ALLOWABLE NON-STORMWATER DISCHARGES” do not need to be considered by the permittee as an illicit discharge requiring elimination unless the permittee or the TCEQ identifies the flow as a significant source of pollutants to the small MS4.

Requirements for all Permittees

All permittees shall include the requirements described below:

MS4 mapping

- (a) All permittees shall 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:
 - (1) The location of all small MS4 outfalls that are operated by the permittee and that discharge into waters of the U.S;
 - (2) The location and name of all surface waters receiving discharges from the small MS4 outfalls; and Priority areas, if applicable.

Education and Training

- (a) All permittees shall implement a method for informing or training all the permittee’s 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.

Public Reporting of Illicit Discharges and Spills

- (a) All permittees shall publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from the small MS4. The permittee shall provide a central contact point to receive reports; for example by including a phone number for complaints and spill reporting.

All permittees shall develop and maintain on-site procedures for responding to illicit discharges and spills.

Source Investigation and Elimination

- (a) Minimum Investigation Requirements – Upon becoming aware of an illicit discharge, all permittees shall conduct an investigation to identify and locate the source of such illicit discharge as soon as practicable.
 - (1) All permittees shall prioritize the investigation of discharges based on their relative risk of pollution. For example, sanitary sewage may be considered a high priority discharge.
 - (2) All permittees shall 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.
 - (3) All permittees shall 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.

- (b) **Identification and Investigation of the Source of the Illicit Discharge** –All permittees shall investigate and document the source of illicit discharges where the permittees have jurisdiction to complete such an investigation. If the source of illicit discharge extends outside the permittee’s boundary; all permittees shall notify the adjacent permitted MS4 operator or the appropriate TCEQ Regional Office.
- (c) **Corrective Action to Eliminate Illicit Discharge** - If and when the source of the illicit discharge has been determined, all permittees shall immediately notify the responsible party of the problem and shall require the responsible party to perform all necessary corrective actions to eliminate the illicit discharge.

Inspections – The permittee shall conduct inspections, in response to complaints, and shall conduct follow-up inspections to ensure that corrective measures have been implemented by the responsible party. The permittee shall develop written procedures describing the basis for conducting inspections in response to complaints and conducting follow-up inspections.

Additional Requirements for Level 3 small MS4s - In addition to the requirements described above, permittees who operate Level 3 small MS4s shall meet the following requirements:

- (a) **Source Investigation and Elimination** - Permittees who operate Level 3 small MS4 shall upon being notified that the discharge has been eliminated, conduct a follow-up investigation or field screening to verify that the discharge has been eliminated. The permittee shall document its follow-up investigation. The permittee may seek recovery and remediation costs from responsible parties and require compensation related costs. If the suspected source of the illicit discharge is authorized under an NPDES/TPDES permit or the discharge is listed as an authorized non-stormwater discharge, no further action is required.

4.2 ALLOWABLE NON-STORMWATER DISCHARGES

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

- water line flushing (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
- runoff or return flow from landscape irrigation, lawn irrigation, and other irrigation utilizing potable water, groundwater, or surface water sources;
- discharges from potable water sources that do not violate Texas Surface Water Quality Standards;
- diverted stream flows;
- rising ground waters and springs;
- uncontaminated ground water infiltration;
- uncontaminated pumped ground water;
- foundation and footing drains;
- air conditioning condensation;
- water from crawl space pumps;
- individual residential vehicle washing;

- flows from wetlands and riparian habitats;
- dechlorinated swimming pool discharges that do not violate Texas Surface Water Quality Standards;
- street wash water excluding street sweeper waste water;
- discharges or flows from 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);
- other allowable non-storm water discharges listed in 40 CFR 122.26(d)(2)(iv)(B)(1);
- 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;
- discharges that are authorized by a TPDES or NPDES permit or that are not required to be permitted; and
- other similar occasional incidental non-storm water discharges, unless the TCEQ develops permits or regulations addressing these discharges.

The City of New Braunfels has not identified any of these discharges as significant contributors of pollution to the City's MS4. Therefore, these discharges will not be specifically addressed in the City's SWMP. However, in order to manage the release of potential pollutants from these discharges, the City will review current policies and procedures to minimize water quality impacts throughout the community. If in the future the above-referenced discharges prove to be a significant contributor of pollution to the MS4, the SWMP will be revised to include BMPs for those discharges.

Since portions of the City discharge to impaired water bodies, bacteria generating sources and illicit discharges will be given high-priority for this program.

4.3 DISCUSSION OF STORMWATER PROGRAMS

The City of New Braunfels must develop, implement, and enforce a program to detect and eliminate illicit discharges. As part of this program, the City must:

- Develop a storm sewer system map with locations of all known outfalls.
- Uphold existing ordinances prohibiting illicit discharges
- Maintain enforcement procedures and actions.
- Implement procedures to detect, track down, and eliminate illicit discharges.
- Initiate corrective actions and enforcement proceedings as needed.
- Inform employees, businesses, and the general public of the program.

The following are the specific BMPs, implementation activities, measurable goals and schedule of completion.

MCM 2: Illicit Discharge Detention and Elimination

**Responsible City
Department:**

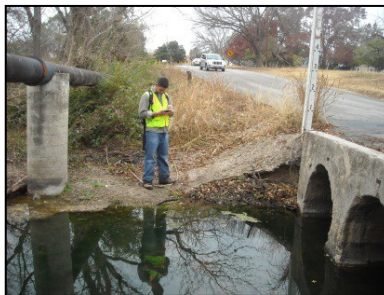
Public Works

Storm Sewer Mapping

ID - 1

BMP Description:

A City-wide MS4 system map that includes outfalls, inlets, channel and basins has been developed. The maps allow the City to identify priority areas likely to have illicit discharges due to land use, history of illegal dumping or location of discharges on impaired water bodies. The map also assists in tracking the source of illicit discharges to the storm drainage system. The City will continue to update the existing MS4 map.



Activities Planned:

- Collect new outfall location data information using GPS and GIS data sources.
- Continue to develop MS4 outfall map by adding new storm drainage infrastructure in areas of new development.

Measurable Goals:

- Continue to update and maintain MS4 outfall map.
- Map new storm drainage infrastructure including outfalls, inlets, channels and retention basins.

Completion Dates:

- Year 1 - 5: Continue to update MS4 outfall map, associated GIS data, and GIS policies and procedures.



MCM 2: Illicit Discharge Detention and Elimination

**Responsible City
Department:**

Public Works

Detection and Elimination Program

ID - 2

BMP Description:

The City of New Braunfels has developed an illicit discharge and elimination program. Procedures have been developed for selecting areas with the most potential for illicit discharges. The City will continue to implement procedures for detecting illicit discharges from the MS4 through dry weather screening on known outfalls in areas deemed high priority. The City has developed and implement procedures for tracking the illicit discharges to their sources, conducting follow up investigations, eliminating the discharge and providing corrective actions as necessary. Areas with high bacteria will be given priority in the screening process.



Activities Planned:

- Evaluate and update procedures for selecting areas with most potential for illicit discharges with a focus on bacteria as needed.
- Continue to implement procedures for tracking and elimination.
- Perform dry weather screening of 100% of storm drain outfalls to surface waters. Report number of outfalls screened annually.
- Conduct follow-up investigations for any identified illicit discharges.

Measurable Goals:

- Continue to implement detection and elimination program with: site selection, detection and elimination procedures.
- Assess status of program annually and record number of illicit discharges detected, eliminated and results of follow-up actions.
- Perform dry weather screening of 100% of storm drain outfalls to surface waters. Report number of outfalls screened annually.

Completion Dates:

- Years 1 - 5: Annually review and update, as needed, illicit discharge detection and elimination procedures. Evaluate areas with the highest potential for illicit discharges and high bacteria concerns. Perform dry weather screening, evaluate results annually and revise program as needed.



MCM 2: Illicit Discharge Detention and Elimination

Responsible City Department:

Parks

Public Works

Fire

Police

Field Staff Training

ID - 3

BMP Description:

The City of New Braunfels will provide training to staff members who may potentially encounter or respond to illicit discharges.



Activities Planned:

- Provide training to City staff annually.

Measurable Goals:

- Annually report the names and number of staff that attended the training.
- Track training sessions provided including agendas, sign in sheets and any handout materials provided for the training.

Completion Dates:

- Years 1 - 5: Provide illicit discharge detection and elimination training for all necessary City staff annually.



MCM 2: Illicit Discharge Detention and Elimination

**Responsible City
Department:**

Public Works

Fire

Documentation and Reporting of Illicit Discharges and Spills

ID - 4

BMP Description:

Illicit discharges and spills that affect the City's MS4 may cause visible environmental impacts to the City's streams and waterways. These resulting environmental impacts may lead to fish kills, discoloration in water, oil sheen on water, large-scale algal bloom, etc. and are impacts that the public will notify the City. The City has developed and implemented a method of reporting illicit discharges to the public. Each illicit discharge is documented internally. A press release or other form of written statement is drafted and circulated for significant events. Information for all events is available upon request. The public may report illicit discharges and water quality concerns via an electronic reporting form on the City website or by contacting the Public Works department directly.



Activities Planned:

- Continue to implement and maintain a public reporting method of reporting illicit discharges and spills to and from the public.
- Provide information regarding illicit discharges and spills to the public upon request

Measurable Goals:

- Record and report the number of illicit discharges and spills reported.
- Track of number of public reports received and the resolution/closure with the associated reports.

Completion Dates:

- Year 1 - 5: Continue to implement and track progress of public reporting method. Continue to track public reporting methods, evaluate annually and revise if necessary.



MCM 2: Illicit Discharge Detention and Elimination

**Responsible City
Department:**

Public Works

Illicit Discharge Ordinance

ID - 5

BMP Description:

The City of New Braunfels has an ordinance to address illicit discharges. The City will continue to utilize the ordinance to eliminate illicit discharges and ensure adequate clean-up of discharges pollutants.



Activities Planned:

- Continue to implement the ordinance.
- Review ordinance annually and revise, as needed

Measurable Goals:

- Implement illicit discharge ordinance.
- Report the number of ordinance violations occurring each year and compare this data to assess ordinance effectiveness annually.

Completion Dates:

- Year 1 - 5: Continue to implement the ordinance. Review ordinance annually and revise, as needed



MCM 2: Illicit Discharge Detention and Elimination

Responsible City Department:

Parks

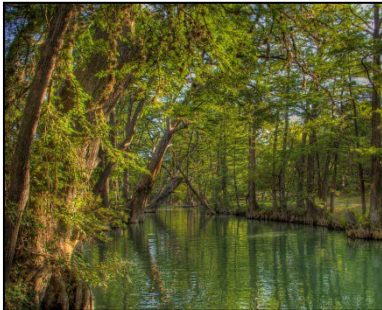
Public Works

River Cleanup

ID - 6

BMP Description:

The City of New Braunfels removes trash and debris from riverbanks and City Parks on a routine basis. Various community and watershed organizations assist by conducting volunteer events including stream cleanups. The City conducts appropriate trash pickup from all parks to reduce potential sources of pollution from reaching waterways.



Activities Planned:

- During appropriate times, trash pickup throughout all parks.
- Maintain and clean riverbanks on City properties.

Measurable Goals:

- Record and report number, date, and location of river clean-up operations conducted annually.
- Record and report trash pickup operations at parks annually.

Completion Dates:

- Years 1 - 5: Continue river clean-up operations.



MCM 2: Illicit Discharge Detention and Elimination

**Responsible City
Department:**

Public Works

Waste Collection Events

ID - 7

BMP Description:

The City of New Braunfels hosts several waste collection events throughout the year to help remove toxic, reactive, and otherwise difficult waste to deal with from the waste stream. These events include the Household Hazardous Waste Collection and Bulky Waste Collection. These collection events are intended to collect waste that may otherwise be disposed of in the storm drains or the natural areas in the City.



Activities Planned:

- Waste collection events are coordinated and held periodically throughout the year.

Measurable Goals:

- Hold at least three community waste collection events annually.
- Record number of events held annually and total quantities of waste collected at each event.

Completion Dates:

- Years 1 - 5: Continue waste collection events.

4.4 PROGRAM IMPLEMENTATION SCHEDULE

The following is a summary program implementation table for the BMPs under MCM 2.

TABLE 4-1. MCM 2: ILLICIT DISCHARGE DETECTION AND ELIMINATION								
Best Management Practice		Management Practices for Implementation	Permit Years					Responsible City Department
			1	2	3	4	5	
Storm Sewer Mapping	ID - 1	Update MS4 Outfall Map.	X	X	X	X	X	Public Works
Detection and Elimination Program	ID - 2	Continue implementation of a screening, detection, and inspection program to identify illicit discharges.	X	X	X	X	X	Public Works
		Perform dry weather screening on 100% of known outfalls.	X	X	X	X	X	Public Works
		Continue to implement procedures for tracking illicit discharges to their source, follow up investigations, elimination procedures and corrective actions.	X	X	X	X	X	Public Works
Field Staff Training	ID - 3	Provide training to City staff having the potential to encounter or respond to illicit discharges.	X	X	X	X	X	Public Works, Planning, Parks, Fire, Police
Public Reporting of Illicit Discharges and Spills	ID - 4	Continue to implement and maintain a method of reporting illicit discharges and spills to the public.	X	X	X	X	X	Public Works, Fire
Illicit Discharge Ordinance	ID - 5	Continue to Implement the ordinance.	X	X	X	X	X	Public Works
River Cleanup	ID - 6	Continue river clean-up operations. Evaluate program annually for necessary changes or expansion.	X	X	X	X	X	Public Works, Parks
Waste Collection Events	ID – 7	Continue to coordinate and host waste collection events throughout the year	X	X	X	X	X	Public Works

5.0 MCM3: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

5.1 TPDES PHASE II PERMIT REQUIREMENTS AND OVERVIEW

The MS4 operator, to the extent allowable under State and local law, must 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 program must include the development and implementation of an ordinance or other regulatory mechanism, as well as sanctions, to ensure compliance to the extent allowable under state, federal, and local law, to require erosion and sediment control.

The City will assess their current program elements and implement new elements, as necessary, to continue reducing the discharge of pollutants from the MS4 to the maximum extent practical (MEP). The following are the requirements as per Part III.B.3 of the general permit.

Requirements and Control Measures

- (a) All permittees shall develop, implement, and enforce a program requiring operators of small and large construction activities, as defined in Part I of this general permit, to select, install, implement, and maintain stormwater control measures that prevent illicit discharges to the MEP. The program must include the development and implementation of an ordinance or other regulatory mechanism, as well as sanctions to ensure compliance to the extent allowable under state, federal, and local law, to require erosion and sediment control.

Existing permittees shall assess program elements that were described in the previous permit, modify as necessary, and develop and implement new elements, as necessary, to continue reducing the discharge of pollutants from the MS4 to the MEP. New elements must be fully implemented by the end of this permit term and newly regulated permittees shall have the program fully implemented by the end of this permit term.

If TCEQ waives requirements for stormwater discharges associated with small construction from a specific site(s), the permittee is not required to enforce the program to reduce pollutant discharges from such site(s).

(b) Requirements for all Permittees

All permittees shall include the requirements are described below:

- (1) All permittees shall annually review and update as necessary, the SWMP and MCM implementation procedures. Any changes must be included in the annual report. Such written procedures must be maintained on site or in the SWMP and made available for inspection by the TCEQ.
- (2) All permittees shall require that construction site operators implement appropriate erosion and sediment control BMPs. The permittee's construction program must ensure the following minimum requirements are effectively implemented for all small and large construction activities discharging to its small MS4.
 - (i) Erosion and Sediment Controls - Design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants.
 - (ii) Soil Stabilization - Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently

ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed as soon as practicable, but no more than 14 calendar days after the initiation of soil stabilization measures. In arid, semiarid, and drought-stricken areas, where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be employed. The permittee shall develop written procedures that describes initiating and completing stabilization measures for construction sites.

(iii) BMPs – Design, install, implement, and maintain effective BMPs to minimize the discharge of pollutants to the small MS4. At a minimum, such BMPs must be designed, installed, implemented and maintained to:

- (1) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters;
- (2) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater; and
- (3) Minimize the discharge of pollutants from spills and leaks.

(iv) As an alternative to (a) through (c) above, all permittees shall ensure that all small and large construction activities discharging to the small MS4 have developed and implemented a stormwater pollution prevention plan (SWP3) in accordance with the TPDES CGP TXR150000. In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be employed. As an alternative, vegetative stabilization measures may be implemented as soon as practicable.

(c) **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.

(d) **Construction Plan Review Procedures**

To the extent allowable by state, federal, and local law, all permittees shall maintain and implement site plan review procedures that describe which plans will be reviewed as well as when an operator may begin construction. For those permittees without legal authority to enforce site plan reviews, this requirement is limited to those sites operated by the permittee and its contractors and located within the permittee's regulated area. The site plan procedures must meet the following minimum requirements:

- (1) The site plan review procedures must incorporate consideration of potential water quality impacts. The permittee may not approve any plans unless the plans contain appropriate site-specific construction site control measures. The permittee may require and accept a plan, such as a SWP3, that has been developed pursuant to the TPDES CGP, TXR150000.

(e) Construction Site Inspections and Enforcement

To the extent allowable by state, federal, and local law, all permittees shall implement procedures for inspecting large and small construction projects. Permittees without legal authority to inspect construction sites shall at a minimum conduct inspection of sites operated by the permittee or its contractors and that are located in the permittee's regulated area.

- (1) The permittee shall conduct inspections 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 waterbodies; proximity to receiving waterbodies; non-stormwater discharges; and past record of non-compliance by the operators of the construction site.
- (2) Inspections must occur during the active construction phase.
 - (i) All permittees shall develop and implement updated written procedures outlining the inspection and enforcement requirements. These procedures must be maintained on-site or in the SWMP and be made available to TCEQ.
 - (ii) 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 permittee 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 permittee's ordinances and other regulations; and
 - (4) Provide a written or electronic inspection report.
- (3) Based on site inspection findings, all permittees shall take all necessary follow-up actions (for example, follow-up-inspections or enforcement) to ensure compliance with permit requirements and the SWMP. These follow-up and enforcement actions must be tracked and maintained for review by the TCEQ. For non-traditional small MS4s with no enforcement powers, the permittee shall notify the adjacent MS4 operator with enforcement authority or the appropriate TCEQ Regional Office.

(f) Information submitted by the Public

All permittees shall develop, implement, and maintain procedures for receipt and consideration of information submitted by the public.

(g) MS4 Staff Training

All permittees shall ensure that all staff whose primary job duties are related to implementing the construction stormwater 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 permittee or by outside trainers.

(h) Additional Requirements for Level 3 small MS4s

In addition to the requirements described above, permittees who operate Level 3 small MS4s shall meet the following requirements:

(1) Construction Site Inventory

Permittees who operate Level 3 small MS4s shall maintain an inventory of all permitted active public and private construction sites, that result in a total land disturbance of one or more acres or that result in a total land disturbance of less than one acre if part of a larger common plan or development or sale. Notification to the small MS4 must be made by submittal of a copy of an NOI or a small construction site notice, as applicable. The permittee shall make this inventory available to the TCEQ upon request.

5.2 DISCUSSION OF STORMWATER PROGRAMS

The City of New Braunfels is required to develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 related to construction activities that disturb greater than or equal to one acre of land (including smaller sites that are part of a larger common plan of development). The City will enforce an existing ordinance to require erosion and sediment controls, as well as sanctions to ensure compliance, and procedures for site plan and public comment review. The City must also require construction site operators to implement erosion and sediment control BMPs and to control waste.

The following are the specific BMPs, implementation activities, measurable goals and schedule of completion.



MCM 3: Construction Site Stormwater Runoff Control

Responsible City Department:

Parks

Planning

Public Works

Building Dept

Fire

Police

Construction Site Inspection Program

CS - 1

BMP Description:

The City of New Braunfels has implemented a construction site inspection program. Operators address erosion and sediment controls, soil stabilization, selection of appropriate BMPs, and development of a SWPPP. The City conducts site inspections during all active construction and provide annual training to employees that perform the inspections. Enforcement proceedings are conducted in accordance with adopted stormwater construction ordinances, and all non-compliance issues will be resolved in a timely manner.

Activities Planned:

- Continue to implement construction site inspection procedures.
- Conduct site inspections of active construction sites.
- Continue to provide annual training to City staff.
- Resolve all non-compliance issues at arise from construction site inspections. Perform enforcement proceedings.
- Develop procedures for receipt and consideration from public (e.g. hotline or reporting site on City website).



Measurable Goals:

- Conduct inspections of all active construction sites on a monthly basis. Report number of inspections conducted annually.
- Provide at least one annual training to applicable City employees.
- Work with construction contractors to resolve all non-compliance issues within seven days. Enforcement proceedings will be initiated if compliance is not achieved in seven days.
- Develop procedures for receipt and consideration from public.

Completion Dates:

- Year 1 - 5: Continue inspection program and training, evaluate annually and revise as needed.



MCM 3: Construction Site Stormwater Runoff Control

**Responsible City
Department:**

Public Works

Construction Site Inventory

CS - 2

BMP Description:

The City of New Braunfels will continue to maintain an inventory of all public and private construction sites for use its efforts regarding construction site stormwater runoff control.



Activities Planned:

- Maintain an inventory and map of all active public and private construction sites.
- Track active construction sites and permits
- As needed, evaluate and update set of procedures that clearly show the proper ways of updating the inventory with a set schedule for updating the inventory.

Measurable Goals:

- Compile and report number of active construction sites and construction permits annually.
- Document the set of procedures and schedule developed for updating the inventory. Evaluate annually.

Completion Dates:

- Years 1 - 5: Maintain inventory of all active public and private construction sites. Evaluate procedures annually and update as needed.



MCM 3: Construction Site Stormwater Runoff Control

**Responsible City
Department:**

Public Works

Construction Site Waste Control Ordinance

CS - 3

BMP Description:

The City has developed and will implement an ordinance pertaining to construction site waste control. Construction site operators are required to control and dispose of on-site waste materials such as discarded building materials, concrete truck washout water, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.



Activities Planned:

- Implement the ordinance as posted in the City municipal code.

Measurable Goals:

Continue to implement ordinance.

(1) Completion Dates:

- Years 1 - 5: Continue to implement ordinance.



MCM 3: Construction Site Stormwater Runoff Control

**Responsible City
Department:**

Public Works

Construction Site Runoff Control Ordinance

CS - 4

BMP Description:

The City developed an ordinance that follows the TCEQ Construction General Permit (CGP) (TXR150000). The ordinance will be posted on the City's Municode website, which will regulate construction activities disturbing a minimum of one acre, require a storm water pollution prevention plan (SWPPP) for land disturbing activities, set up inspection procedures, and establish penalties for violations.



Activities Planned:

- Implement the ordinance as posted in the City municipal code.

Measurable Goals:

- Continue to implement ordinance.

Completion Dates:

- Years 1 - 5: Implement and evaluate ordinance for potential revisions annually. Revise as needed.

5.3 PROGRAM IMPLEMENTATION SCHEDULE

The following is a summary program implementation table for the BMPs under MCM 3.

TABLE 5-1. MCM3: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL									
Best Management Practice		Management Practices for Implementation	Permit Years					Responsible City Department	
			1	2	3	4	5		
Construction Site Inspection Program	CS - 1	Implement construction site inspection procedures and inspection forms. Operators will address erosion and sediment controls, soil stabilization, selection of appropriate BMPs and development of SWPPP. Conduct site inspections during active construction.	X	X	X	X	X	Public Works and Planning	
		Continue to provide annual training to applicable employees that perform construction site inspections.	X	X	X	X	X	Public Works, Parks, Fire, Police	
		Perform enforcement proceedings in accordance with the adopted construction site ordinances and prohibited discharges.	X	X	X	X	X	Public Works and Police	
		Resolve all non-compliance issues in a timely manner, number of days to be determined during program development.	X	X	X	X	X	Public Works and Police	
		Develop procedures for receipt and consideration from public, implement and maintain.	X	X	X	X	X	Public Works and Police	
Construction Site Inventory	CS - 2	Maintain an up-to-date inventory of all active public and private construction sites.	X	X	X	X	X	Public Works	
Construction Site Waste Control Ordinance	CS - 3	Evaluate existing ordinances and modify accordingly.	X	X	X	X	X	Public Works	
Construction Site Runoff Control Ordinance	CS - 4	Implement the ordinance. Evaluate and update as needed.	X	X	X	X	X	Public Works	

6.0 MCM4: POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

6.1 TPDES PHASE II PERMIT REQUIREMENTS AND OVERVIEW

Post-construction stormwater management in new development and redevelopment focuses on the implementation of controls to maintain good water quality conditions after an area has been developed. New development can also have a significant effect on water quality because during the course of development, natural landscapes are often replaced by impermeable roads, parking lots, sidewalks and other paved surfaces that lead to increases in both the volume of stormwater runoff and the accompanying pollutants that reach local water bodies.

The MS4s are required to develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale that discharge to the small MS4. The program must ensure that controls are in place to prevent or minimize water quality impacts. The following are the requirements as per Part III.B.4 of the general permit.

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 small MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. The permittee shall:

Post-Construction Stormwater Management Program

- (a) All permittees shall develop, implement, and enforce a program, to the extent allowable under state, federal, and local law, to control stormwater discharges from new development and redeveloped sites that discharge into the small MS4 that disturb one acre or more, including projects that disturb less than one acre that are part of a larger common plan of development or sale. The program must be established for private and public development sites. The program may utilize an offsite mitigation and payment in lieu of components to address this requirement.
Existing permittees shall assess program elements that were described in the previous permit and modify as necessary to continue reducing the discharge of pollutants from the MS4 to the MEP. New elements must be fully implemented by the end of this permit term and newly regulated permittees shall have the program fully implemented by the end of the permit term.
- (b) All permittees shall use, to the extent allowable under state, federal, and local law and local development standards, an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects. The permittees shall establish, implement, and enforce a requirement that owners or operators of new development and redeveloped sites design, install, implement, and maintain a combination of structural and non-structural BMPs appropriate for the community and 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 TCEQ. Newly regulated permittees shall have the program element fully implemented by the end of the permit term.

Requirements for all Permittees

All permittees shall include the requirements described below:

- (1) All permittees shall annually review and update as necessary, the SWMP and MCM implementation procedures. Any changes must be included in the annual report. Such written procedures must be maintained either on site or in the SWMP and made available for inspection by TCEQ.
- (2) All permittees shall document and maintain records of enforcement actions and make them available for review by the TCEQ.
- (3) Long-Term Maintenance of Post-Construction Stormwater Control Measures

All permittees shall, to the extent allowable under state, federal, and local law, ensure the long-term operation and maintenance of structural stormwater control measures installed through one or both of the following approaches:

- (i) Maintenance performed by the permittee.
- (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 the county in which the property is located. The permittee shall require the owner or operator of any new development or redeveloped site to develop and implement a maintenance plan addressing maintenance requirements for any structural control measures installed on site. The permittee shall require operation and maintenance performed is documented and retained on site, such as at the offices of the owner or operator and made available for review by the small MS4.

6.2 DISCUSSION OF STORMWATER PROGRAMS

The City of New Braunfels is required to develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre of land (including smaller sites that are part of a larger common plan of development). The City has enacted an ordinance to address post-construction runoff, included water quality treatment requirements for areas of new development and implemented procedures to ensure adequate long-term operation and maintenance of permanent stormwater control measures. The City will continue to uphold these measures to reduce pollutant impacts to stormwater that are associated with development.

The following are the specific BMPs, implementation activities, measurable goals and schedule of completion.



MCM 4: Post-Construction Stormwater Management in New Development and Redevelopment

Responsible City Department:

Planning

Public Works

Staff Training on Post-Construction SWM Structures

PC - 1

BMP Description:

The City of New Braunfels will continue to train applicable staff members who will perform annual inspections on post-construction stormwater management structures as part of the City's long-term maintenance program.



Activities Planned:

- Train applicable staff annually to perform inspections of water quality treatment and stormwater infrastructure.

Measurable Goals:

- Annually report the names and number of staff that attended trainings.
- Track training sessions provided including agendas, sign in sheets and any handout materials provided for the training.

Completion Dates:

- Year 1 - 5: Implement a training program. Provide applicable training to City staff and inspectors. Evaluate annually and revise as needed.



MCM 4: Post-Construction Stormwater Management in New Development and Redevelopment

Responsible City Department:

Public Works

Post-Construction Development Review Procedures & Requirements

PC - 2

BMP Description:

The City of New Braunfels' Drainage and Erosion Criteria Manual (DCM) includes requirements intended to mitigate water quality impacts associated with new development and increases in impervious cover. Specifically, Chapter 13 of the DCM requires the installation of permanent water quality/ stormwater controls for new development that meets certain criteria. The City will review incoming development plans to ensure that acceptable permanent stormwater controls are included in plans for applicable developments.



Activities Planned:

- Review incoming plans to ensure acceptable permanent water quality/ stormwater controls are included in plans for applicable developments.
- Review and revise the DCM as needed to ensure that water quality requirements are effective in management stormwater in areas of new development.

Measurable Goals:

- Track number and location of new developments where permanent water quality/ stormwater controls are installed.

Completion Dates:

- Years 1 - 5: Uphold drainage criteria manual and permanent water quality/ stormwater treatment requirements.



MCM 4: Post-Construction Stormwater Management in New Development and Redevelopment

Responsible City Department:

Public Works

Long-term Operation and Maintenance

PC - 3

BMP Description:

The effectiveness of post-construction control measures depends upon the regular inspection and maintenance of stormwater control measures. Routine maintenance of stormwater structural controls assist in the identification and repair of problems associated with the system before the problems become serious. The City of New Braunfels will develop a formal BMP inspection program to inspect all private and public BMPs.



Activities Planned:

- Continue to implement a formal BMP inspection program.
- Inspect all private and public BMPs annually.
 - For public BMPs maintenance will be performed by City staff or designated contractors/ consultants.
 - For private BMPs , the private owners will be responsible for the maintenance and provide maintenance records upon request.

Measurable Goals:

- Continue to update inventory of structural controls.
- Perform annual compliance inspection of structural controls.

Completion Dates:

- Years 1 - 5: Implement permanent BMP inspection program including routine inspections and BMP inventory.



MCM 4: Post-Construction Stormwater Management in New Development and Redevelopment

**Responsible City
Department:**

Public Works

Post-Construction Stormwater Management Ordinance

PC - 4

BMP Description:

The City of New Braunfels has an ordinance to address post-construction stormwater management and maintenance. The ordinance allows the City to develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb one acre of land or more. In addition, the City will update current ordinances to include environmental, water quality, buffer, and conservation easement provisions.



Activities Planned:

- Continue to implement the ordinance to insure that stormwater improvements are adequately maintained.

Measurable Goals:

- Continue to implement ordinance and track number of violations.

Completion Dates:

- Years 1 - 5 Continue to implement ordinance.



MCM 4: Post-Construction Stormwater Management in New Development and Redevelopment

Responsible City Department:

Planning

Public Works

Encouragement of Low Impact Development Designs

PC - 5

BMP Description:

The City will continue to actively support development practices commonly referred to as low-impact design, conservation development, or sustainable development where these alternatives do not conflict with other code requirements.

City has developed a LID Guidance Manual and has implemented it as part of the Drainage Criteria Manual Update.



Activities Planned:

- Continue to encourage alternative low impact stormwater designs.

Measurable Goals:

- Continue to implement LID projects as part of the EAHCP program that can serve as pilot or example projects.
- Track number of LID projects. Report annually.

Completion Dates:

- Years 1 - 5: Track number of LID projects and progress. Evaluate the need for the new or revised LID designs.



MCM 4: Post-Construction Stormwater Management in New Development and Redevelopment

Responsible City Department:

Parks

Planning

Public Works

Establish Riparian Zones and Natural Vegetative Areas

PC - 6

BMP Description:

The City of New Braunfels will implement a program and policies to protect and preserve riparian zones and natural vegetative areas with minimal mowing. The purpose of the riparian zones and vegetative areas are to encourage tree growth and enhance natural watercourse health by allowing trees and shrubs to reclaim disturbed stream banks. The zones leave natural and uncut buffer areas that will help reduce pollution by limiting maintenance operations near natural watercourses.



Activities Planned:

- Continue to protect existing riparian zone and seek opportunities to establish additional natural areas and riparian zones.
- Develop and implement no-mow zone policies to protect riparian zones.

Measurable Goals:

- Continue to implement policies for establishing and protecting riparian zones.
- Continue to update inventory of riparian improvements and protection zones

Completion Dates:

- Years 1 - 5: Ensure that established riparian zone protection areas are kept in place. Seek opportunities to establish additional riparian zone protection area. Begin development and implementation of policies and procedures for establishment and protection of riparian zones.

6.3 PROGRAM IMPLEMENTATION SCHEDULE

The following is a summary program implementation table for the BMPs under MCM 4.

TABLE 6-1. MCM 4: POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT								
Best Management Practice		Management Practices for Implementation	Permit Years					Responsible City Department
			1	2	3	4	5	
Staff Training on Post-Construction SWM Structures	PC - 1	Train applicable staff annually to perform inspections.	X	X	X	X	X	Public Works, Planning, Parks
Post-Construction Development Review Procedures	PC - 2	Review and revise existing pollution prevention review procedures as needed. Implement updated procedures.	X	X	X	X	X	Public Works
Long-term Operation and Maintenance	PC - 3	Continue inspection of all private and public BMPs. Evaluate and update as needed.	X	X	X	X	X	Public Works
Post-Construction Stormwater Management Ordinance	PC - 4	Implement ordinance for post-construction stormwater management and update current ordinances to include environmental provisions, water quality and provisions for buffers and conservation easements.	X	X	X	X	X	Public Works
Encouragement of Low Impact Development Designs	PC - 5	Evaluate and modifying design standards, as needed to allow alternative low impact stormwater designs.	X	X	X	X	X	Public Works and Planning
		Continue to encourage alternative low impact stormwater designs.	X	X	X	X	X	Public Works and Planning
Establish Riparian Zone and Vegetative Areas	PC - 6	Continue to protect existing riparian zones and natural vegetative areas and establish new riparian zone protection areas when opportunities are available.	X	X	X	X	X	Public Works, Planning, and Parks

7.0 MCM5: POLLUTION PREVENTION AND GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

7.1 TPDES PHASE II PERMIT REQUIREMENTS AND OVERVIEW

Municipalities conduct a variety of activities throughout their daily operations, which have the potential to affect water quality throughout the community. With the adoption and implementation of stormwater management policies and procedures, the City of New Braunfels will protect stormwater quality and continue to deliver public services at the present service levels. A variety of municipal operations are affected by stormwater management policies and procedures. These municipal operations include, but are not limited to, parks maintenance, open space management, road and rights-of-way maintenance, water/wastewater utilities, fleet and building maintenance, city construction projects, and stormwater system maintenance. The following are the requirements as per Part III.B.4 of the general permit.

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

Program development

All permittees shall 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 but not limited to park and open space maintenance; street, road, or highway maintenance; fleet and building maintenance; stormwater 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. Existing permittees shall assess program elements that were described in the previous permit, modify as necessary, and develop and implement new elements, as necessary, to continue reducing the discharges of pollutants from the MS4 to the MEP. New elements must be fully implemented by the end of this permit term and newly regulated permittees shall have the program fully implemented by the end of this permit term.

Requirements for all Permittees

All permittees shall include the requirements described below in the program:

(a) Permittee-owned Facilities and Control Inventory

All permittees shall develop and maintain an inventory of facilities and stormwater controls that it owns and operates within the regulated area of the small MS4. The inventory must include all applicable permit numbers, registration numbers, and authorizations for each facility or controls. The inventory must be available for review by TCEQ and must include, but is not limited, to the following, as applicable:

- (i) Composting facilities;
- (ii) Equipment storage and maintenance facilities;
- (iii) Fuel storage facilities;

- (iv) Hazardous waste disposal facilities;
- (v) Hazardous waste handling and transfer facilities;
- (vi) Incinerators;
- (vii) Landfills;
- (viii) Materials storage yards;
- (ix) Pesticide storage facilities;
- (x) Buildings, including schools, libraries, police stations, fire stations, and office buildings;
- (xi) Parking lots;
- (xii) Golf courses;
- (xiii) Swimming pools;
- (xiv) Public works yards;
- (xv) Recycling facilities;
- (xvi) Salt storage facilities;
- (xvii) Solid waste handling and transfer facilities;
- (xviii) Street repair and maintenance sites;
- (xix) Vehicle storage and maintenance yards; and
- (xx) Structural stormwater controls.

(b) Training and Education

All permittees shall inform or train appropriate employees involved in implementing pollution prevention and good housekeeping practices. All permittees shall maintain a training attendance list for inspection by TCEQ when requested.

- (c) **Disposal of Waste Material** -Waste materials removed from the small MS4 must be disposed of in accordance with 30 TAC Chapters 330 or 335, as applicable.

(d) Contractor Requirements and Oversight

- (1) Any contractors hired by the permittee to perform maintenance activities on permittee-owned facilities must be contractually required to comply with all of the stormwater control measures, good housekeeping practices, and facility-specific stormwater management operating procedures.
- (2) All permittees shall provide oversight of contractor activities to ensure that contractors are using appropriate control measures and SOPs. Oversight procedures must be maintained on-site and made available for inspection by TCEQ.

(e) Municipal Operation and Maintenance Activities

- (1) Assessment of permittee-owned operations

All permittees shall evaluate operation and maintenance (O&M) activities for their potential to discharge pollutants in stormwater, including but not limited to:

- (i) Road and parking lot maintenance, including such areas as pothole repair, pavement marking, sealing, and re-paving;
- (ii) Bridge maintenance, including such areas as re-chipping, grinding, and saw cutting;
- (iii) Cold weather operations, including plowing, sanding, and application of deicing and anti-icing compounds and maintenance of snow disposal areas; and
- (iv) Right-of-way maintenance, including mowing, herbicide and pesticide application, and planting vegetation.

- (2) All permittees shall 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).
- (3) All permittees shall develop and implement a set of pollution prevention measures that will reduce the discharge of pollutants in stormwater from the above activities. These pollution prevention measures may include the following examples:
 - (i) Replacing materials and chemicals with more environmentally benign materials or methods;
 - (ii) Changing operations to minimize the exposure or mobilization of pollutants to prevent them from entering surface waters; and
 - (iii) Placing barriers around or conducting runoff away from deicing chemical storage areas to prevent discharge into surface waters.
- (4) Inspection of pollution prevention measures - All pollution prevention measures implemented at permittee-owned facilities must be visually inspected to ensure they are working properly. The permittee shall develop written procedures that describes frequency of inspections and how they will be conducted. A log of inspections must be maintained and made available for review by the TCEQ upon request.

(f) Structural Control Maintenance

If BMPs include structural controls, maintenance of the controls must be performed by the permittee and consistent with maintaining the effectiveness of the BMP. The permittee shall develop written procedures\ that define the frequency of inspections and how they will be conducted.

Additional Requirements for Level 3 small MS4s:

In addition to the requirements described above, permittees who operate Level 3 small MS4s shall meet the following requirements:

(a) Storm Sewer System Operation and Maintenance

- (1) Permittees who operate Level 3 or 4 small MS4s shall develop and implement an O&M program to reduce to the maximum extent practicable the collection of pollutants in catch basins and other surface drainage structures.

(b) Permittees who operate Level 3 small MS4s shall develop a list of potential problem areas.

The permittees shall identify and prioritize problem areas for increased inspection (for example, areas with recurrent illegal dumping).

(c) Operation and Maintenance Program to Reduce Discharges of Pollutants from Roads

Permittees who operate Level 3 small MS4s shall implement an O&M program that includes at least one of the following: a street sweeping and cleaning program, or an equivalent BMP such as an inlet protection program, which must include an implementation schedule and a waste disposal procedure. The basis for the decision must be included in the SWMP. If a street sweeping and cleaning program is implemented, the permittee shall evaluate the following permittee-owned and operated areas for the program: streets, road segments, and public parking lots including, but not limited to, high traffic zones,

commercial and industrial districts, sport and event venues, and plazas, as well as areas that consistently accumulate high volumes of trash, debris, and other stormwater pollutants.

- (1) Implementation schedules – If a sweeping program is implemented, the permittee shall sweep the areas in the program (for example, the streets, roads, and public parking lots) in accordance with a frequency and schedule determined in the permittee's O&M program.
- (2) For areas where street sweeping is technically infeasible (for example, streets without curbs), the permittee shall focus implementation of other trash and litter control procedures or provide inlet protection measures to minimize pollutant discharges to storm drains and creeks.
- (3) Sweeper Waste Material Disposal – If utilizing street sweepers, the permittee shall develop a procedure to dewater and dispose of street sweeper waste material and shall ensure that water and material will not reenter the small MS4.

(d) Mapping of Facilities

Permittees who operate Level 3 small MS4s shall, on a map of the area regulated under this general permit, identify where the permittee-owned and operated facilities and stormwater controls are located.

(e) Facility Assessment

Permittees who operate Level 3 small MS4s shall perform the following facility assessment in the regulated portion of the small MS4 operated by the permittee:

- (1) Assessment of Facilities' Pollutant Discharge Potential - The permittee shall review the facilities identified once per permit term for their potential to discharge pollutants into stormwater.
- (2) Identification of high priority facilities - Based on the assessment, the permittee shall identify as high priority those facilities that have a high potential to generate stormwater pollutants and shall document this in a list of these facilities. Among the factors that must be considered in giving a facility a high priority ranking are the amount of urban pollutants stored at the site, the identification of improperly stored materials, activities that must not be performed outside (for example, changing automotive fluids, vehicle washing), proximity to waterbodies, proximity to sensitive aquifer recharge features, poor housekeeping practices, and discharge of pollutant(s) of concern to impaired water(s). High priority facilities must include, at a minimum, the permittee's maintenance yards, hazardous waste facilities, fuel storage locations, and any other facilities at which chemicals or other materials have a high potential to be discharged in stormwater.
- (3) Documentation of Assessment Results - The permittee shall document the results of the assessments and maintain copies of all site evaluation checklists used to conduct the assessments. The documentation must include the results of the permittee's initial assessment, and any identified deficiencies and corrective actions taken.

(f) Development of Facility Specific SOPs

Permittees who operate Level 3 small MS4s shall develop facility specific stormwater management SOPs. The permittee may utilize existing plans or documents that may contain the following required information:

- (1) For each high priority facility, the permittee shall develop a SOP that identifies BMPs to be installed, implemented, and maintained to minimize the discharge of pollutants in stormwater from each facility.

- (2) A hard or electronic copy of the facility-specific stormwater management SOP (or equivalent existing plan or document) must be maintained and be available for review by the TCEQ. The SOP must be kept on site when possible and must be kept up to date.

(g) Stormwater Controls for High Priority Facilities

Permittees who operate Level 3 small MS4s shall implement the following stormwater controls at all high priority facilities. A description of BMPs developed to comply with this requirement must be included in each facility specific SOP:

- (1) General good housekeeping – Material with a potential to contribute to stormwater pollution must be sheltered from exposure to stormwater.
- (2) De-icing and anti-icing material storage - The permittee shall ensure, to the MEP, that stormwater runoff from storage piles of salt and other de-icing and anti-icing materials is not discharged; or shall ensure that any discharges from the piles are authorized under a separate discharge permit.
- (3) Fueling operations and vehicle maintenance - The permittee shall develop SOPs (or equivalent existing plans or documents) that address spill prevention and spill control at permittee-owned and operated vehicle fueling, vehicle maintenance, and bulk fuel delivery facilities.
- (4) Equipment and vehicle washing - The permittee shall develop SOPs that address equipment and vehicle washing activities at permittee-owned and operated facilities. The discharge of equipment and vehicle wash water to the small MS4 or directly to receiving waters from permittee-owned facilities is not authorized under this general permit. To ensure that wastewater is not discharged under this general permit, the permittee's SOP may include installing a vehicle wash reclaim system, capturing and hauling the wastewater for proper disposal, connecting to sanitary sewer (where applicable and approved by local authorities), ceasing the washing activity, or applying for and obtaining a separate TPDES permit.

(h) Inspections

Permittees who operate Level 3 small Ms4s shall develop and implement an inspection program, which at a minimum must include periodic inspections of high priority permittee-owned facilities. The results of the inspections and observations must be documented and available for review by the TCEQ.

7.2 DISCUSSION OF STORMWATER PROGRAMS

The City of New Braunfels is required to develop and implement an operation and maintenance program that has the goal of preventing or reducing pollutant runoff from municipal operations. The City will do this through the adoption and implementation of stormwater management policies and procedures that protect stormwater quality yet continuing to deliver public services at the current level.

The following are the specific BMPs, implementation activities, measurable goals and schedule of completion.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

Responsible City Department:
Public Works

Operations and Maintenance: Street Sweeping

GH-1

BMP Description:

Street sweeping can capture a substantial quantity of solids and pollutants from street surfaces before they are washed into the stormwater drainage system and discharged into local waterways. The City of New Braunfels will perform routine sweeping of city streets, evaluate the frequency of street sweeping, and prioritize areas that drain directly to surface waters.



Activities Planned:

- Continue to implement a street sweeping program.
- Continue to implement a program that addresses the proper disposal of waste material generated from street sweepers.

Measurable Goals:

- Develop proper street sweeper waste disposal program. Report volume of material collected annually by city street sweeping operations.
- Implement a street sweeping program.

Completion Dates:

- Year 1 - 5: Implement all programs and evaluate annually.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

Responsible City Department:

Parks

Planning

Public Works

Fire

Police

Mapping of Facilities and Inventory Control

GH-2

BMP Description:

The City will retain and update a map of all facilities owned and operated by the City. Facilities will include, but are not limited to; fire stations, storage facilities, fleet wash stations, parks, golf courses owned and operated by the City, water and waste water treatment plants, and city buildings. The map will show the location of any stormwater controls and notation of any additional permit stormwater permit requirements (e.g. SWPPP).



Activities Planned:

- Identify permittee-owned and operated facilities and stormwater controls.
- Maintain a map showing city-owned properties under the permit regulated areas and listing appropriate stormwater quality controls.

Measurable Goals:

- Continue to update a map of the area regulated under the permit, identifying where city-owned and operated facilities and stormwater controls are located.

Completion Dates:

- Year 1 - 5: Continue to update facility map as new facilities are built.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

Responsible City Department:

Parks

Planning

Public Works

Fire

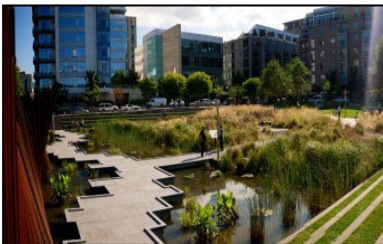
Police

Municipal Operations and Facility Survey

GH-3

BMP Description:

The City of New Braunfels operates and maintains a variety of facilities throughout the community, which have the potential to affect stormwater quality. The City will perform surveys of each facility to determine the nature of activities performed at the facility, the appropriate stormwater management BMPs, and a means of BMP implementation. By reviewing the facility operation and maintenance activities, the municipal operations and facility survey will identify the need for stormwater management BMPs at each facility and provide an implementation plan for the effective management of the stormwater BMPs.



Activities Planned:

- Update municipal operations and facility surveys.
- Perform facility surveys for any new facilities.

Measurable Goals:

- Track the development and implementation of stormwater BMPs to make sure all facilities are effectively utilizing stormwater management BMPs.
- Review existing facilities and municipal operations and update surveys as modifications to the facilities occur.

Completion Dates:

Year 1 - 5: Perform municipal operations and facility surveys for any new facility. Evaluate surveys and develop policies and procedures to implement BMPs effectiveness.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

Responsible City Department:

Parks

Planning

Public Works

Fire

Police

Facility Inspection Program

GH-4

BMP Description:

The City has identified facilities deemed as high-priority and will perform routine inspections of these facilities. Staff will continue to implement site-specific checklist of BMPs to be inspected, a series of inspection procedures, the assignment of facility inspection responsibilities, and a procedure for the documentation of response. Staff will continue to utilize these procedures to perform quarterly inspections of high-priority City facilities.



Activities Planned:

- Perform inspections of all high-priority City-owned facilities annually utilizing established checklists and SOPs.

Measurable Goals:

- Document implementation of inspection program. Report annually.
- Compile document for inspection procedures and checklists. Record and document identified high priority areas.
- Continue to implement high priority area SOPs.
- Schedule and track facility inspections annually.
- Report the number of inspections performed.
- Track the number of stormwater management issues of concern corrected.

Completion Dates:

- Year 1 – 5: Continue to implement facilities inspection program. Evaluate procedures, checklists, and SOPs as needed.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

Responsible City Department:

Parks

Public Works

Fire

Police

Good Housekeeping Operations: Outdoor Storage

GH-5

BMP Description:

The City of New Braunfels will continue to maintain an inventory of all storage locations and the types of materials utilized in municipal operations. The storage locations will be assessed for adequacy of storage and measures of stormwater protection. Any unused or potentially harmful materials will be recycled or properly disposed of. Standard Operating Procedures (SOPs) have been developed for “high priority” areas to identify, implement, and maintain stormwater quality BMPS at storage facilities. The City will perform quarterly inspections of storage facilities as part of the overall facilities inspection program.



Activities Planned:

- Continue to maintain an inventory all storage locations and identify the types of materials utilized for municipal operations.
- Continue to assess the adequacy of storage and measures of protection at existing storage areas.
- Recycle or properly dispose of unused, potentially harmful materials.
- Perform quarterly inspections of storage facilities.

Measurable Goals:

- Update inventory of all storage locations, identifying the type of materials utilized for municipal operations as needed. Report annually.
- Document measures of protections utilized at existing storage areas.
- Track the number of inspections performed and compile inspection reports annually.

Completion Dates:

- Year 1 - 5: Continue quarterly inspections as part of the overall facilities inspection program.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

Responsible City Department:

Parks

Public Works

Fire

Police

Good Housekeeping Operations: Fleet and Equipment Maintenance

GH-6

BMP Description:

The City of New Braunfels has developed Standard Operating Procedures (SOPs) for high priority areas to install, implement, and maintain stormwater quality BMPs with regards to its fleet and equipment maintenance operations. The City will perform quarterly inspections of its fleet and equipment maintenance as part of the overall facilities inspection program.



Activities Planned:

- Continue to maintain an inventory vehicle maintenance locations.
- Assess spill prevention and protection measures for stored products.
- Perform quarterly and annual inspections of fleet and equipment maintenance operations.
- Evaluate fleet operations to determine what additional measures can be taken to reduce pollutants.

Measurable Goals:

- Record and report annually the inventory of vehicle maintenance locations.
- Record and report annually the assessment of spill prevention and protection measures of stored products.
- Track the number of inspections performed.
- Document the number of employees trained and the hours spent on training. Report annually.
- Record and report annually the evaluation of fleet operations and any additional measure that were adopted, if necessary.

Completion Dates:

- Year 1 – 5: Continue to implement SOPs for identified high priority areas. Continue quarterly inspections as part of the overall facilities inspection program.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

Responsible City Department:

Various Departments

Good Housekeeping Operations: Vehicle and Equipment Washing

GH-7

BMP Description:

The City of New Braunfels has developed Standard Operating Procedures (SOPs) for high priority areas to install, implement, and maintain stormwater quality BMPs with regards to its vehicle and equipment washing. Policies and procedures have been developed to protect water quality by establishing washing requirements. Some departments do not wash vehicles at City owned facilities (e.g. through private car washes). The City will report these departments in their SOP and annual reports as part of the overall facilities inspection program.



Activities Planned:

- Continue to implement policies and procedures detailing the vehicle and equipment washing requirements necessary to protect water quality.

Measurable Goals:

- Continue to implement a set of policies and procedures detailing the vehicle and equipment washing requirements necessary to protect water quality.
- Track implementation of new policies and procedures.

Completion Dates:

- Year 1 - 5: Continue to implement SOPs and evaluate new SOPs and washing policies and procedures annually as part of the overall facilities inspection program.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

Responsible City Department:

Parks

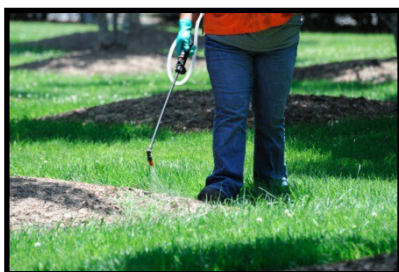
Public Works

Good Housekeeping Operations: Landscaping

GH-8

BMP Description:

The City of New Braunfels has developed Standard Operating Procedures (SOPs) for high priority areas to identify, install, and maintain stormwater quality BMPs with regards to its landscaping operations. The City provides annual training to applicable staff addressing the proper use of landscaping chemicals.



Activities Planned:

- The City has developed an SOP for implementing stormwater BMPs related to landscaping operations.
- Continue to implement a training program on the proper use and storage of landscaping chemicals.
- Provide contractor oversight for landscaping and maintenance contracts and revise contract verbiage to require lawn maintenance contractors to follow City adopted stormwater quality BMPs.

Measurable Goals:

- Evaluate and update SOPs for landscaping BMPs annually
- Track the number of individuals trained and the hours spent on training. Report annually.
- Record and report annually the number landscaping contracts and contractors that follow the City adopted stormwater quality BMPs.
- Evaluate new landscaping contracts annually.
- Document chemical usage and application rates. Report annually.

Completion Dates:

- Years 1 - 5: Continue training program and implementation of landscaping stormwater quality BMP SOP. Evaluate and revise annually.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

Responsible City Department:

Parks

Planning

Public Works

Fire

Police

Structural Control Maintenance

GH-9

BMP Description:

With the evaluation and inspection of the stormwater management system, an inventory of existing City-managed structural controls has been established. Structural approaches to managing stormwater include physical structures that prevent, inhibit, or slow the rate at which pollutants reach water bodies. An inspection and maintenance schedule have been established for these structural controls in order to promote their effective operation for stormwater quality treatment. This structural maintenance can reduce suspended sediment and oxygen dissolving materials in stormwater, as well as prolong the life of the system.



Activities Planned:

- Maintain inventory of City-owned structural controls.
- Continue to implement an inspection and maintenance program for structural controls.
- Continue to implement stormwater waste disposal procedures.

Measurable Goals:

- Maintain an inventory of City-owned structural controls. Report annually.
- Continue inspection and maintenance program for structural controls. Report annually.
- Continue to implement stormwater waste disposal procedures and track status.

Completion Dates:

- Year 1 - 5: Continue program and procedures, evaluating annually.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

Responsible City Department:

Public Works

Fire

Spill Prevention and Response

GH-10

BMP Description:

The City of New Braunfels will continue to review and revise current spill response procedures to ensure that stormwater quality protection measures are considered during spill response activities. The City will continue to provide annual training to applicable employees in spill response procedures. Spill response kits are located in convenient locations at City facilities where daily activities may potentially contribute to stormwater pollution. In addition, the City will continue to examine spill response procedures for field personnel in order to prevent spilled materials from entering the drainage system and update as needed.



Activities Planned:

- Continue to examine spill response procedures to ensure proper procedures are followed to prevent spilled materials from entering the drainage system.
- Train applicable employees in spill response procedures annually.
- Evaluate the need for spill response kits as part of the overall facilities inspection program. Provide replacement spill response kits at City facilities as needed.

Measurable Goals:

- Document spill responses to confirm procedures are followed to prevent spilled materials from entering the drainage system. Report annually.
- Track the number of employees trained and the hours spent on training. Report annually.
- Document the presence of spill response kits at all high-priority as part of the overall facilities inspection program. Report annually.

Completion Dates:

- Year 1 - 5: Evaluate procedures annually as part of the overall facilities inspection program. Continue providing replacement spill response kits as necessary.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

**Responsible City
Department:**

Public Works

Parks

Employee Training Program

GH-11

BMP Description:

The City will review and revise their current employee-training program. The purpose of the program is to prevent and reduce stormwater pollution from activities such as park maintenance, fleet and building maintenance, new construction, land disturbance, and stormwater system maintenance and promote good housekeeping procedures. Training programs ensure that stormwater quality programs are properly implemented and BMPs are properly installed and maintained. In addition, ensuring proper management practices can reduce the need for costly structural controls.



Activities Planned:

- Provide annual training to municipal operations employees and their contractors, as applicable.

Measurable Goals:

- Document the trainings provided to staff.
- Track the number of individuals trained and the hours spent on training. Report annually.

Completion Dates:

- Year 1 - 5: Continue training program.



MCM 5: Pollution Prevention and Good Housekeeping for Municipal Operation

**Responsible City
Department:**

Parks

Public Works

Green Waste Management

GH-12

BMP Description:

The City of New Braunfels manages over 500 acres of public property. While providing landscaping services, contractors are required to responsibly dispose of the green waste generated. Green waste is biodegradable and consists of grass/flower cuttings, hedge trimmings, and food waste. The waste generated by public property maintenance services is sent to the county green waste recycling facility. This keeps the green waste from entering the MS4. The City also offers a Green Waste Collection program for residential homes.



Activities Planned:

- Continue green waste collection and recycling program.
- Promote Green Waste Management program through City website.
- Ensure that green waste generated from city operations is disposed of properly.

Measurable Goals:

- Record and report annually the amount of green waste recycled.
- Continue to promote the Green Waste Management program via the City's Solid Waste website.
- Document green waste disposal procedures of city operations.

Completion Dates:

- Years 1 - 5: Continue green waste recycling operations. Develop green waste public education methods.

7.3 PROGRAM IMPLEMENTATION SCHEDULE

The following is a summary program implementation table for the BMPs under MCM 5.

TABLE 7-1. MCM 5: POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS								
Best Management Practice		Management Practices for Implementation	Permit Years					Responsible City Department
			1	2	3	4	5	
Operations and Maintenance: Street Sweeping	GH - 1	Continue to implement street sweeping program	X	X	X	X	X	Public Works
Mapping of Facilities and Inventory Control	GH - 2	Maintain a map of the area regulated under the permit, identifying city-owned and operated facilities and stormwater controls are located	X	X	X	X	X	Public Works, Planning, Parks, Fire, Police
Municipal Operations and Facility Survey	GH - 3	Develop policies and procedures to implement stormwater BMPs as deemed necessary in the municipal operations and facility survey; update survey as new facilities are built	X	X	X	X	X	Public Works
Facility Inspection Program	GH - 4	Continue to implement inspection procedures; Review and modify current inspection checklists and list of “high priority” facilities and potential pollutants to stormwater	X	X	X	X	X	Public Works, Planning, Parks, Fire, Police
Good Housekeeping Operations: Outdoor Storage	GH - 5	Maintain inventory all storage locations, and identify the types of materials utilized for municipal operations; Perform quarterly inspections of storage facilities.	X	X	X	X	X	Public Works, Parks, Fire, and Police
		Maintain Standard Operating Procedures (SOPs) for high priority areas that will identify BMPs installed, implemented and maintained for the discharge of pollutants in stormwater	X	X	X	X	X	Public Works
Good Housekeeping Operations: Fleet and Equipment Maintenance	GH - 6	Perform quarterly inspections of fleet and equipment maintenance operations.	X	X	X	X	X	Public Works, Parks, Fire, and Police
		Implement Standard Operating Procedures (SOPs) for high priority areas that will identify BMPs installed, implemented and maintained for the discharge of pollutants in stormwater	X	X	X	X	X	Public Works
Good Housekeeping Operations: Vehicle and Equipment Washing	GH - 7	Implement Standard Operating Procedures (SOPs) for high priority areas that will identify BMPs installed, implemented and maintained for the discharge of pollutants in stormwater	X	X	X	X	X	Public Works, Parks, and Fire
		Implement policies and procedures detailing the vehicle and equipment washing requirements necessary to protect water quality.	X	X	X	X	X	Public Works, Parks, and Fire

TABLE 7-1. MCM 5: POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS								
Best Management Practice		Management Practices for Implementation	Permit Years					Responsible City Department
			1	2	3	4	5	
Good Housekeeping Operations: Landscaping	GH - 8	Provide annual training to staff addressing the proper use of landscaping chemicals.	X	X	X	X	X	Public Works, Parks
		Update Standard Operating Procedures (SOPs) for high priority areas, that will identify BMPs installed implemented and maintained for the discharge of pollutants in stormwater	X	X	X	X	X	Public Works and Parks
Structural Control Maintenance	GH - 9	Maintain an inventory of City-owned structural controls.	X	X	X	X	X	Public Works, Planning, Parks, Fire, and Police
		Continue to implement an inspection and maintenance program for structural controls.	X	X	X	X	X	Public Works
		Continue to stormwater waste disposal procedures.	X	X	X	X	X	Public Works
Spill Prevention and Response	GH - 10	Examine spill response procedures to ensure proper procedures are followed to prevent spilled materials from entering the drainage system.	X	X	X	X	X	Public Works
		Provide spill response kits at City facilities.	X	X	X	X	X	Public Works and Fire
Employee Training Program	GH - 11	Provide annual training to municipal operations employees and their contractors as applicable.	X	X	X	X	X	Public Works
Green Waste Management	GH - 12	Continue recycling of green waste from landscaping operations.	X	X	X	X	X	Public Works and Parks
		Distribute educational materials to residents regarding green waste management.	X	X	X	X	X	Public Works and Parks
		Evaluate expansion of green waste recycling program and distribution of educational materials annually.	X	X	X	X	X	Public Works and Parks

8.0 RECORDKEEPING AND REPORTING

As detailed in TPDES General Permit TXR040000, the City must document and report the implementation of all stormwater BMPs throughout the course of the permit period, and the TCEQ will require that the City submit annual reports to document the development and implementation of the SWMP.

8.1 RECORDKEEPING

In order to properly evaluate the success of the SWMP, the City must document the development and implementation of all stormwater programs throughout the permit period, and as referenced in the TPDES general permit, the City must comply with a series of recordkeeping requirements:

- Retain all records, a copy of the TPDES general permit, and records of all data used to complete the application (NOI) for the general permit.
- Satisfy the public participation requirements, for a period of at least three years, or for the remainder of the term of this general permit, whichever is longer.
- The SWMP required by this general permit (including a copy of the general permit) must be retained at a location accessible to the TCEQ.
- Make the NOI and the SWMP available to the public if requested to do so in writing. Copies of the SWMP must be made available within 10 working days of receipt of a written request. Other records must be provided in accordance with the Texas Public Information Act.

As previously referenced, a copy of the SWMP and all annual reports will be accessible on the City's stormwater website. Individuals may also contact the City to request additional program documentation. Reference the TPDES general permit for additional information regarding recordkeeping requirements.

8.2 REPORTING

The TPDES general permit requires that the City report to the TCEQ throughout the permit period and comply with specific reporting requirements:

- ***Noncompliance Notification*** - According to 30 TAC 305.125 (9), any noncompliance which may endanger human health or safety, or the environment, must be reported by the permittee to the TCEQ.
- ***Other Information*** – When the permittee becomes aware that it either submitted incorrect information or failed to submit complete and accurate information requested in an NOI, NOT, or NOC, or any other report, it must promptly submit the facts or information to the executive director.

- ***Annual Report*** – The MS4 operator must submit a concise annual report to the executive director within 90 days of the end of each permit year. The annual report must address the previous permit year and include the following information:
 - 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 MEP, the measurable goals for each of the minimum control measures, and an evaluation of the success of the implementation of the measurable goals;
 - Status of any additional control measures implemented by the permittee (if applicable);
 - Any minimum control measure activities initiated before permit issuance may be included, under the appropriate headings, as part of the first year's annual report;
 - 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;
 - A summary of the stormwater activities the MS4 operator plans to undertake during the next reporting cycle;
 - Proposed changes to the SWMP, including changes to any BMPs or any identified measurable goals that apply to the program elements;
 - The number of municipal construction activities authorized under this general permit and the total number of acres disturbed;
 - The number of non-municipal construction activities that occurred within the jurisdiction of the permittee (as noticed to the permittee by the construction operator);
 - Notice that the MS4 operator is relying on another government entity to satisfy some of its permit obligations (if applicable);
 - Each permittee must sign and certify the annual report in accordance with 30 TAC 305.128 (relating to Signatories to Reports); and
 - The annual report must be submitted to the following address:

**Texas Commission on Environmental Quality
Storm Water & Pretreatment Team; MC – 148
P.O. Box 13087
Austin, Texas 78711-3087**

9.0 REFERENCES

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https://www.tceq.texas.gov/assets/public/waterquality/swqm/assess/16txir/2016_303d.pdf*

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APPENDIX A: DEFINITIONS AND TERMINOLOGY

I. DEFINITIONS

Arid Areas – Areas with an average annual rainfall of less than ten (10) inches.

Best Management Practices (BMPs) – Schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spills or leaks, waste disposal, or drainage from raw material storage areas.

Catch Basins – Storm drain inlets and curb inlets to the storm drain system. Catch basins typically include a grate or curb inlet that may accumulate sediment, debris, and other pollutants.

Classified Segment – A water body that is listed and described in Appendix A or Appendix C of the Texas Surface Water Quality Standards, at 30 Texas Administrative Code (TAC) § 307.10.

Clean Water Act (CWA) - The Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972, Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et. seq.

Common Plan of Development or Sale - A construction activity that is completed in separate stages, separate phases, or in combination with other construction activities. A common plan of development or sale is identified by the documentation for the construction project that identifies the scope of the project, and may include plats, blueprints, marketing plans, contracts, building permits, a public notice or hearing, zoning requests, or other similar documentation and activities.

Construction Activity – Soil disturbance, including clearing, grading, and excavating; and not including routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (e.g. the routine grading of exiting dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities). Regulated construction activity is defined in terms of small and large construction activity.

Small Construction Activity is construction that results in land disturbances of equal to or greater than one (1) acre and less than five (5) acres of land. Small construction activity also includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one (1) and less than five (5) acres of land.

Large Construction Activity is construction that results in land disturbances of equal to or greater than five (5) acres of land. Large construction activity also includes the disturbance of less than five (5) acres of total land area that is part of a larger common

plan of development or sale if the larger common plan will ultimately disturb equal to or greater than five (5) acres of land.

Construction Site Operator - The person or persons associated with a small or large construction project that meets either of the following two criteria:

- (a) The entity or entities that have operational control over construction plans and specifications (including approval of revisions) to the extent necessary to meet the requirements and conditions of this general permit; or
- (b) The entity or entities that have day-to-day operational control of those activities at a construction site that are necessary to ensure compliance with a storm water pollution prevention plan (SWP3) for the site or other permit conditions (for example, they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

Control Measures – Any BMP or other method used to prevent or reduce the discharge of pollutants to water in the state.

Conveyance - Curbs, gutters, man-made channels and ditches, drains, pipes, and other constructed features designed or used for flood control or to otherwise transport storm water runoff.

Discharge - When used without a qualifier, refers to the discharge of storm water runoff or certain non-storm water discharges as allowed under the authorization of this general permit.

Edwards Aquifer – As defined in 30 TAC § 213.3 (relating to the Edwards Aquifer), that portion of an arcuate belt of porous, water-bearing, predominantly carbonate rocks known as the Edwards and Associated Limestone in the Balcones Fault Zone trending from west to east to northeast in Kinney, Uvalde, Medina, Bexar, Comal, Hays, Travis, and Williamson Counties; and composed of the Salmon Peak Limestone, McKnight Formation, West Nueces Formation, Devil's River Limestone, Person Formation, Kainer Formation, Edwards Formation, and Georgetown Formation. The permeable aquifer units generally overlie the less-permeable Glen Rose Formation to the south, overlie the less-permeable Comanche Peak and Walnut Formations north of the Colorado River, and underlie the less-permeable Del Rio Clay regionally.

Edwards Aquifer Recharge Zone – Generally, that area where the stratigraphic units constituting the Edwards Aquifer crop out, including the outcrops of other geologic formations in proximity to the Edwards Aquifer, where caves, sinkholes, faults, fractures, or other permeable features would create a potential for recharge of surface waters into the Edwards Aquifer. The recharge zone is identified as that area designated as such on official maps located in the offices of the TCEQ or the TCEQ website.

Final Stabilization - A construction site where either of the following conditions are met:

- (a) All soil disturbing activities at the site have been completed and a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70

percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

(b) For individual lots in a residential construction site by either:

(1) the homebuilder completing final stabilization as specified in condition (a) above;
or

(2) the homebuilder establishing temporary stabilization for an individual lot prior to the time of transfer of the ownership of the home to the buyer and after informing the homeowner of the need for, and benefits of, final stabilization.

(c) For construction activities on land used for agricultural purposes (e.g. pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to a surface water and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization conditions of condition (a) above.

General Permit – A permit issued to authorize the discharge of waste into or adjacent to water in the state for one or more categories of waste discharge within a geographical area of the state or the entire state as provided by Texas Water Code (TWC) § 26.040.

Ground Water Infiltration - For the purposes of this permit, groundwater that enters a municipal separate storm sewer system (including sewer service connections and foundation drains) through such means as defective pipes, pipe joints, connections, or manholes.

High Priority Facilities – High priority facilities are facilities with a high potential to generate stormwater pollutants. These facilities must include, at a minimum, the MS4 operator's maintenance yards, hazardous waste facilities, fuel storage locations, and other facilities where chemicals or other materials have a high potential to be discharged in stormwater. Among the factors that must be considered when giving a facility a high priority ranking are: the amount of urban pollutants stored at the site, the identification of improperly stored materials, activities that must not be performed outside (for example, changing automotive fluids, vehicle washing), proximity to water bodies, proximity to sensitive aquifer recharge features, poor housekeeping practices, and discharge of pollutant(s) of concern to impaired water(s).

Hyperchlorinated Water – Water resulting from hyperchlorination of waterlines or vessels, with a chlorine concentration greater than 10 milligrams per liter (mg/L).

Illicit Connection – Any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

Illicit Discharge – Any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges pursuant to this general permit or a separate authorization and discharges resulting from emergency firefighting activities.

Impaired Water – A surface water body that is identified on the latest approved CWA § 303(d) List as not meeting applicable state water quality standards. Impaired waters include waters with approved or established total maximum daily loads (TMDLs), and those where a TMDL has been proposed by TCEQ but has not yet been approved or established.

Indian Country – Defined in 18 USC Section § 1151, means (a) all land within the limits of any Indian reservation under the jurisdiction of the United States (U.S.) Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation; (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe.

Indicator Pollutant – An easily measured pollutant, that may or may not impact water quality that indicates the presence of other stormwater pollutants.

Industrial Activity – Any of the ten (10) categories of industrial activities included in the definition of “stormwater discharges associated with industrial activity” as defined in 40 Code of Federal Regulations (CFR) § 122.26(b)(14)(i)-(ix) and (xi).

Maximum Extent Possible (MEP) – The technology-based discharge standard for municipal separate storm sewer systems (MS4s) to reduce pollutants in stormwater discharges that was established by the CWA § 402(p). A discussion of MEP as it applies to small MS4s is found in 40 CFR § 122.34.

MS4 Operator – For the purpose of this permit, the public entity or the entity contracted by the public entity, responsible for management and operation of the small municipal separate storm sewer system that is subject to the terms of this general permit.

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- (a) Owned or operated by the U.S., a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over the disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under the CWA §208 that discharges to surface water in the state;
- (b) That is designated or used for collecting or conveying stormwater;

- (c) That is not a combined sewer; and
- (d) That is not part of a publicly owned treatment works (POTW) as defined in 40 CFR § 122.2.

Non-traditional Small MS4 – A small MS4 that often cannot pass ordinances and may not have the enforcement authority like a traditional small MS4 would have to enforce the stormwater management program. Examples of non-traditional small MS4s include counties, transportation authorities (including the Texas Department of Transportation), municipal utility districts, drainage districts, military bases, prisons and universities.

Notice of Change (NOC) – A written notification from the permittee to the executive director providing changes to information that was previously provided to the agency in a notice of intent.

Notice of Intent (NOI) – A written submission to the executive director from an applicant requesting coverage under this general permit.

Notice of Termination (NOT) – A written submission to the executive director from a permittee authorized under a general permit requesting termination of coverage under this general permit.

Outfall – A point source at the point where a small MS4 discharges to waters of the U.S. and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels, or other conveyances that connect segments of the same stream or other waters of the U.S. and are used to convey waters of the U.S. For the purpose of this permit, sheet flow leaving a linear transportation system without channelization is not considered an outfall. Point sources such as curb cuts, traffic or right-of-way barriers with drainage slots that drain into open culverts, open swales or an adjacent property, or otherwise not actually discharging into waters of the U.S. are not considered an outfall.

Permittee – The MS4 operator authorized under this general permit.

Point Source – (from 40 CFR § 122.22) any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant(s) of Concern – For the purpose of this permit, includes biochemical oxygen demand (BOD), sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation), pathogens, oil and grease, and any pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from an MS4. (Definition from 40 CFR § 122.32(e)(3)).

Redevelopment – Alterations of a property that changed the “footprint” of a site or building in such a way that there is a disturbance of equal to or greater than one (1) acre of land. This term

does not include such activities as exterior remodeling, routine maintenance activities, and linear utility installation.

Semiarid Areas – Areas with an average annual rainfall of at least ten (10) inches, but less than 20 inches.

Small Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

- (a) Owned or operated by the United States, a state, city, town, borough, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under CWA § 208;
- (b) Designed or used for collecting or conveying storm water;
- (c) Which is not a combined sewer;
- (d) Which is not part of a publicly owned treatment works (POTW) as defined at 40 CFR § 122.2; and
- (e) Which was not previously authorized under a National Pollutant Discharge Elimination System (NPDES) or a Texas Pollutant Discharge Elimination System (TPDES) individual permit as a medium or large municipal separate storm sewer system, as defined at 40 CFR §§ 122.26(b)(4) and (b)(7).

This term includes systems similar to separate storm sewer systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. This term does not include separate storm sewers in very discrete areas, such as individual buildings. For the purpose of this permit, a very discrete system also includes storm drains associated with certain municipal offices and education facilities serving a nonresidential population, where those storm drains do not function as a system, and where the buildings are not physically interconnected to an MS4 that is also operated by that public entity.

Stormwater and Stormwater Runoff – Rainfall runoff, snow melt runoff, and surface runoff and drainage.

Stormwater Associated with Construction Activity – Stormwater runoff from an area where there is either a large construction activity or a small construction activity.

Storm Water Management Program (SWMP) - A comprehensive program to manage the quality of discharges from the municipal separate storm sewer system.

Structural Control (or Practice) - A pollution prevention practice that requires the construction of a device, or the use of a device, to capture or prevent pollution in storm water runoff. Structural controls and practices may include but are not limited to: wet ponds, bioretention, infiltration basins, storm water wetlands, silt fences, earthen dikes, drainage swales, vegetative lined ditches, vegetative filter strips, sediment traps, check dams, subsurface drains, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins.

Surface Water in the State – Lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state (from the mean high water mark (MHW) out 10.36 miles into the Gulf), and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or non-navigable, and including the beds and banks of all water-courses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the jurisdiction of the state; except that waters in treatment systems which are authorized by state or federal law, regulation, or permit, and which are created for the purpose of waste treatment are not considered to be water in the state.

Total Maximum Daily Load (TMDL) – The total amount of a substance that a water body can assimilate and still meet the Texas Surface Water Quality Standards.

Traditional Small MS4 – A small MS4 that can pass ordinances and have the enforcement authority to enforce the stormwater management program. An example of traditional MS4s includes cities.

Urbanized Area (UA) – An area of high population density that may include multiple MS4s as defined and used by the U.S. Census Bureau in the 2000 and 2010 Decennial census.

Waters of the United States - (from 40 CFR § 122.2) Waters of the United States or waters of the U.S. means:

- (a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (b) All interstate waters, including interstate wetlands;
- (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

- (3) Which are used or could be used for industrial purposes by industries in interstate commerce;
- (d) All impoundments of waters otherwise defined as waters of the United States under this definition;
- (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- (f) The territorial sea; and
- (g) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR§ 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water, which neither were originally created in waters of the U.S. (such as disposal area in wetlands) nor resulted from the impoundment of waters of the U.S. Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

II. COMMONLY USED ACRONYMS

BMP	Best Management Practice
CFR	Code of Federal Regulations
CGP	Construction General Permit, TXR150000
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	Environmental Protection Agency
FR	Federal Register
IP	Implementation Procedures
MCM	Minimum Control Measure
MEP	Maximum Extent Practicable
MSGP	Multi-Sector General Permit, TXR050000
MS4	Municipal Separate Storm Sewer System
NOC	Notice of Change
NOD	Notice of Deficiency
NOI	Notice of Intent
NOT	Notice of Termination (to terminate coverage under a general permit)
NPDES	National Pollutant Discharge Elimination System
SWMP	Storm Water Management Program
SWP3	Storm Water Pollution Prevention Plan
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TPDES	Texas Pollutant Discharge Elimination System
TWC	Texas Water Code