STORMWATER MANAGEMENT PROGRAM PLAN
TPDES PERMIT WQ0004284000

Co-Permittees:
CITY OF SAN ANTONIO
SAN ANTONIO WATER SYSTEM

August 2022

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1.0 STORMWATER MANAGEMENT EXECUTIVE SUMMARY

This Stormwater Management Program plan (SWMP) has been developed by the City of San Antonio (City) and San Antonio Water System (SAWS) to guide the implementation, maintenance, and documentation approach for stormwater pollution prevention best management practices (BMPs). Fifty-seven (57) BMPs are either already in place or proposed for full implementation within the next 5 years. The BMPs have been identified as practicable approaches to protect surface water quality while recognizing the importance of protecting the community's environmental and economic resources.

Municipalities with populations of 100,000 or more are regulated as Phase I Municipal Separate Storm Sewer Systems (MS4s). In the 2020 U.S. Census, the City had a population of 1,434,620. The City and SAWS are required to comply with Texas Commission on Environmental Quality (TCEQ) Texas Pollutant Discharge Elimination System (TPDES) Phase I MS4 Permit No. WQ0004284000 (EPA Permit No. TXS001901), re-issued on December 17, 2021, with major amendments. The Permit sets forth requirements for stormwater discharges from the City's MS4 to Surface Waters of the State, which are also Waters of the U.S.

1.1 Background

Urban stormwater runoff adversely affects water quality in urban lakes, neighborhood creeks, rivers, and other waterways. Pollutants (e.g., pesticides/herbicides, oil, detergents, and bacteria) that accumulate on the ground surface, including impermeable surfaces (e.g., streets and parking lots), are transported by stormwater runoff through MS4 infrastructure and into nearby waterbodies. To protect surface water quality, it is necessary to identify specific BMPs to control the types and sources of pollution present.

1.2 Stormwater Regulations

The 1972 Clean Water Act (CWA) established the structure for regulating discharges of pollutants into Waters of the United States (WOTUS) and requires the U.S. Environmental Protection Agency (EPA) to control those discharges. The EPA established the National Pollutant Discharge Elimination System (NPDES) program to identify, reduce and/or eliminate the pollutants discharges to WOTUS. Initially, NPDES regulated only "point sources" or end-of-pipe sources of pollution but has since been expanded to include "non-point" source pollutants from urban stormwater runoff. EPA has authorized most state governments to administer NPDES including permitting and enforcement aspects of the program.

The EPA has delegated NPDES program administration in Texas to TCEQ, who administers the TPDES. In addition to issuing discharge permits to traditional "point sources," such as municipal wastewater treatment plants and industrial wastewater discharges, the TCEQ is also responsible for regulating pollution from "non-point sources," such as stormwater runoff from construction sites, industrial facilities, and some stormwater drainage systems. For construction sites and industrial facilities, the TCEQ has issued TPDES general permits with requirements to reduce or eliminate stormwater pollution specific to those industries, which typically require development and implementation of site-specific stormwater pollution prevention plans.

1.2.1 City and SAWS Municipal Separate Storm Sewer System (MS4) Permit

In most areas of the country, storm drainage systems are separate from sanitary sewer systems and are thereby classified as "separate storm sewer systems." Separate storm sewer systems include means of collecting or conveying runoff that do not connect with a wastewater collection system or treatment facility before discharging into water bodies. A "municipal separate storm sewer system" (or MS4) is a system owned or operated by a public agency like a city, flood control district, county, or state agency. The San Antonio Stormwater Utility MS4 is owned and operated by the City and is separate from the SAWS sanitary sewer system. However, the City has delegated a significant portion of Stormwater Management Program implementation to SAWS.

The original permit for the City's MS4 was issued to the City and SAWS on December 22, 1995, with 5-year terms that were administratively extended, including extensions by default, through December 16, 2021. The purpose of meeting MS4 Permit conditions is to protect water quality from stormwater runoff throughout the City. The EPA originally issued NPDES regulations to protect stormwater quality in large MS4s (known as "Phase I" MS4s) for cities with a population of 100,000 or more.

1.2.2 Stormwater General Permit for Construction Activity

The TCEQ regulates stormwater discharges from most construction activity through TPDES General Permit No. TXR150000. For construction sites disturbing one acre or more, a Stormwater Pollution Prevention Plan (SWP3) must be developed, and site controls must be installed, such as silt fence, inlet protection, and a stabilized construction site entrance, to control the discharge of sediment and other pollutants from the construction site. When construction is complete and the site is re-vegetated or otherwise stabilized, temporary control measures must be removed.

Large MS4 cities must, as designated by ordinance, inspect, and enforce construction sites for compliance according to the requirements of the TCEQ construction general permit, including inspection for properly installed and maintained erosion control measures. San Antonio references the TCEQ construction general permit in Chapter 34 of the City Code for compliance consistency.

1.2.3 Stormwater Multi-Sector General Permit for Industrial Activity

The TCEQ regulates stormwater discharges from developed sites in certain industrial classifications through TPDES General Permit No. TXR050000. Sites operating in certain identified industrial sectors are required to develop, implement, and maintain a SWP3 for operations at the facility. These industrial sectors have been identified by the EPA and TCEQ as high potential sources of significant stormwater pollutants, and as a result, the implementation of BMPs is required to protect water quality from stormwater runoff pollution. Types of BMPs for industrial facilities range from covered storage of materials to staff training. Ongoing stormwater monitoring of wet weather events is required to observe and test for stormwater pollution.

Cities that are large MS4s often have their own facilities subject to the industrial stormwater permit. Municipal landfills, wastewater treatment plants, and municipal airports are common city facilities that must comply with the industrial stormwater permit. Each of these facilities is required to be documented within the large MS4's SWMP. The City has developed and implemented a program to inspect and enforce stormwater quality runoff protection from industrial facilities that discharge to the MS4. This includes facilities subject to the industrial stormwater permit, although it also may include additional facilities determined by the MS4 to have high potential for stormwater pollution. Chapter 34 of the City Code includes references to these requirements as outlined in the TPDES general permits issued by the TCEQ dealing with Industrial storm water.

1.3 Permit Applicability and Coverage

The City has updated this SWMP to comply with the requirements of the current TPDES Permit No. WQ0004284000 (Permit). The Permit applies to operators of publicly owned storm sewer systems in urbanized areas (UAs) in Texas and authorizes the City to discharge stormwater runoff from their stormwater drainage system. The U.S. Census Bureau defines the UAs based on a population density of 1,000 people per square mile and a total population of at least 50,000, irrespective of political boundaries. UAs represent densely developed areas and encompass residential, commercial, and other non-residential urban land uses. The City is located within the San Antonio, Texas U.S. Census UA as shown in Figure 1.

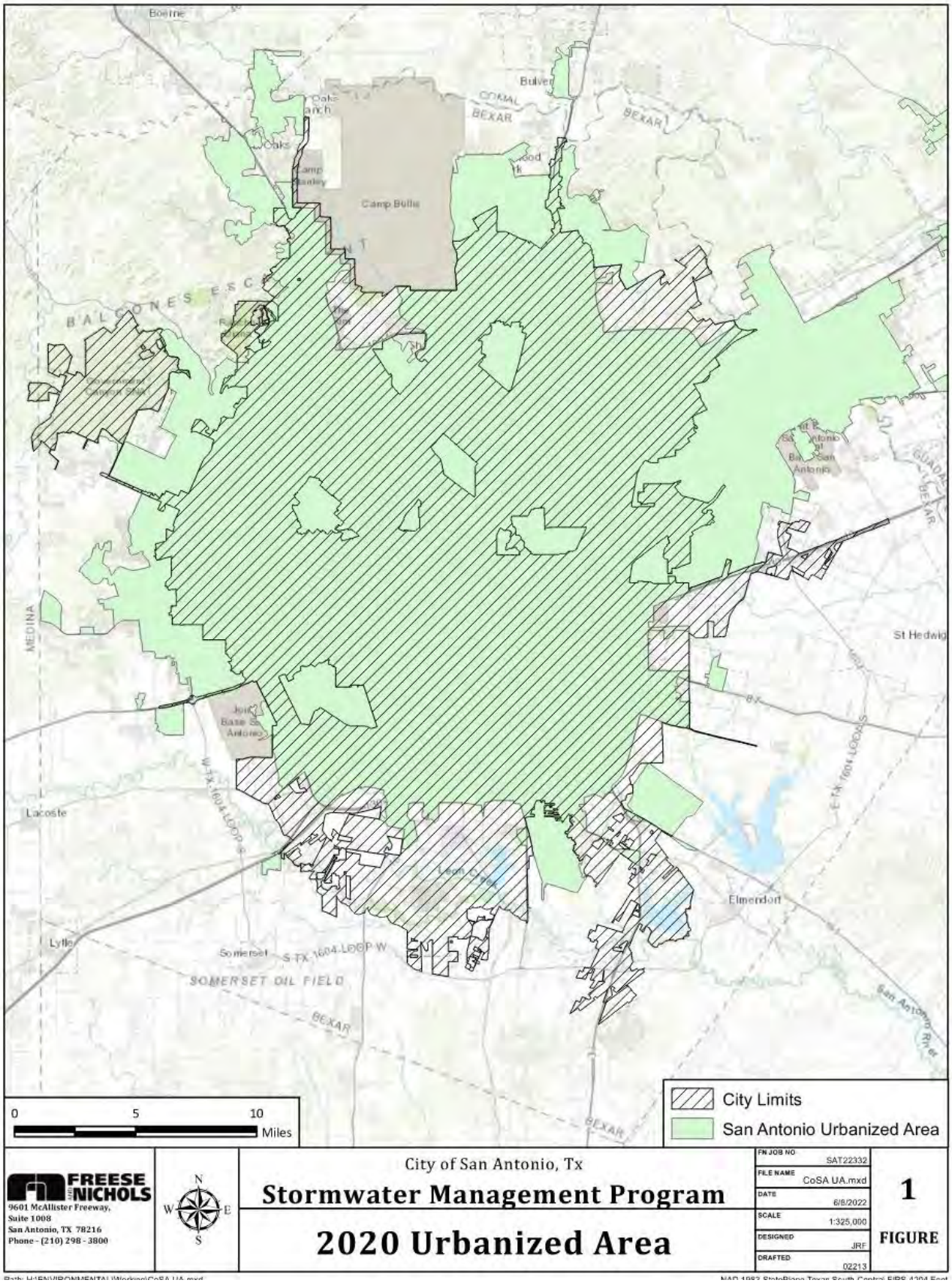
The SWMP encompasses the City's MS4 area to the city limit boundaries. The SWMP includes BMPs that will be implemented by the City to reduce stormwater pollution to the maximum extent practicable (MEP), in accordance with the Permit. This document serves as the City's SWMP.

1.4 City of San Antonio

The City occupies the majority of Bexar County in South Central Texas. The City limits encompass 505 square miles, with a population density of 2,840.8 people per square mile. According to 2020 U.S. Census data, the population in the City was 1,434,625. In the ten-year period from 2010 to 2020, the City experienced an 8% population growth (United States Census Bureau, 2020).

The City is located within the Edwards Plateau, Texas Blackland Prairies, and East Central Texas Plains Ecoregions, specifically the Balcones Canyonlands, Northern Blackland Prairie, and the Southern Post Oak Savanna. Most of the City limits are contained in the Texas Blackland Prairie Ecoregion, which is characterized by fine textured, clayey soils, and prairie natural vegetation [Texas Parks & Wildlife (TPW), 2022]. This ecoregion is characterized by a humid, subtropical climate with hot summers and mild winters. The average maximum temperature occurs in August [96 degrees Fahrenheit (°F)]; the average minimum temperature occurs in January (41 °F) with an average annual temperature of 68.5 °F. Rainfall is the predominant type of precipitation. The average annual rainfall is 32.38 inches with the maximum of 4.40 inches occurring in May and the minimum of 1.74 inches occurring in February. Prevailing winds in the area are from the southeast [National Oceanic and Atmospheric Administration (NOAA), 2022].

Figure 1. 2020 Urbanized Area



2.0 WATER QUALITY

2.1 Overview of Water Quality Assessments in Texas

The TCEQ is charged through federal mandate with protecting the quality of waters within Texas. The TCEQ's approach to this mandate includes measuring water quality at locations across the state, determining if the quality in streams, lakes, and creeks is acceptable, and implementing plans to clean up water bodies that are impacted.

The TCEQ Texas Surface Water Quality Standards are rules designed to establish goals for water quality throughout the state and provide a basis for regulatory programs to attain those goals. Water quality standards serve to signal a situation where water quality may be inadequate to meet the use or uses of a particular water body. Five broad categories for water use, known as "designated uses," are defined in Texas:

1. General
2. Aquatic life use
3. Recreation
4. Public water supply
5. Fish consumption

Major surface water bodies in the state have been classified with site-specific designated uses in Title 30, Chapter 307 of the Texas Administrative Code (30 TAC §307), but many smaller water bodies have not been classified and do not have site-specific designated uses. All unclassified surface water bodies without site-specific designated uses are protected by the "general criteria" defined in 30 TAC §307.4.

The TCEQ divided water bodies into "segments" to provide the basic unit for assigning site-specific standards and for applying water quality management programs. Segments can be further divided into "assessment units." All classified water bodies and some smaller unclassified water bodies have been assigned a unique segment identification code (TCEQ Segment ID). However, many water bodies in the state have not been assigned a TCEQ Segment ID.

Because it would be impractical to test every water body for all possible pollutants, assessments of water quality in Texas are performed by evaluating indicators of water quality. Indicators are an indirect measure of the health or quality of a particular part of the aquatic system. Some indicators, such as the health of fish communities, are tied to specific designated uses, while others, such as nutrients, are not. Some of the most common indicators used by TCEQ to determine the quality of water bodies include bacteria, dissolved oxygen, dissolved solids, metals, and organic substances.

If the indicator data published in the 2020 Texas Integrated Report of Surface Water Quality (the 2020 Texas Integrated Report) reveal that water quality is inadequate to meet the goals of the water body's designated use, the TCEQ identifies the water body as an impaired water in the 2020 Texas Integrated Report 303(d) list. The 303(d) list is required by the CWA and is submitted to EPA for approval. Water bodies added to the list are subject to a Total Maximum Daily Load (TMDL) assessment, which is an assessment of the root cause of poor water quality. An Implementation Plan (I-Plan) developed by local stakeholders to remediate pollution sources usually accompanies the TMDL.

For this Permit, a water body is impaired if it has been identified, pursuant to the latest TCEQ and EPA approved CWA 303(d) list or the 2020 Texas Integrated Report for CWA Sections 305(b) and 303(d). Additionally, water bodies with concerns for non-attainment or screening levels are identified within the Integrated Report and can be useful to evaluate potential sources of impairments.

2.2 Water Quality of San Antonio

The Permit requires that the classified segment(s) that first receive(s) the City's stormwater discharges, either directly or indirectly, be identified. For the purposes of this evaluation, the MS4 is directly discharging to a receiving water if the waterbody is the first water of the U.S. receiving stormwater discharges from a regulated MS4 outfall. Indirect stormwater discharges include all stormwater flows outside of the MS4 boundary and segments downstream of the direct receiving water. Stormwater discharges from the City eventually reach the following classified segment:

1. Lower Cibolo Creek (Segment ID 1902)
2. Medina River Below Medina Diversion Lake (Segment ID 1903)
3. Lower Leon Creek (Segment ID 1906)
4. Upper Leon Creek (Segment ID 1907)
5. Upper Cibolo Creek (Segment ID 1908)
6. Salado Creek (Segment ID 1910)
7. Upper San Antonio River (Segment ID 1911)
8. Medio Creek (Segment ID 1912)
9. Mid Cibolo Creek (Segment ID 1913)

The classified segments listed above, as well as unclassified water bodies that receive stormwater discharges before reaching the classified segment, are shown on Figure 2 and summarized in Appendix A, (TCEQ Integrated Report, 2020). If the MS4 is discharging directly to an impaired segment or is discharging

indirectly to a segment which is part of a watershed subject to TMDL requirements, the SWMP is subject to additional Permit requirements outlined in Section 3.2 and 4.4.

Lower Cibolo Creek (Segment ID 1902)

Lower Cibolo Creek is located east of downtown San Antonio and the City limits. Stormwater from the City MS4 discharges indirectly to Assessment Units (AUs) 1902_05 by way of Escondido Creek, Martinez Creek (Segment ID 1902A), Salitrillo Creek, Womans Hollow Creek, and unnamed tributaries from far eastern San Antonio. Lower Cibolo Creek has designated uses of Aquatic Life, General, and Recreation Use. AU 1902A_01 of Martinez Creek is impaired for bacteria in water; however, stormwater from the MS4 discharges indirectly to it. AU 1902_05 of Lower Cibolo Creek is not listed in the 2020 Texas Integrated Report and does not have a TMDL.

Medina River Below Diversion Lake (Segment ID 1903)

Medina River Below Diversion Lake is located west and south of downtown San Antonio along the western and southern City limits. Stormwater from the City MS4 discharges directly to AUs 1903_01, 1903_02, 1903_03, and 1903_04 and indirectly via Elm Creek, Live Oak Slough, Losoya Creek, Medina River Below Diversion Lake (AU 1903_05), Palo Blanco Creek, Potranca Creek, San Geronimo Creek, and unnamed tributaries from far western and southern San Antonio. Medina River Below Diversion Lake has designated uses of Aquatic Life, General, Domestic Water Supply, and Recreation Use. AUs 1903_01, 1903_02, and 1903_03 are listed in the 2020 Texas Integrated Report due to an impairment for bacteria in water. A TMDL is not currently in effect, additional data or information will be collected and/or evaluated for one or more parameters before a management strategy is selected.

Lower Leon Creek (Segment ID 1906)

The Lower Leon Creek is located west of downtown San Antonio. Stormwater from the City MS4 discharges directly to AUs 1906_01, 1906_02, 1906_03, 1906_04, 1906_05, and 1906_06 and indirectly via Comanche Creek, Culebra Creek, French Creek, Helotes Creek (Segment ID 1906A), Huebner Creek, Indian Creek, Lee Creek, Los Reyes Creek, Ranch Creek, Slick Ranch Creek, and unnamed tributaries. The Lower Leon Creek has designated uses of Aquatic Life, General, Fish Consumption, Domestic Water Supply, and Recreation Use. AUs 1906_03, 1906_04, 1906_05, and 1906_06 of the Lower Leon Creek are listed in the 2020 Texas Integrated Report for an impairment for PCBs in edible tissue. A TMDL has not been completed; however, TMDLs are underway, scheduled, or will be scheduled for one or more parameters.

Upper Leon Creek (Segment ID 1907)

The Upper Leon Creek is located west of downtown San Antonio. Stormwater from the City MS4 discharges directly to AU 1907_01 and indirectly by way of Huesta Creek and multiple unnamed tributaries. The Upper Leon Creek has designated uses of Aquatic Life, General, Domestic Water Supply, and Recreation Use. AU 1907_01 of the Upper Leon Creek is not listed in the 2020 Texas Integrated Report and does not have a TMDL.

Upper Cibolo Creek (Segment ID 1908)

The Upper Cibolo Creek is located north and east of downtown San Antonio along the City limits. Stormwater from the MS4 discharges indirectly to AU 1908_03 via multiple unnamed tributaries. Upper Cibolo Creek has designated uses of Aquatic Life, General, Domestic Water Supply, and Recreation Use. AU 1908_03 of Upper Cibolo Creek is not listed in the 2020 Texas Integrated Report and does not have a TMDL.

Salado Creek (Segment ID 1910)

Salado Creek is located east and southeast of downtown San Antonio. Stormwater from the MS4 discharges directly to AU 1910_01, 1910_02, 1910_03, 1910_04 and indirectly via Ackerman Creek, Beitel Creek (Segment ID 1910E), East Elm Creek, Elm Creek, Elm Waterhole Creek, Lorence Creek, Menger Creek (Segment ID 1910D), Mud Creek, Mustang Creek, Panther Springs Creek, Pershing Creek, Rittiman Creek, Rosillo Creek (Segment ID 1910B), Salado Creek Tributary (Segment ID 1910C), Salado Creek West Channel (Segment ID 1910G), Upper Salado Creek (Segment ID 1910F), Walzem Creek (Segment ID 1910A), West Elm Creek, and multiple unnamed tributaries. Salado Creek has designated uses of Aquatic Life, General, Domestic Water Supply, and Recreation Use. AUs 1910A_01, 1910D_01, 1910_02, 1910_03, and 1910_04 are listed in the 2020 Texas Integrated Report. AU 1910A_01 and 1910D_01 are impaired for bacteria in water. AU 1910_02 is impaired for bacteria in water, impaired fish community in water, and impaired microbenthic community in water. AU 1910_03 is impaired for bacteria in water. AU 1910_04 is impaired for bacteria and depressed dissolved oxygen in water. Two TMDLs, depressed dissolved oxygen and bacteria in water, have been established for the Salado Creek watershed including, the Beitel Creek, Lewis Creek, Mud Creek, Panther Spring Creek, and Walzem Creek sub watersheds.

Upper San Antonio River (Segment ID 1911)

The Upper San Antonio River flows south through downtown San Antonio. Stormwater from the MS4 discharges directly to Assessment Units 1911_05, 1911_06, 1911_07, 1911_08, 1911_09 and indirectly via Alazan Creek (Segment ID 1911C), Apache Creek (Segment ID 1911B), Espada Ditch, Harlandale Creek,

Martinez Creek (Segment ID 1911I), Minita Creek, Olmos Creek (Segment ID 1911A), Salado Creek, San Juan Ditch, San Pedro Creek (Segment ID 1911D), Sixmile Creek (Segment ID 1911E), Zarzamora Creek, and multiple unnamed tributaries. The Upper San Antonio River has designated uses of Aquatic Life, General, Domestic Water Supply, and Recreation Use. Segment IDs 1911 1911B, 1911C, 1911D, 1911E, and 1911I are listed in the 2020 Texas Integrated Report. AUs 1911_05, 1911_08, 1911_09, 1911B_01, 1911C_01 & 02, 1911D_01 & 02, 1911E_01, and 1911I_01 are impaired for bacteria in water. Additionally, AU 1911_08 is listed for impaired fish community in water and impaired microbenthic community in water and AU 1911_09 is listed for impaired fish community in water. One TMDL for bacteria in water has been established for the Upper San Antonio watershed including, the Blue Wing Lake, Braunig Lake, Olmos Creek, Salado Creek, and San Pedro sub watersheds.

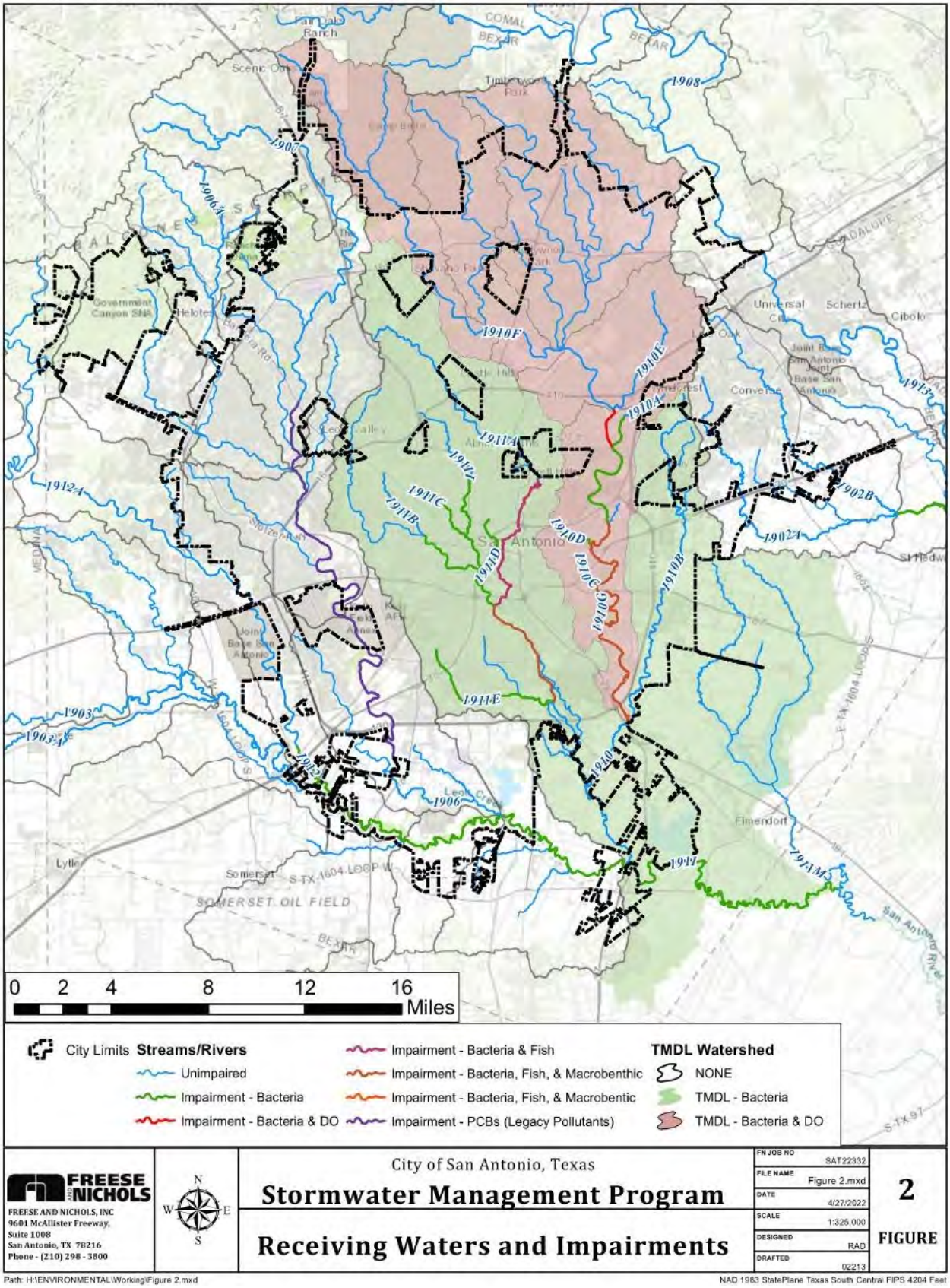
Medio Creek (Segment ID 1912)

Medio Creek is located southwest of downtown San Antonio along the City limits. Stormwater from the MS4 discharges directly to AU 1912_01 and indirectly via Upper Medio Creek (Segment ID 1912A), Caracol Creek, and multiple unnamed tributaries. Medio Creek has designated uses of Aquatic Life, General, and Recreation Use. AU 1912_01 is listed in the 2020 Texas Integrated Report due to an impairment for bacteria in water. A TMDL is not currently in effect; however, additional data or information will be collected and/or evaluated for one or more parameters before a management strategy is selected.

Mid Cibolo Creek (Assessment Unit 1913)

The Mid Cibolo Creek is located to the northeast of downtown San Antonio. Stormwater from the MS4 discharges directly to Assessment Unit 1913_03 and indirectly via multiple unnamed tributaries. The Mid Cibolo Creek has designated uses of Aquatic Life, General, and Recreation Use. Assessment Unit 1913_03 is not listed in the 2020 Texas Integrated Report and does not have a TMDL.

Figure 2. Receiving Waters and Impairments



2.3 Edwards Aquifer Protection

The City is partially located within the Edwards Aquifer Contributing Zone, and must meet all applicable requirements of, and operate according to, 30 TAC §213 (Edwards Aquifer Rule). As such, the City's development criteria address the Edwards Aquifer Rule requirements, including submittal of Water Pollution Abatement Plans (WPAP) for regulated activities. The City and SAWS use both zoning and planning programs to restrict development on the Edwards Aquifer Recharge Zone (EARZ) and to enforce requirements to protection water quality of the stormwater runoff. Programs include inspections of water quality basins to ensure their continued maintenance.

3.0 LARGE MS4 GENERAL PERMIT OVERVIEW

The City is required to update this SWMP and describe specific actions that will be completed to reduce pollutants and protect the City's stormwater quality. This SWMP also sets measurable goals and provides a schedule for the implementation of BMPs for the remainder of the Permit term (until December 16, 2026).

3.1 Minimum Control Measure Summary

The City is required to develop and implement BMPs for each minimum control measure (MCM) to minimize or eliminate stormwater pollutants discharging into the storm sewer system and provide water quality protection for receiving water bodies. The Permit identifies eight MCMs for implementation in the City's SWMP and MS4. The specific requirements for each MCM are in the Permit (Appendix B). A summary of each MCM and the City's implementation efforts are below.

3.1.1 MCM 1 - MS4 Maintenance Activities

Implement an operation and maintenance approach with the objective of reducing the discharge of pollutants by way of maintaining the MS4, reducing floatables, and maintaining public streets and roads in accordance with Part III Section B.2.a.i-iii of the Permit. The City utilizes the Storm Sewer Maintenance Program, Floatable Debris Program, Street Sweeping Program/I-Plan Management Measure 20, I-Plan Management Measure 18, and I-Plan Management Measure 21 to meet Permit requirements. These activities are described below.

A. Storm Sewer Maintenance Program

The City Public Works Department (PWD) is responsible for the operation and maintenance of the MS4. The PWD has several programs in place that are fully operational. The Storm Sewer Maintenance Program is a multifaceted effort used to maintain the systems integrity and protect the citizens and environment of the City.

The Vegetation Control Program completes mowing activities of City channels, rights-of-way, medians, and city owned properties. This program also removes invasive vegetative species that may cause obstructions within the waterway.

The Storm Sewer Maintenance Program provides the City with an organized approach to maintain the MS4 in accordance with the Permit. The City implements a televising and mapping program which

prioritizes underground infrastructure in need of repair including, pipes, inlets, channels, and earthen channels. Additionally, channel regrading is conducted to maintain channel conveyance capacity.

B. Floatable Debris Program

The PWD utilizes several existing programs and BMPs to reduce the discharge of floatable debris to the MS4 and track the volume removed. Citizen requests to remove debris or illegally dumped materials from the MS4 are responded to promptly. A large component of this effort is the homeless encampment cleanup along drainage infrastructure. Closed Circuit Televisions (CCTV) monitoring, protection of the drainage inlets, and hazardous material trap cleaning activities all work to keep the existing underground stormwater system operating at peak capacity. Hazardous material traps are located within the Edwards Aquifer region. These traps remove floatable debris from stormwater and are cleaned and maintained by a vacuum inductor truck.

The Floatable Debris Program includes the construction, maintenance, and monitoring of the MS4 to protect the citizens of the City during inclement weather conditions. This program includes the operation, maintenance, and readiness of the infrastructure and associated equipment of two flood control tunnels, and four dams. It also includes the construction, maintenance, and monitoring of the High-Water Detection Systems. The CCTV monitoring and inspection program accesses the structural integrity of the closed conduit portion of the storm sewer system to identify cracked collapsed or clogged pipes. Additionally, CCTV monitoring helps identify prohibited connections to the storm sewer system and assist with the elimination of these connections. Debris removal is scheduled for channels after large storm events and after multiple small rains to prevent flooding.

A Natural Creek Maintenance Program was established to remove trees, man-made, and natural debris from creeks that is deposited after flood events. Excessive debris and floatable materials can accumulate in the floodplains and along the banks of area rivers and creeks and cause flooding. This program addresses natural creek debris in the creek and along the banks through the assistance of a contractor.

Automatic retractable inlet screen protectors and catch basin inlet screens are in use in the downtown area. These units allow the city to keep large debris on the street which is swept regularly (identified in our Street Sweeping section). The catch basin inlet screens reduce the number of fine particles discharged to the MS4 and improve water quality and clarity by reducing suspended solids in the river.

C. Street Sweeping Program/I-Plan Management Measure 20 – Street Sweeping

The PWD Street Cleaning Program successfully removes debris and pollutants from City streets. Street sweeping activities occur along residential, arterial, and collectors throughout the year. Additionally,

streets are cleaned before and after each citywide event. When sanding and deicing of City roadways is required to protect the public, street sweeping activities are conducted to remove harmful deicing materials from the roadways to prevent the discharge to local waterways.

D. I-Plan Management Measure 18 – Specially Designed Boat (Lady Eco)

The Lady Eco boat is operated by the Center City Development – Operations Department (CCDO). Lady Eco is designed to remove debris from the San Antonio River in the River Walk area of the City. The total quantity of debris removed from the river is estimated and recorded each year. The City plans to continue utilizing Lady Eco to reduce the amount of debris in the San Antonio River.

E. I-Plan Management Measure 21 – San Antonio River Loop Sediment Removal

The PWD is responsible for the maintenance of designed channels and natural waterways in the City. All improved drainage channels are inspected on a regular basis and re-grading, de-silting, and debris removal projects are scheduled and conducted on a priority basis to reduce Total Suspended Solids (TSS) and aide in stormwater conveyance. The San Antonio River Loop, Loop Extension, and Main Channel are de-silted to remove excess sediment accumulation during even numbered years.

3.1.2 MCM 2 – Post-Construction Stormwater Control Measures

Implement post-construction control measures to manage new development, redevelopment, and flood control projects and reduce or eliminate the discharge of pollutants in accordance with Part III, Section B.2.b.i-iv of the Permit. The City utilizes the Stormwater Design Criteria Manual, I-Plan Management Measure 8, and I-Plan Management Measure 12 to meet Permit requirements. These activities are described below. All BMPs are included in Appendix A, Table 4-2.

A. Stormwater Design Criteria Manual

The PWD is responsible for the implementation and enforcement of the Stormwater Drainage Criteria Manual (SWDCM). The SWDCM provides the design engineer with the criteria necessary to design drainage facilities in and around the City to control the rate at which stormwater leaves a property. Therefore, reducing the amount of erosion and sedimentation within City waterways. The engineer uses standard principles and practices for the planning, design, construction, maintenance, and management of drainage facilities are established in the SWDCM.

B. I-Plan Management Measure 12 – Evaluate Restoration of Westside Creeks

The Westside Creeks Restoration Project is a community-based planning effort initiated in 2008 by the San Antonio River Authority (SARA). Its mission is to 1) develop concepts for restoring the environmental

condition of the Alazán, Apache, Martínez, and San Pedro Creeks; 2) maintain the current flood control components of these creeks; and 3) provide increased opportunities for people to enjoy these urban creeks. Elmendorf Lake, situated along Apache Creek, is a tributary to the Upper San Antonio River watershed (Segment 1911). A July 2012 study on Elmendorf Lake concluded the primary water quality concerns for the lake are DO concentrations during certain seasons or rainfall events, E. coli concentrations above the State water quality standard for contact recreation, and sediment accumulation in the lake leading to reports of high turbidity during rain events that exacerbate anoxic conditions.

The PWD is coordinating with SARA to identify maintenance requirements, develop standard operating procedures, and complete maintenance for the rain gardens, bio-retention swales, constructed wetland, and lake aeration.

C. I-Plan Management Measure 8 – BMP Assessment, Pilot Studies and Mission Drive-In Redevelopment

The PWD, in partnership with SARA, will develop and begin a monitoring program for two stormwater sites at the Mission Drive-In Low Impact Development (LID) project. One site will monitor runoff from a series of rain gardens installed on the Mission Drive-In Library grounds. The other site will sample stormwater runoff from a grass swale and permeable pavement parking lot.

The PWD will coordinate with SARA to identify and develop standard operating procedures for maintenance and responsibilities, implement the standard operating procedures as they are written, and complete required maintenance. The PWD will document all activities and report on progress.

3.1.3 MCM 3 – Illicit Discharge Detection and Elimination

Implement actions to prevent illicit discharges to the MS4 by enforcing the City ordinance, monitoring sanitary sewer overflows (SSOs) and infiltration, properly disposing of household hazardous waste and vehicle fluid, conducting MS4 screenings and illicit discharge inspections, identifying priority areas, maintaining a database NPDES/TPDES permittees, maintaining the MS4 map, and spill prevention and response in accordance with Part III, Section B.2.c.i-xiv of the Permit. The City utilizes the Illicit Discharge and Improper Disposal Program, Hazardous Material Spill Response Program, Household Hazardous Waste and Solid Waste Program, Storm Sewer System Mapping, Monitoring and Screening Program (Dry Weather Screening), and I-Plan Management Measures 1, 4, 5, 6, 7, 16, and 22 to meet Permit requirements. These activities are described below. All BMPs are included in Appendix A, Table 4-3.

A. Illicit Discharges and Improper Disposal Program

SAWS manages an illicit discharge and improper disposal program to monitor the City's sanitary sewer for overflows with the use of "Smart Covers." Additionally, in-line flow monitoring, cleaning programs, and inspections are conducted to operate and maintain the sanitary sewer and prevent overflows and their impact to surface waters. SAWS inspects, repairs, and cleans each location of the sanitary sewer with historical SSOs. Trend analyses are developed to identify SSO "hot spots" for routine monitoring and evaluation.

B. Hazardous Material Spill Response Program

The City Fire Department (SAFD) manages the hazardous material spill response program for spills that occur within the City limits. SAFD responds to emergency situations, including hazardous spills or leaks from industrial incidents, train derailments, motor vehicle accidents, aircraft crashes, and illegal dumping of hazardous material. Event coordination involves the Police Department (SAPD), PWD, SAWS, Texas Department of Transportation (TxDOT), and other entities, as needed.

SAFD Hazardous Material Response Team (HMRT) is making advancements with incident tracking by implementing new records management software. Utilizing this software will allow the HMRT to track all types of chemical releases, to include product involved, quantity and location. Impact on surface water (to include stormwater) will be tracked, as well. In addition to incident response data, SAFD has implemented a new database platform that tracks all forms of training.

C. Household Hazardous Waste and Solid Waste Program

The City Solid Waste Management Department (SWMD) utilizes the Household Hazardous Waste (HHW) and Solid Waste Program to minimize the potential impact of HHW and debris to the MS4. The HHW program provides City residents the opportunity to properly dispose of paint, pesticides, motor oil, oil filters, antifreeze, batteries, electronic waste, household cleaners, and other chemicals. The City promotes recycling and reuse as the preferred method of reduction.

Additionally, the SWMD provides solid waste collection services. Residents are provided a recycling, organics, and garbage cart to be collected for recycling and disposal. Curbside brush pick-up is also provided. During bulk collection, SWMD staff are assigned to known illegal dump sites to remove debris and properly dispose of it.

D. Storm Sewer System Mapping

The PWD utilizes a 3rd party contractor to locate and identify underground stormwater and surface drainage structures, conduct CCTV inspections, assess storm sewer condition, evaluate the condition of

structures, manage a MS4 database, and map the City MS4. The PWD maintains a web map that identifies the City MS4, including stormwater outfalls. This map is updated regularly.

E. Monitoring and Screening Program (Dry Weather Screenings)

Dry weather screenings are an integral part to illicit discharge detection and elimination for the City. SAWS screens stormwater outfalls 24 inches or larger and open channels for illicit discharges. Dry weather screening of the open channels and outfalls allows for prompt response to any observed illicit discharges. SAWS records inspection forms and maintenance records for annual reporting.

F. I-Plan Management Measure 1 – Implement Wastewater Collection and Transmission System Operation and Maintenance Programs to Reduce Sanitary Sewer Overflows

SAWS operates and maintains the Wastewater Collection and Transmission System (WCTS) to minimize system failures, malfunctions, line blockages, and SSOs. General operation and maintenance (O&M) consist of a SSO response plan, system cleaning program, lift station operation and maintenance, fats, oils, and grease reduction, condition assessment and remedial measures, capacity assessment and remedial measures, lift station rehabilitation and elimination, force main assessments, Edwards Aquifer Recharge Zone protection, and water quality protection.

G. I-Plan Management Measure 4 – MS4 Related Activities and MS4 Phase I Water Quality Protection Activities

The City and SAWS are subject to TPDES Permit No. WQ000428000. This SWMP has been developed in accordance with the Permit and addresses the Phase I MS4 requirements.

H. I-Plan Management Measure 5 – Avian Management for the River Walk and Other Riparian Areas

Concentrated avian populations can negatively affect the surface water quality by increasing the bacteria loading. Exotic waterfowl, unlike native wildlife species like herons, egrets, or bats, are not protected by state or federal laws and are considered a detriment to the natural ecosystem. However, the complete exclusion of these animals is unrealistic and undesirable, so limited actions can be taken at key locations to reduce the number of birds present. The CCDO continues to work diligently to remove avian populations from the downtown area to reduce avian population contributing to bacteria loading. The CCDO has applied for and been granted a permit from the United States Fish and Wildlife Service to eradicate 10 to 15 egrets along the River Walk Loop area above several restaurants. Other available deterrence techniques include modifying the habitat around water bodies and managing vegetation to minimize the attractiveness, turf maintenance, and planting of agricultural species that do not provide

food for migrating birds and other species. Reporting metrics for this measure include a log of falconer and laser deployments.

I. I-Plan Management Measure 6 – Expansion of Pooper Scooper Program

The City Parks & Recreation Department (PRD) utilizes a combination of the City ordinance, Pooper Scooper Program, and dog parks to minimize the exposure of pet waste to the MS4. Pet waste deposited on the yard, sidewalk, or gutter, can easily end up in the storm drain and eventually enter local waterways and contribute to nutrients and bacteria in urban streams. The City has expanded the Pooper Scooper Program enforcement and public outreach, which are vital elements that complement the rules outlined in the ordinance. This element is used in conjunction with the Pooper Scooper Program that involves public outreach, signage, and the placement of stations for pet waste pick-up and disposal. The Pooper Scooper Program uses a combination of public outreach and provision of pet waste pick-up materials to encourage owners to pick up after their pets. Currently, the PRD uses Mutt Mitts, which are double-ply, degradable, mitten-like plastic bags, that can be used to pick up pet waste. As well as the mitts, the manufacturer also sells dispensers that can be pole or wall-mounted in public places, along with signs encouraging pet owners to use them to pick up after their pets. In conjunction with the other programs, public education and outreach has been used to expand the Pooper Scooper Program resulting in the increase of the public awareness of the issue. The PRD maintains Mutt Mitt pet waste stations along linear creek ways and dog parks.

J. I-Plan Management Measure 16 – Homeless and Vagrant Population: Cleaning and Control of Brush and Dumping at Encampments

Another potential source of bacteria in the City MS4 are transients or homeless encampments. To reduce this potential bacteria load, the City, including SWMD, CCDO, Code Enforcement, and the SAPD, conduct a coordinated effort to remove homeless encampment debris.

K. I-Plan Management Measure 22 & 7 – Urban Horse Stables

The City Animal Care Services Department (ACS) Department monitor horse stables located adjacent to Salado Creek, just upstream of the Austin Highway crossing. Horse stables are a potential source of bacteria and are inspected for compliance with City ordinance. Much of the creek riparian zone is wooded and vegetated, and wildlife, particularly birds and small mammals, are likely. The widespread residential areas also house numerous pets. These animal sources can discharge bacteria to the MS4 and stream via direct discharge via wash off during storm events.

3.1.4 MCM 4 – Pollution Prevention and Good Housekeeping for Municipal Operations

Develop and implement a pollution prevention and good housekeeping program, including waste handling, pesticide, herbicide, and fertilizer application, and a list of municipal facilities. The goal of this program is to reduce the discharge of pollutants from the MS4 due to municipal operations in accordance with Part III, Section B.2.d.i-iv of the Permit. The City utilizes the Pollution Prevention and Good Housekeeping Program and I-Plan Management Measure 19 to meet Permit requirements. These activities are described below. All BMPs are included in Appendix A, Table 4-4 and 4-4-4.

A. Pollution Prevention and Good Housekeeping Program

The PWD is responsible for developing and implementing a pollution prevention and good housekeeping program. This program involves the creation of a Pollution Prevention and Good Housekeeping Plan for Municipal Operations (Plan) and will identify good housekeeping BMPs to reduce pollutant runoff from municipal operations (streets and highway maintenance, parks, municipal office buildings, and water treatment plants), implement BMPs to reduce the discharge of pollutants from road repair, equipment yards, and material storage facilities, or maintenance facilities, and provide training to municipal staff responsible for municipal operations.

B. I-Plan Management Measure 19 – Implement Measures to Improve Maintenance and Cleaning Operations for River Loop Area

The CCDO conducts O&M of the River Loop Area. Historically, walkways were being power washed, and the wastewater discharged into the river. The CCDO now utilizes a new power washer that captures all wastewater. Capturing the wastewater prevents bacteria and FOG from entering the river.

3.1.5 MCM 5 – Industrial and High-Risk Runoff

Continue to improve the existing programs to identify and control pollutants from any industrial or commercial stormwater discharges that pose a high-risk to the MS4 in accordance with Part III, Section B.2.e.i-iii of the Permit. The City utilizes the Industrial and High-Risk Runoff Program to meet Permit requirements. These activities are described below. All metrics being tracked are included in Appendix A, Table 4-5.

A. Industrial and High-Risk Runoff Program

SAWS inspects industrial and high-risk runoff within the City, including facilities subject to stormwater TPDES regulations. SAWS confirms TCEQ Permit coverage, identifies and verifies the Industrial Classification (SIC/NAICS), reviews the SWP3, conducts an inspection to observe all onsite operations,

reviews the implementation and effectiveness of BMPs identified in the SWP3, reviews facility stormwater sampling data, and identifies the facilities compliance status (Compliant, Corrective Action Required, Advisory, No Permit Required, and Notice of Violation) and any actions required to come into compliance. Tasks also include an annual inspection of regulated facilities, bi-annual inspections of high-risk/regulated facilities (e.g., salvage yards and plating facilities), updating a database with new regulated industries and deleting closed facilities thus updating compliance status, and reviewing sampling data or sample facilities (if required) to confirm implementation and effectiveness of BMPs.

3.1.6 MCM 6 – Construction Site Stormwater Runoff

Continue the implementation of a program to reduce the discharge of pollutants into the MS4 from construction sites in accordance with Part III, Section B.2.f.i-iv of the Permit. The City utilizes the Construction Site Stormwater Runoff Program, Construction and Post-Construction Plan Reviews, an Stormwater Reporting by Public Program to meet Permit requirements. These activities are described below. All BMPs are included in Appendix A, Table 4-6.

A. Construction Site Stormwater Runoff Program

SAWS has implemented a program to evaluate construction sites requiring a TPDES discharge permit. Construction compliance staff evaluate sites one acre and larger or part of a larger plan of development for environmental compliance with the TCEQ General Permit inside the City limits including areas on the Edwards Aquifer Recharge and Contributing Zones, and portions of the county discharging to the City's MS4. SAWS is responsible for verifying that there is an appropriate TPDES permit for the site and that the requirements and implementation of the SWP3 have been met at each site. This includes identifying sources of contaminants at the site and evaluation of the site's BMPs. Based on the site evaluation, staff make recommendations for corrective action and determine if Code violations occurred to apply the proper enforcement actions. The program continues to improve the quality of stormwater discharges by making the owner/operator at the source responsible for onsite control of excessive sediment runoff and the associated turbidity and other construction related pollutants. Construction site inspections allow SAWS to identify active BMP failures and prevent failures that haven't occurred.

B. Construction and Post-Construction Plan Reviews

The PWD and SAWS both have a responsibility to review Post-Construction and Construction plans, respectively. Conducting plan reviews allows for the PWD and SAWS to be proactive and focused on post-construction and construction environmental compliance.

C. Stormwater Reporting by Public Program

Both the PWD and SAWS operate hotlines that are available for the public to report stormwater quality concerns. A 311 hotline is available to report a complaint or request service Monday-Sunday - 7am-7pm, City Holidays - 8am-5pm, (~50% of the time), or a form can be submitted 24/7 at: https://www.sanantonio.gov/contact. SAWS can be contacted to report leaks from their system at 210-704-SAWS (7297), 24/7, or a form can filled out be at: https://www.saws.org/connecth2o/contact-us/.

3.1.7 MCM 7 – Public Education and Outreach and Public Involvement

Continue to conduct public education and outreach programs for residents, visitors, public service employees, businesses, commercial, and industrial facilities, and construction site personnel and provides stormwater quality topics, including proper management and disposal of used oil and HHW and the proper use, application, and disposal of pesticides, herbicides, and fertilizers by public, commercial, and private applicators, and provide public involvement opportunities in accordance with Part III, Section B.2.g.i-ii of the Permit. The City utilizes the Stormwater Education and Public Involvement Program to meet Permit requirements. These activities are described below. All BMPS are included in Appendix A, Table 4-7.

A. Stormwater Education and Public Involvement Program

The PWD, ACS, SAWS, PRD, and SWMD offer an environmental education program that provides valuable learning opportunities for children through adults utilizing classroom curriculum, interactive activities and special events and programs both inside and outside of the school setting. The Stormwater Education Program takes a holistic approach to water. Focusing on stormwater, groundwater, wastewater treatment and drinking water issues for the education of teachers, students, and the public from pre-kindergarten through adults. From an effective communications standpoint, it is essential that the stormwater quality message be a component of the overall water education program. This program combines all water messages/information into one program, through which we can reach more citizens each year with a comprehensive water message as opposed to teaching each program separately. Developing good working relationships with area educators, businesses, neighborhood groups and other public entities has broadened and strengthened the Stormwater Education Program. General topics include water quality protection, River Walk Avian Management, the Pooper Scooper Program, and the pet control/livestock pen ordinances.

The Remember the River campaign is developed and coordinated through the City with support from SAWS as well as local organizations and community groups. The primary goals of the campaign are to:

1) Educate, inform, and increase awareness among individual residents and commercial groups regarding nonpoint source pollution; and 2) Promote practices which help reduce and prevent pollutants from entering the MS4 through storm water runoff.

Additionally, the PWD, ACS, SAWS, PRD, and SWMD provides the public with opportunities to become involved in the effort to maintain the MS4. The public participate in the Floatable Debris Program, HHW/Solid Waste Programs, stormwater education and field trips, Dog Park Ambassador Program, and Adopt-A-Spot. The Adopt-A-Spot program (Management Measure 13) provides opportunities for businesses, neighborhood associations, volunteer groups, and civic groups to clean up illicitly dumped trash, brush, other of waste to help maintain the City's rights-of-way, streets, medians, drainage channels, and green spaces.

3.1.8 MCM 8 – Monitoring, Evaluation, and Reporting

Update and continue a monitoring, evaluation, and reporting program that includes dry weather screenings, wet weather screenings, industrial and high-risk runoff monitoring, storm event discharge monitoring, the Mitchell Lake Wetlands BMP, and floatable debris monitoring in accordance with Part III, Section B.2.g.i-vi, Part IV. Monitoring and Reporting Requirements, and Part VI. Other Requirements of the Permit. The City utilizes the Industrial and High-Risk Runoff Program, Monitoring and Screening Program, Mitchell Lake Constructed Wetlands Management, and I-Plan Management Measures 2 and 4 to meet Permit requirements. These activities are described below. All BMPs are included in Appendix A, Table 4-8.

A. Industrial and High-Risk Runoff Program

SAWS inspects industrial and high-risk runoff within the City, including facilities subject to stormwater TPDES regulations. SAWS confirms TCEQ Permit coverage, identifies and verifies the Industrial Classification (SIC/NAICS), reviews the SWP3, conducts an inspection to observe all onsite operations, reviews the implementation and effectiveness of BMPs identified in the SWP3, reviews facility stormwater sampling data, and identifies the facilities compliance status (Compliant, Corrective Action Required, Advisory, No Permit Required, and Notice of Violation) and any actions required to come into compliance. Tasks also include an annual inspection of regulated facilities, bi-annual inspections of high-risk/regulated facilities (e.g., salvage yards and plating facilities), updating a database with new regulated industries and deleting closed facilities thus updating compliance status, and reviewing sampling data or sample facilities (if required) to confirm implementation and effectiveness of BMPs.

B. Monitoring and Screening Program

SAWS ensures the implementation of the Monitoring and Screening Program. Dry weather screenings are an integral part to illicit discharge detection and elimination. SAWS screens stormwater outfalls 24 inches or larger and open channels for illicit discharges. Dry weather screening of the open channels and outfalls allows for prompt response to any observed illicit discharges. Wet weather screenings include the collection of grab samples in areas to track the loadings of certain constituents during storm events, particularly bacteria. Upstream areas of the stream reaches are investigated if bacteria concentrations are elevated or exceed the TMDL Waste Load Allocation. Storm event representative monitoring is conducted to include flow proportional storm sampling at multiple outfalls described in the Permit and Table 4-8 of the SWMP.

C. Mitchell Lake Constructed Wetlands Management

Historically, Mitchell Lake was used by SAWS to discharge treated effluent. SAWS is currently complying with Environmental Protection Agency Administrative Order CWA-060201901753 issued in 2016 for Mitchell Lake sampling and monitoring. To improve the water quality of Mitchell Lake effluent, SAWS is developing constructed wetlands to treat lake discharges before they reach the river. A pilot study was conducted in 2019 and the project is currently in the environmental investigation and design phase.

D. I-Plan Management Measure 2 – San Antonio Zoo UV Treatment System Implementation

The San Antonio Zoo (Zoo), located in Brackenridge Park, has been identified as a major point source contributor of bacteria in the Upper San Antonio River during dry weather. Bacteria originate from resident and nonresident animals, principally waterfowl and other birds, which are located along the internal waterway that traverses the Zoo. The internal waterway is fed by a well, withdrawing water from the Edwards Aquifer. One primary and one secondary outfall from the internal waterway discharge to the Upper San Antonio River. Discharge from the secondary outfall is generally negligible unless under rainfall runoff conditions. The PWD installed a UV treatment system to reduce bacteria density by way of Ultra-violet (UV) light disinfection of the waterway. The UV disinfection process is a non-chemical method for destroying microorganisms by altering their genetic material and rendering them unable to reproduce. Optimal treatment effectiveness of a UV system is achieved when the transmissivity (low turbidity/water clarity) of the treated water approaches 100 percent, as turbidity governs the effectiveness of UV (Klotz Associates, 2008). The UV system is designed to accept 5 mg/L of TSS. The UV system, operated and maintained by the City Public Works Department, has been designed to have a total of 72 bulbs (four banks of 18) of low-pressure lamps. The water quality modeling projected that once the base flow from the Zoo has been controlled, there should be an observable improvement in water quality in the upper

reach of the impaired river segment. With disinfection, concentrations at the Zoo outfall should be significantly reduced, and concentrations downstream of the outfall should decrease substantially.

E. I-Plan Management Measure 4 – MS4 Related Activities and MS4 Phase I Water Quality Protection Activities

The City and SAWS are subject to TPDES Permit No. WQ000428000. This SWMP has been developed in accordance with the Permit and addresses the Phase I MS4 requirements.

3.2 Impaired Waters and Total Maximum Daily Load Summary

In addition to the MCM requirements, the Permit describes required actions if a regulated MS4 discharges a pollutant of concern to an impaired water body or discharges into a water body that is part of a watershed with an approved TMDL, regardless of the water body itself being impaired. For the administration of this Permit, a watershed boundary is considered as it is defined by the TMDL requirements and/or I-Plan. Not all regulated MS4s discharge into an impaired water body, and thus these requirements do not apply to all regulated entities. If a regulated MS4 discharges a pollutant of concern to an impaired water body with an established TMDL, the regulated MS4 must be consistent with the approved TMDL to be eligible for coverage by the Permit. The TMDL process includes an intensive assessment of the root cause of poor water quality, a determination of the maximum pollutant loading allowable while still meeting water quality use standards, and development of a plan by local stakeholders to remediate pollution sources.

For MS4s discharging a known pollutant of concern into impaired water bodies, their SWMP must include information on the implementation of “targeted controls”, which are activities, practices, or structural controls that focus on reducing the water quality impact of the specific pollutant. For each targeted control, a measurable goal, implementation schedule, and “benchmark” must be established. A benchmark is a quantifiable goal designed to assist in determining if the targeted controls are effective in addressing the pollutant. The exceedance of a benchmark does not indicate a Permit violation; it does, however, help in the evaluation of the progress towards reducing pollutant discharges.

Section 4.5 addresses the City’s specific actions to control the discharge of pollutants of concern to impaired waters and evaluate the progress of controlling those pollutants.

3.3 Program Development Summary

Existing City programs and activities that protect the City's stormwater quality were identified and are included in the SWMP, as applicable. These programs and activities will be supplemented with several new

BMPs to provide additional protection of stormwater quality as required by the Large MS4 Individual Permit.

An implementation schedule and measurable goals to track the implementation progress have been developed for each of the BMPs in this SWMP. Each BMP was selected based on the projected effectiveness in protecting stormwater quality and its ability to aid in compliance with Permit conditions. The City will review the implementation progress each year and modify the SWMP, as necessary.

The BMP Activities and Implementation Schedule (Appendix A, Table 4-1 through 4-8) is designed to summarize all activities within the SWMP. It identifies each BMP with activity descriptions, how it meets specific Permit requirements, the responsible agencies measurable goals, implementation schedules, and documentation needs for the remainder of the Permit term. The subsequent appendices provide reference material and help serve as a toolbox to keep the SWMP updated as required. Section 4 details the SWMP development process.

4.0 COMPLIANCE APPROACH

The City developed this SWMP in conjunction with SAWS to comply with TPDES requirements for stormwater discharges and certain non-stormwater discharges. The SWMP is intended to aid in the City's efforts to reduce stormwater pollutant discharge from the City's storm sewer system to the MEP as required by the Permit.

The SWMP describes specific actions that will be taken over this Permit term to reduce pollutants and protect the City's stormwater quality. The specific activities to be implemented are referred to as BMPs. Various BMPs have been developed for each of the required MCMs. The SWMP also sets measurable goals and provides a schedule for the implementation of the BMPs. Implementation of the selected BMPs is expected to result in a reduction of pollutants discharged into City's streams, ponds, and lakes. The City will annually review the SWMP and the implementation procedures for MCMs 1 through 8 and update, as necessary.

4.1 Assessment of Existing BMPs

The City has historically implemented various BMPs intended to protect stormwater quality. An important aspect of developing an effective, compliant, and cost efficient SWMP is to account for the existing programs that are efficiently benefitting water quality. Likewise, a successful SWMP involves modifying or eliminating inefficient or ineffective existing BMPs. As such, one of the initial steps of the assessment process, which included meetings with staff from City departments, involved modifying or eliminating BMPs.

4.2 Identification of Additional BMPs

The second step identified additional BMPs that would meet requirements of the Permit and protect water quality to the MEP. Additional BMPs were selected to supplement the City's existing programs and to augment requirements of the Permit. The additional BMPs were evaluated based on their ability to meet at least one, and preferably several, of the MCM requirements.

The evaluation process involved researching a variety of sources of BMPs, such as regulatory agencies, industry associations, and private enterprises. Some of the additional BMPs were selected directly from standard BMP "toolboxes" available from the EPA, while others were tailored to the specific needs of San Antonio. Each BMP considered was evaluated based on the following criteria:

- Which of the MCM requirements does the BMP meet?

- How does the BMP fit into the City's existing goals, operations, and activities?
- What is the anticipated effectiveness of the BMP?
- What is the general cost range to implement the BMP?

Specific costs for the BMPs were not identified during the development of this SWMP; however, BMPs with significant investment requirements and relatively minor stormwater quality benefit were not selected. More detailed budget requirements will be evaluated, as needed, during the implementation of the BMP.

4.3 Selection Process for Measurable Goals and Implementation Schedule

Specific measurable goals have been developed for each BMP. In accordance with the Permit requirements, measurable goals have been developed to evaluate the success of the City's SWMP toward reaching the goal of protecting water quality and reducing pollutants to the MEP. Goals were selected with a consideration toward achieving steady implementation, assessing the ability to measure and track progress, and working within budgetary constraints. In general, measurable goals for existing BMPs monitor the effectiveness of the BMP, whereas measurable goals for new BMPs monitor their implementation progress.

The TCEQ has authorized the steady implementation of new BMPs over a multi-year period. For new BMPs, the first year of the Permit program is largely dedicated to developing and commencing the implementation of new activities. Generally, the second through fifth years focus on phased implementation, evaluating the effectiveness of existing BMPs, and tracking the implementation of new BMPs. Existing BMPs will be continued in accordance with the Permit.

4.4 Measurable Goal Evaluation Process

The selected measurable goals for each BMP will be evaluated on an annual basis. Implementation of each BMP will be tracked as appropriate during each Permit year to provide documentation of the BMP activities. Relative success at achieving the measurable goals, as well as an assessment of the effectiveness of each BMP, will also be evaluated on an annual basis.

Multiple City departments and SAWS are responsible for implementing portions of the SWMP and for tracking and evaluating the City's success in meeting the program's measurable goals. Each responsible authority with activities or responsibilities that may impact stormwater quality will maintain documentation showing progress towards meeting the annual measurable goals for each BMP and make this information available to the person designated for SWMP coordination.

4.5 Targeted Controls for Impaired Water Bodies

As summarized in Appendix A, Table 2, there are direct and indirect discharges of stormwater to:

Salado Creek (AUs 1910_02, 1910_03, and 1910_04), Walzem Creek (AU 1910A_01), Menger Creek (AU 1910D_01), Upper San Antonio River (AUs 1911_05, 1911_08, and 1911_09), Apache Creek (AU 1911B_01), Alazan Creek (AUs 1911C_01 and 1911C_02), San Pedro Creek (AUs 1911D_01 and 1911D_02), Sixmile Creek (AU 1911E_01), and Martinez Creek (AU 1911I_01), which are impaired and have approved TMDLs. All segments and assessment units identified above have a TMDL for bacteria in water. Discharges of pollutants to impaired water bodies where there is a TCEQ and EPA-approved TMDL are only allowable under the Permit if they are consistent with the approved TMDL and the Waste Load Allocation (WLA). The City shall control the discharges of pollutants of concern to impaired waters and water with approved TMDLs. The City's annual report must include information on the implementation of targeted BMPs and measurable goals described in this SWMP. For each of the impaired water bodies with TMDLs, this SWMP includes Targeted Controls and Measurable Goals included in Appendix A, Table 4-1 through 4-8. Benchmarks for each impaired stream have been determined based on the WLAs for the City MS4. The WLAs are identified as benchmarks in Appendix A, Table 1 of the SWMP. These benchmarks do not act as numeric effluent limitation or Permit conditions but are intended to be guidelines for evaluating progress towards a goal. The exceedance of a benchmark is not a Permit violation and does not by itself indicate a violation.

Additionally, AU 1910_04 is impaired for depressed dissolved oxygen in water. However, TCEQ project staff have determined that there is additional capacity in Salado Creek to assimilate oxygen-demanding materials; therefore, an I-Plan for the TMDL is unnecessary[1]. As a result, there are no I-Plan Management Measures specific to depressed dissolved oxygen in Salado Creek.

Since the impaired water bodies have approved TMDLs for impairment for bacteria in water and depressed dissolved oxygen in water; the City has developed specific BMPs to address sanitary sewer systems, on-site sewage facilities, illicit discharge and dumping, animal sources, and residential education in accordance with Part II, Section C of the Permit:

The City has also implemented BMPs sourced from the management measures contained in the "Implementation Plan for Three TMDLs for Bacteria in the Upper San Antonio Watersheds" (TCEQ, 2016).

[1] Improving Water Quality in Salado Creek, A Project to Protect Aquatic Life (TCEQ, 2021), 2.

Management measures that have been adapted into BMPs with measurable goals, carried out by the City and SAWS are summarized in Section 3.1 Minimum Control Measure Summary.

Additional information, including measurable goals, for each of the BMPs derived from management measures collected from the Upper San Antonio Watershed I-Plan are in Appendix A of this SWMP.

Additional impaired segments, as summarized in Table 3 below, receive direct discharges of stormwater from the MS4. Medina River Below Diversion Lake (AU 1903_01, 1903_02, and 1903_03) and Medio Creek (AU 1912_01) are impaired for bacteria in water. Salado Creek (AU 1910_02) is listed for impaired fish and macrobenthic community in water. Lower Leon Creek (AU 1906_03, 1906_04, 1906_05, and 1906_06) is impaired for PCBs in edible fish tissue. TMDLs have not been developed or approved for these AU/Constituent pairs at this time. The City will identify potential significant sources and implement focused BMPs for bacteria sources. The focused BMPs required for the bacteria TMDLs will also be utilized and implemented in areas where there is direct discharge of stormwater from the MS4 to impaired streams.

Salado Creek (AU 1910_02) contains impaired fish and macrobenthic community in water. However, the source of the pollutant is unknown[2]. The City will continue to review subsequent EPA-approved Texas Integrated Reports to identify updates, if any.

Lower Leon Creek (AUs 1906_03, 1906_04, 1906_05, and 1906_06), is impaired for legacy pollutants, specifically PCBs in fish tissue; however, TMDLs have not been approved at this time. Legacy pollutants are banned or have been severely restricted from use, and thereby, additional loading of pollutants is not expected by the EPA. Accordingly, the MS4 discharges are not considered to be a source of pollutants of concern. Gradual declines in environmental legacy pollutant concentrations occur because of natural attention processes. Therefore, the direct discharges to Lower Leon Creek (AUs 1906_03, 1906_04, 1906_05, and 1906_06) do not require the SWMP to include focused BMPs with corresponding measurable goals.

The City will check biennially if an impaired water within its permitted area has been added to the latest 303(d) or 305(b) list or the biennial Texas Integrated Report. Within two years following the approval date of the addition of any impaired water bodies, the City will assess if the MS4 discharges are a source of the pollutant of concern, and if so, identify targeted controls, measurable goals, and benchmarks for addressing the pollutant consistent with the Permit requirements.

[2] 2020 Texas Integrated Report – Potential Sources of Impairments and Concerns (TCEQ, 2020), 355.

4.6 Legal Authority and Regulatory Mechanism

The City, in accordance with Part III, Section F of the Permit, will review and revise, if needed, its relevant ordinance(s) or other regulatory mechanism(s) or adopt a new ordinance(s) or other regulatory mechanism(s) that provide the City with adequate legal authority to control pollutant discharges into and from its Phase I MS4 to meet the requirements of the Permit. The City's existing legal authority in Chapter 34-702 will be reviewed to confirm compliance with the Permit.

4.7 Assessment of Allowable Non-Stormwater Discharges

In accordance with Part III, Section B.2.c.iv of the Permit and Chapter 34-702 of the City ordinance, non-stormwater discharges will be assessed to determine whether they are known to be significant contributors of pollutants to the City's water bodies. Non-stormwater discharges must be evaluated by the City to determine if any known, significant, water quality impacts were created because of the discharges. Evaluation of allowable non-stormwater discharges will be conducted as part of the illicit discharge inspection BMP identified in Appendix A, Table 4-3.

5.0 RECORDKEEPING AND REPORTING

5.1 Recordkeeping

The City will maintain all records and a copy of the Permit for the term of this Permit and an additional three years after the Permit term. A current, up-to-date copy of the SWMP, including the current Permit attachment, will be maintained at the City offices.

5.2 Annual Report

The City will submit an annual update report to the Executive Director of the TCEQ by March 1st for the prior reporting year (October through September). The annual report will also be submitted to the TCEQ Regional Office that serves the area of the MS4. The City will maintain copies of the annual reports at the City offices.

In accordance with Part IV, Section C of the Permit, the annual report will summarize the City's actions to address the requirements listed in the Permit. The Annual Report will include the following:

1. MS4 Maintenance Activities
    a. Structural Controls
    b. Floatables
    c. Roadways
2. Post–Construction Stormwater Control Measures
    a. Areas of New Development and Significant Redevelopment, including the status of complying with new requirements
    b. Evaluation of the existing SWMP to ensure implementation and enforcement of a regulatory mechanism
    c. Flood Control Projects
3. Illicit Discharge Detection and Elimination
    a. Illicit and Allowable Discharges
    b. Detection and Elimination of Illicit Discharges, including the status of complying with new requirements
    c. Overflows and Infiltration
    d. Household Hazardous Waste and Used Motor Vehicle Fluids
    e. MS4 Screening and Illicit Discharge Inspections

f. NPDES and TPDES Permittee List
g. MS4 Map, including the status of complying with new requirements
h. Spill Prevention and Response

4. Pollution Prevention/Good Housekeeping for Municipal Operations
   a. Pollution Prevention/Good Housekeeping Program, including the status of complying with new requirements
   b. Structural Control Maintenance
   c. Waste Handling
   d. Pesticide, Herbicide, and Fertilizer Application
   e. List of Municipal Facilities
5. Industrial & High-Risk Runoff
   a. Priorities and Procedures for Inspections and Implementing Control Measures
   b. Industrial and High-Risk Monitoring Program (alternatively, this may be referenced in the Monitoring section of the annual report)
6. Construction Site Stormwater Runoff
   a. Requirements for Structural and Non-Structural BMPs
   b. Inspection of Construction Sites and Enforcement Requirements
   c. Education and Training for Construction Site Operators
   d. Notification of Requirements to Construction Site Operators
   e. List of Construction Sites
   f. Status of complying with new requirements (e.g., site plan review of projects that are one or more acres in size)
7. Public Education and Outreach/Public Involvement and Participation
   a. Public Education, including the status of complying with new requirements
   b. Public Involvement and Participation, including the status of complying with new conditions
   c. Evaluation of the effectiveness of this MCM
8. Monitoring, Evaluation and Reporting
   a. Dry Weather Screening Program
   b. Wet Weather Screening Program
   c. Industrial and High-Risk Runoff Monitoring Program
   d. Floatables Monitoring
   e. Mitchell Lake Wetland BMP and Dam Spillway

f. If applicable, Impaired Water Bodies and TMDL Requirements

For each program element listed above, the permittees shall include the following separate sections, with an overview for the entire MS4:

1. For shared programs, a description of the portion of the current program that the permittee has implemented for each SWMP element;
2. the status of implementing the SWMP (status of compliance with any schedules established under this Permit);
3. any proposed changes to the SWMP for the next reporting year; and
4. a summary describing the number and nature of enforcement actions and inspections, where applicable.

Generally, the annual report will include an overview of each SWMP element, appendices for the effectiveness of the Mitchell Lake Wetland BMP and summary of releases, water quality improvements, degradations, and progress toward measurable goals, document the stormwater-related activities for the previous year, evaluate and analyze the success of each BMP and targeted controls relative to their measurable goals, and discuss plans for the upcoming year, including modifications to the SWMP. Modifications may include replacement of BMPs, alteration of the implementation schedule, or other changes allowed by the Permit.

5.3 Program Updates

This program may be updated by the City at any time. When considering eliminating a BMP, the information in Appendix B is recommended to be reviewed to determine if the removal of the BMP will result in non-compliance for any of the MCMs. This would occur, for example, if the BMP is the only BMP that provides compliance for a specific Permit provision. In such a case, the BMP would need to be replaced with a new BMP that continues to meet the relevant Permit requirement.

Significant changes to the SWMP document require TCEQ approval. Specific requirements for SWMP changes and documentation of program updates involving changes in BMPs, measurable goals, or the implementation schedule are in the Permit (Appendix B).

5.4 Reference Material

National Oceanic and Atmospheric Administration (NOAA). 2022. National Centers for Environmental Information (NCEI) San Antonio, Texas. https://www.ncei.noaa.gov/access/us-climate-normals/. Data obtained May 2022.

Texas Commission on Environmental Quality (TCEQ). 2020. 2020 Texas Integrated Report – Potential Sources of Impairments and Concerns. https://wayback.archive-it.org/414/20200910072252/https://www.tceq.texas.gov/assets/public/waterquality/swqm/assess/20txir/2020_sources.pdf. Data obtained May 2022.

Texas Commission on Environmental Quality (TCEQ). 2016. Implementation Plan for Three Total Maximum Daily Loads for Bacteria in the Upper San Antonio Watersheds. https://www.tceq.texas.gov/assets/public/waterquality/tmdl/34uppersa/34F_UpperSanAntonio_TMDLIPlan_Approved.pdf. Data obtained May 2022.

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Texas Commission on Environmental Quality (TCEQ). 2022. Surface Water Quality Segment Viewer. https://www.tceq.texas.gov/gis/segments-viewer. Data obtained June 2022.

Texas Parks and Wildlife (TPW). 2022. Texas Ecoregions. https://tpwd.texas.gov/education/hunter-education/online-course/wildlife-conservation/texas-ecoregions. Data obtained May 2022.

United States Census Bureau. 2020. San Antonio, Texas Quick facts. https://www.census.gov/quickfacts/fact/dashboard/sanantoniocitytexas/POP010220#POP010220. Data obtained May 2022.

Texas Parks and Wildlife (TPW). 2022. Texas Ecoregions. https://tpwd.texas.gov/education/hunter-education/online-course/wildlife-conservation/texas-ecoregions. Data obtained May 2022.

6.0 DEFINITIONS

The following are definitions to key words or phrases that are used throughout this SWMP. The definitions are taken directly from the Permit.

Best Management Practices (BMPs) - schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution in discharges that reach waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

CWA - Clean Water 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. (6-483 and Pub. L. 97-117, 33 U.S.C. 1251 et. seq.).

Co-permittee - one of several entities authorized under a single individual permit that is only responsible for permit conditions relating to the discharge for which it is the operator or an entity for which a significant portion of permit SWMP implementation has been delegated.

Daily maximum concentration - the maximum concentration measured on a single day, by composite sample unless otherwise specified elsewhere in this permit, within a period of one calendar month.

Discharge - unless indicated otherwise, refers to discharges from the Municipal Separate Storm Sewer System (MS4).

Flow-weighted composite sample - a composite sample consisting of a mixture of aliquots collected at either:

1. a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge; or
2. a constant volume at varying time intervals, proportional to the discharge flow rate.

Grab sample - an individual sample collected in less than 15 minutes.

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 composed entirely of stormwater except discharges pursuant to a NPDES or TPDES permit (other than the NPDES or TPDES permit for certain discharges from the municipal separate storm sewer), discharges resulting from fire-fighting activities, and other allowable non-stormwater discharges described in Part III. Section B.2.c. of this permit.

Landfill - an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.

Large or medium municipal separate storm sewer system (MS4) - all MS4s that are either:

1. located in an incorporated place (city) with a population of 100,000 or more as determined by the 1990 Decennial Census by the Bureau of Census (these cities are listed in Appendices F and G of 40 CFR Part 122); or
2. located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties (these counties are listed in Appendices H and I of 40 CFR Part 122); or
3. owned or operated by a municipality other than those described in paragraph (a) or (b) and that are designated by the EPA as part of the large or medium municipal separate storm sewer system.

Major Outfall - an outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive stormwater from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

Maximum Extent Practicable (MEP) - the technology-based discharge standard for MS4 established by Section 402(p) of the Federal Clean Water Act.

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):

1. owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over 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 section 208 of the CWA that discharges to waters of the United States;
2. designed or used for collecting or conveying stormwater;
3. which is not a combined sewer; and
4. which is not part of a Publicly Owned Treatment Works (POTW) as defined at 30 TAC § 305.2.

Outfall – for the purpose of this permit, an outfall is a point or location where an MS4 discharges to waters of the U.S. and does not include a conveyance that connects two municipal separate storm sewers.

Permittee - any entity authorized by this permit to discharge to surface water in the state.

Point source – for the purpose of this permit, 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, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Storm sewer - unless otherwise indicated, a municipal separate storm sewer (MS4).

Stormwater - stormwater runoff, snow melt runoff, and surface runoff and drainage.

Stormwater discharges associated with industrial activity - defined in TPDES General Permit No. TXR050000, Industrial Stormwater Multi-Sector General Permit (MSGP).

Stormwater Management Program, or SWMP - a comprehensive program to manage the quality of discharges from the municipal separate storm sewer system. For the purposes of this permit, the SWMP is considered a single document, but may consist of separate components (e.g., "chapters") for each permittee.

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 stormwater runoff. Structural controls and practices may include, but are not limited to, silt fences, earthen dikes, drainage swales, 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 (MHWM) 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.

Waters of the United States (WOTUS) - For the purposes of this permit, Waters of the U.S. means:

1. 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;
2. all interstate waters, including interstate wetlands;
3. all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    a. which are or could be used by interstate or foreign travelers for recreational or other purposes;
    b. from which fish or shellfish are or could be taken and sold in interstate

or foreign commerce; or

c. which are used or could be used for industrial purposes by industries in interstate commerce;

4. all impoundments of waters otherwise defined as waters of the United States under this definition;
5. tributaries of waters identified in paragraphs (a) through (d) of this definition;
6. the territorial sea; and
7. 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 are not waters of the United States. This exclusion applies only to man-made bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States 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 the EPA.

Appendix A
TABLES

Table 1. Water Quality Summary for Receiving Waters

Classified Waterbody (Segment ID)	Receiving Waterbody (Segment ID)	Assessment Unit	Direct or Indirect Outfall	303(d) 305(b) List	TMDL I-Plan	Listed Water Quality Concerns	TMDL Benchmarks (Waste Load Allocations)
Lower Cibolo Creek (Segment ID 1902)	Lower Cibolo Creek (1902)	1902_05	Indirect	No	No	None	Not Applicable
	Martinez Creek (1902A)	1902A_01	Indirect	Yes	No	**Bacteria in water**	Not Applicable
		1902A_02	Indirect	No	No	None	
		1902A_03	Indirect	No	No		
		1902A_04	Direct	No	No		
		1902A_05	Direct	No	No		
	Salitrillo Creek (1902B)	1902B_01	Direct	No	No	None	Not Applicable
		1902B_02	Indirect	No	No		
	Escondido Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Womans Hollow Creek	Not Applicable	Indirect	No	No	None	Not Applicable
	Unnamed Tributaries	Not Applicable	Direct	No	No	None	Not Applicable
Medina River Below Medina Diversion Lake (Segment ID 1903)	Medina River Below Medina Diversion Lake (1903)	1903_01	Direct	**Yes**	No	**Bacteria in water**	Not Applicable
		1903_02	Direct	**Yes**	No		
		1903_03	Direct	**Yes**	No		
		1903_04	Direct	No	No	None	
		1903_05	Indirect	No	No		
	Elm Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Live Oak Slough	Not Applicable	Indirect	No	No	None	Not Applicable
	Losoya Creek	Not Applicable	Indirect	No	No	None	Not Applicable
	Palo Blanco Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Potranca Creek	Not Applicable	Indirect	No	No	None	Not Applicable
	San Geronimo Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Unnamed Tributaries	Not Applicable	Direct	No	No	None	Not Applicable

Classified Waterbody (Segment ID)	Receiving Waterbody (Segment ID)	Assessment Unit	Direct or Indirect Outfall	303(d) 305(b) List	TMDL I-Plan	Listed Water Quality Concerns	TMDL Benchmarks (Waste Load Allocations)
Lower Leon Creek (Segment ID 1906)	Lower Leon Creek (1906)	1906_01	Direct	No	No	None	Not Applicable
		1906_02	Direct	No	No		
		1906_03	Direct	**Yes**	No	**PCBs in edible tissue**	
		1906_04	Direct	**Yes**	No		
		1906_05	Direct	**Yes**	No		
		1906_06	Direct	**Yes**	No		
	Helotes Creek (1906A)	1906A_01	Indirect	No	No	None	Not Applicable
	Comanche Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Culebra Creek	Not Applicable	Direct	No	No	None	Not Applicable
	French Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Huebner Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Indian Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Lee Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Los Reyes Creek	Not Applicable	Indirect	No	No	None	Not Applicable
	Ranch Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Slick Ranch Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Unnamed Tributaries	Not Applicable	Direct	No	No	None	Not Applicable
Upper Leon Creek (Segment ID 1907)	Upper Leon Creek (1907)	1907_01	Direct	No	No	None	Not Applicable
	Huesta Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Unnamed Tributaries	Not Applicable	Direct	No	No	None	Not Applicable

Classified Waterbody (Segment ID)	Receiving Waterbody (Segment ID)	Assessment Unit	Direct or Indirect Outfall	303(d) 305(b) List	TMDL I-Plan	Listed Water Quality Concerns	TMDL Benchmarks (Waste Load Allocations)
Upper Cibolo Creek (Segment ID 1908)	Upper Cibolo Creek (1908)	1908_03	Direct	No	No	None	Not Applicable
	Unnamed Tributaries	Not Applicable	Direct	No	No	None	Not Applicable
Salado Creek (Segment ID 1910)	Salado Creek (1910)	1910_01	Direct	No	No	None	Not Applicable
		1910_02	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**4,731,088x10^6 organisms (org)/day**
				Yes	No	**Impaired fish community in water**	Not Applicable
				Yes	No	**Impaired macrobenthic community in water**	Not Applicable
		1910_03	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**4,731,088x10^6 org/day**
		1910_04	Direct	**Yes**	**Yes**		
				Yes	**Yes**	**Depressed dissolved oxygen in water (TMDL)** ***Sources: BOD and NH3**	**BOD: 152 pounds (lbs.)/day** **NH3 4.95 lbs./day**
	Walzem Creek (1910A)	1910A_01	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**132,644 (10^6 org/day)**
		1910A_02	Direct	No	No	None	Not Applicable
	Rosillo Creek (1910B)	1910B_01	Direct	No	No	None	Not Applicable
	Salado Creek Tributary (1910C)	1910C_01	Direct	No	No	None	Not Applicable
	Menger Creek (1910D)	1910D_01	Direct	**Yes**	**Yes**	**Bacteria in Water (TMDL)**	**0.0374 billion MPN/day**
	Beitel Creek (1910E)	1910E_01	Direct	No	No	None	Not Applicable
	Upper Salado Creek (1910F)	1910F_01	Direct	No	No	None	Not Applicable
		1910F_02	Direct	No	No		
	Salado Creek West Channel (1910G)	1910G_01	Direct	No	No	None	Not Applicable
	Ackerman Creek	Not Applicable	Direct	No	No	None	Not Applicable
	East Elm Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Elm Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Elm Waterhole Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Lorence Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Mud Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Mustang Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Panther Springs Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Pershing Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Rittiman Creek	Not Applicable	Direct	No	No	None	Not Applicable
	West Elm Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Unnamed Tributaries	Not Applicable	Direct	No	No	None	Not Applicable

Classified Waterbody (Segment ID)	Receiving Waterbody (Segment ID)	Assessment Unit	Direct or Indirect Outfall	303(d) 305(b) List	TMDL I-Plan	Listed Water Quality Concerns	TMDL Benchmarks (Waste Load Allocations)
Upper San Antonio River (Segment ID 1911)	Upper San Antonio River (1911)	1911_05	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**17,321,548x10^6 org/day**
		1911_06	Direct	No	No	None	Not Applicable
		1911_07	Direct	No	No		
		1911_08	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**17,321,548x10^6 org/day**
		1911_09	Direct	**Yes**	**Yes**		
	Olmos Creek (1911A)	1911A_01	Direct	No	No	None	Not Applicable
	Apache Creek (1911B)	1911B_01	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**30.19 billion MPN/day**
		1911B_02	Direct	No	No	None	Not Applicable
	Alazan Creek (1911C)	1911C_01	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**3.79 billion MPN/day**
		1911C_02	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**7.12 billion MPN/day**
	San Pedro Creek (1911D)	1911D_01	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**0.058 billion MPN/day**
		1911D_02	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**0.098 billion MPN/day**
	Sixmile Creek (1911E)	1911E_01	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**5.44 billion MPN/day**
	Martinez Creek (1911I)	1911I_01	Direct	**Yes**	**Yes**	**Bacteria in water (TMDL)**	**1.8875 billion CFU/day**
		1911I_02	Direct	No	No	None	Not Applicable
	Calaveras Creek (1911M)	1911M_01	Direct	No	No	None	Not Applicable
	Calavera Reservoir	Not Applicable	Indirect	No	No	None	Not Applicable
	Espada Ditch	Not Applicable	Direct	No	No	None	Not Applicable
	Harlandale Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Hondo Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Minita Creek	Not Applicable	Direct	No	No	None	Not Applicable
	San Juan Ditch	Not Applicable	Direct	No	No	None	Not Applicable
	Unnamed Tributaries	Not Applicable	Direct	No	No	None	Not Applicable
	Zarzamora Creek	Not Applicable	Direct	No	No	None	Not Applicable

Classified Waterbody (Segment ID)	Receiving Waterbody (Segment ID)	Assessment Unit	Direct or Indirect Outfall	303(d) 305(b) List	TMDL I-Plan	Listed Water Quality Concerns	TMDL Benchmarks (Waste Load Allocations)
Medio Creek (Segment ID 1912)	Medio Creek (1912)	1912_01	Direct	**Yes**	No	**Bacteria in water**	Not Applicable
	Upper Medio Creek (1912A)	1912A_01	Direct	No	No	None	Not Applicable
	Caracol Creek	Not Applicable	Direct	No	No	None	Not Applicable
	Unnamed Tributaries	Not Applicable	Direct	No	No	None	Not Applicable
Mid Cibolo Creek (Segment ID 1913)	Mid Cibolo Creek (1913)	1913_01	Direct	No	No	None	Not Applicable
	Unnamed Tributaries	Not Applicable	Direct	No	No	None	Not Applicable

Source: TCEQ 2020 Texas Integrated Report of Surface Water Quality
**MPN – Most Probable Number*
**CFU – Coliform Forming Units*

Table 2. Impaired Receiving Waters with TMDLs

Receiving Waterbody (Segment ID)	Assessment Unit	Direct or Indirect Outfall	303(d) 305(b) List	TMDL I-Plan	Listed Water Quality Concerns
Salado Creek (1910)	1910_02	Direct	Yes	Yes	Bacteria in water (TMDL)
	1910_03	Direct	Yes	Yes	Bacteria in water (TMDL)
	1910_04	Direct	Yes	Yes	Bacteria in water (TMDL) Depressed dissolved oxygen in water (TMDL) *Sources: BOD and NH3
Walzem Creek (1910A)	1910A_01	Direct	Yes	Yes	Bacteria in water (TMDL)
Menger Creek (1910D)	1910D_01	Direct	Yes	Yes	Bacteria in Water (TMDL)
Upper San Antonio River (1911)	1911_05	Direct	Yes	Yes	Bacteria in water (TMDL)
	1911_08	Direct	Yes	Yes	
	1911_09	Direct	Yes	Yes	

Receiving Waterbody (Segment ID)	Assessment Unit	Direct or Indirect Outfall	303(d) 305(b) List	TMDL I-Plan	Listed Water Quality Concerns
Apache Creek (1911B)	1911B_01	Direct	Yes	Yes	Bacteria in water (TMDL)
Alazan Creek (1911C)	1911C_01	Direct	Yes	Yes	Bacteria in water (TMDL)
	1911C_02	Direct	Yes	Yes	
San Pedro Creek (1911D)	1911D_01	Direct	Yes	Yes	Bacteria in water (TMDL)
	1911D_02	Direct	Yes	Yes	
Sixmile Creek (1911E)	1911E_01	Direct	Yes	Yes	Bacteria in water (TMDL)
Martinez Creek (1911I)	1911I_01	Direct	Yes	Yes	Bacteria in water (TMDL)

Table 3. Impaired Receiving Waters without TMDLs

Receiving Waterbody (Segment ID)	Assessment Unit	Direct or Indirect Outfall	303(d) 305(b) List	TMDL I-Plan	Listed Water Quality Concerns
Medina River Below Medina Diversion Lake (1903)	1903_01	Direct	Yes	No	Bacteria in water
	1903_02	Direct	Yes	No	
	1903_03	Direct	Yes	No	
Lower Leon Creek (1906)	1906_03	Direct	Yes	No	PCBs in edible tissue
	1906_04	Direct	Yes	No	
	1906_05	Direct	Yes	No	
	1906_06	Direct	Yes	No	
Salado Creek (1910)	1910_02	Direct	Yes	No	Impaired fish community in water
			Yes	No	Impaired macrobenthic community in water
Medio Creek (1912)	1912_01	Direct	Yes	No	Bacteria in water

Table 4-1. MCM 1: MS4 Maintenance Activities and Implementation Schedule

Best Management Practice	BMP #	Implementation Activities	Measurable Goals	Permit Years					Responsible Departments
				1	2	3	4	5	
Continue the existing MS4 Mowing Program Management Measures 12[3] and 21[4]	1.1	Conduct mowing activities within the MS4	Conduct 4 mowing events annually to maintain at least 3,000 vegetated acres of the MS4.	X	X	X	X	X	PWD
	1.2	Perform inspections on the MS4	Conduct one inspection at 3 sections of the San Antonio River Loop, specifically the River Loop, Loop Extension, and the Main Channel.	X	X	X	X	X	
			Document 100% of inspections conducted.	X	X	X	X	X	
			Record 100% of the sediment volume removed.	X	X	X	X	X	
Continue the existing Floatable Debris Program	1.3	Perform inspections and maintenance as required	Inspect and maintain at least 2 floatable debris collection locations and/or devices.	X	X	X	X	X	PWD
			Inspect and/or maintain 2 floatable debris collection locations at least 2 times each.	X	X	X	X	X	
			Inspect and maintain at least 60 linear miles of creek bank.	X	X	X	X	X	
Continue to utilize the Lady Eco Boat to remove debris from the river Management Measure 18[5]	1.4	Operate the Lady Eco as required to remove floatable debris	Operate the Lady Eco Boat at least 12 times.	X	X	X	X	X	CCDO
		Maintain records and collect data on Lady Eco usage	Document Lady Eco Boat usage in one log.		X	X	X	X	
			Record 100% of Lady Eco Boat deployments in usage log.		X	X	X	X	
			Record 100% of the debris collected and removed.	X	X	X	X	X	
Continue the existing Street Sweeping Program Management Measure 20[6]	1.5	Sweep roadways to remove debris according to sweeping schedule	Sweep 100 % of residential streets 2 times per year.	X	X	X	X	X	PWD
			Sweep 100% of arterial and collectors 4 times per year.	X	X	X	X	X	
			Sweep 100% of Central Business District streets 363 days per year.	X	X	X	X	X	
			Record 100% of debris swept.	X	X	X	X	X	
	1.6	Sweep roadways in response to City and severe weather events	Sweep 100% of affected roadways after 100% of city events.	X	X	X	X	X	
			Sweep 100% of affected roadways after 100% of roadway sanding and deicing events.	X	X	X	X	X	

*Management Practices that are shaded directly benefit TMDL implementation.

[3] Upper San Antonio TMDL Implementation Plan (I-Plan): Management Measure 12. Evaluate Restoration of Westside Creeks
[4] Upper San Antonio TMDL I-Plan: Management Measure 21. San Antonio River Loop Sediment Removal
[5] Upper San Antonio TMDL I-Plan: Management Measure 18. Specially Designed Boat (Lady Eco)
[6] Upper San Antonio TMDL I-Plan: Management Measure 20. Street Sweeping Activities

Table 4-2. MCM 2: Post-Construction Stormwater Control Measure Activities and Implementation Schedule

Best Management Practice	BMP #	Implementation Activities	Measurable Goals	Permit Years					Responsible Departments
				1	2	3	4	5	
Implement and enforce controls to minimize the discharge of pollutants from areas of new development and significant redevelopment after construction is completed	2.1	Continue to implement requirements for long-term maintenance of Post-Construction Stormwater Controls including existing, new, and redeveloped sites	Inspect 25% of known City-owned post-construction stormwater control measures.	X	X	X	X	X	PWD, SAWS
			Record 100% of maintenance agreements and/or deed-records for new privately-owned post-construction stormwater control measures.	X	X	X	X	X	
			Request at least one inspection report from known privately-owned post-construction stormwater control measure owner(s).	X	X	X	X	X	
			Document 100% of enforcement actions for new privately-owned post-construction stormwater control measures.	X	X	X	X	X	
Continue the existing Construction Plan Review Procedures in accordance with the Storm Water Design Criteria Manual	2.2	Document plan reviews	Review 100% of development plans submitted to the City.	X	X	X	X	X	PWD
			Record one plan review checklist for 100% of plans reviewed.	X	X	X	X	X	
	2.3	Train appropriate plan review staff	Provide 100% of plan reviewers with stormwater management plan review training.	X	X	X	X	X	
			Document one sign-in sheet, or equivalent, for each training session.	X	X	X	X	X	
Maintain Mission Drive-In LID features Management Measure 8[7]	2.4	Implement O&M of the Mission Drive-In LID project	Hold one coordination meeting with SARA to determine Low Impact Development (LID) O&M responsibilities.		X				PWD
Maintain Elmendorf Lake Park improvements along Apache Creek, including the rain gardens, bio-retention swales, constructed wetlands, and lake aeration system. Management Measures 8 and 12[8]	2.5	Coordinate maintenance responsibilities with SARA	Hold one coordination meeting with the San Antonio River Authority (SARA) to determine Low Impact Development (LID) maintenance responsibilities.	X					PWD, Parks & Rec
			Work with SARA to develop one standard operating procedure to identify maintenance requirements and responsibilities.		X				
	2.6	Perform required maintenance	Implement 100% of standard operating procedure requirements.				X		
			Complete 100% of maintenance required.					X	
			Document 100% of maintenance conducted.					X	
Implement consideration and selection of Flood Control projects for incorporation of water quality features	2.7	Require water quality impacts to receiving waters for new flood control projects to be considered	Continue to implement the existing Construction Plan Review Procedures in accordance with the Storm Water Design Criteria Manual checklist.	X	X	X	X	X	PWD
	2.8	Evaluate consideration and implementation of water quality features for flood control projects	Document cycles consideration of water quality features for flood control projects and implementation of selected projects.	X					
			Document inventory of existing flood control structures or devices.			X			
			Create one list of proposed flood control projects recommended for incorporation water quality features.	X					
			Document flood control projects selected for water quality features and construction of those projects.					X	

*Management Practices that are shaded directly benefit TMDL implementation.

[7] Upper San Antonio TMDL I-Plan: Management Measure 8. BMP Assessment, Pilot Studies and Mission Drive-In Redevelopment
[8] Upper San Antonio TMDL I-Plan: Management Measure 12. Evaluate Restoration of Westside Creeks Sweeping Activities

Table 4-3. MCM 3: Illicit Discharge Detection and Elimination Activities and Implementation Schedule

Best Management Practice	BMP #	Implementation Activities	Measurable Goals	Permit Years					Responsible Departments
				1	2	3	4	5	
Continue the existing Illicit Discharge and Improper Disposal and Hazardous Material Spill Response Programs.	3.1	Hazardous Material Spill Response	Respond to 100% of applicable 311 calls within 2 business days.	X	X	X	X	X	SAFD
			Respond to 100% of hazardous material spills within 4 hours of notification.	X	X	X	X	X	
	3.2	Illicit Discharge and Improper Disposal Response	Follow notification procedures of TCEQ including those for public reporting of spills and illicit discharges.	X	X	X	X	X	SAWS
			Request 100% of failing On-Site Sewage Facility (OSSF) inspection reports conducted by Bexar County within the City limits.	X	X	X	X	X	
Continue the existing Wastewater Collection and Transmission System Operation and the Drainage Infrastructure Maintenance Programs to Reduce Sanitary Sewer Overflows Management Measure 1[9]	3.3	Implement the Sanitary Sewer Overflow Response Plan, including system cleaning, condition assessment, and remedial activities	Maintain 100% of known SSO locations and document repairs made.	X	X	X	X	X	SAWS
			Clean, inspect, and make determination of causation for 100% of SSO's in small diameter (<24") sanitary sewer pipes and document linear feet cleaned.	X	X	X	X	X	
			Clean, inspect, and make determination of causation for 100% of SSO's in large diameter (>24") sanitary sewer pipes requiring maintenance and document linear feet cleaned.	X	X	X	X	X	
			Add 100% of eligible projects to the 5-year maintenance schedule for rehabilitation.	X	X	X	X	X	
	3.4	Continue O&M of Lift Stations, including rehabilitation and elimination	Inspect 100% of lift stations located over the Edwards Aquifer Recharge Zone and document the number of inspections and the subsequent corrective actions.	X	X	X	X	X	
			Repair 100% of known defects at lift stations and document the number of repairs needed.	X	X	X	X	X	
	3.5	Implement the Fats, Oil, and Grease Control Program	Inspect 25% of food service establishments and document number of inspections and the subsequent corrective actions.	X	X	X	X	X	
Continue the Riverwalk Avian Management Program Management Measure 5[10]	3.6	Utilize U.S. Fish & Wildlife Service approved standards to remove unoccupied nests to deter nesting birds from River Walk areas	Maintain a log of contractor deployments, locations, and quantities of service work.	X	X	X	X	X	CCDO
Continue the Pooper Scooper and Pet Permitting Program, including the Urban Horse Stables Program Management Measures 6[11] and 22[12]	3.7	Permit livestock and perform inspections as required	Record 100% of notifications or complaints received.	X	X	X	X	X	ACS
			Conduct one inspection per notification or complaint.	X	X	X	X	X	
			Document 100% of known warnings issued.	X	X	X	X	X	
	3.8	Provide pet waste pick up products along linear creek way trails	Record 100% of Mutt Mitt cases issued to field staff.	X	X	X	X	X	Parks & Rec
			Record 100% of new Mutt Mitt dispensers installed.	X	X	X	X	X	
Continue the Homeless Encampments Cleanup Program	3.9	Utilize crews to remove homeless and vagrant camp debris from the MS4 system	Remove and properly dispose of 100% of identified homeless and vagrant encampments that SWMD has been notified of; factors will be weather conditions and cancelations due to unforeseen occurrences.	X	X	X	X	X	SWMD
			Document 100% of encampments removed and estimate volume of debris removed.	X	X	X	X	X	

[9] Upper San Antonio TMDL I-Plan: Management Measure 1. Implement Wastewater Collection and Transmission System O&M to Reduce Sanitary Sewer Overflows

[10] Upper San Antonio TMDL I-Plan: Management Measure 5. Avian Management for the River Walk and Other Riparian Areas

[11] Upper San Antonio TMDL I-Plan: Management Measure 6. Expansion of Pooper Scooper Program

[12] Upper San Antonio TMDL I-Plan: Management Measure 22. Urban Horse Stable Assessment.

Best Management Practice	BMP #	Implementation Activities	Measurable Goals	Permit Years					Responsible Departments
				1	2	3	4	5	
Management Measure 16[13]									
Continue the existing HHW and Curbside Recycling Programs.	3.10	Implement the HHW Program	Provide 2 permanent drop-off centers for the public to properly dispose of or recycle HHW, including used paint, pesticides, and motor vehicle fluids. One center will operate Tuesday-Friday from 8am-5pm and Saturdays 8am-12pm, and the second center will operate on the first Friday and Saturday of the month from 8am-12pm.	X	X	X	X	X	SWMD
			Provide 4 mobile waste collection sites at least 4 times per year.	X	X	X	X	X	
			Document 100% of the waste collected or recycled.	X	X	X	X	X	
			Record 100% of vehicles or residents that participate.	X	X	X	X	X	
	3.11	Implement Curbside Recycling Program	Document 100% of the waste collected or recycled.	X	X	X	X	X	SWMD
Maintain a current, accurate MS4 map	3.12	Evaluate existing MS4 map data, including known stormwater outfalls (new and existing) and known waters of the United States	Using the written procedures, conduct one evaluation of the existing MS4 map data, including known stormwater outfalls (new and existing) and known waters of the United States.			X			PWD
	3.13	Begin updating the City's MS4 Map by addressing identified updates through the MS4 Map evaluation	Address and update 100% of the MS4 Map evaluation results.				X		PWD
	3.14	Continue updating the City's MS4 Map	Update 100% of the City's new storm outfalls on a weekly basis.					X	PWD
			Update City MS4 Map with 100% of new municipally owned and operated facilities.					X	
Continue the Dry Weather Screening Program to locate portions of the MS4 with suspected illicit discharges and improper disposals.	3.15	Implement dry weather field screenings at open sections of the MS4 and predefined Field Screen Points (FSP)	Conduct dry weather screening at 20% of known open sections of the MS4 and FSPs.	X	X	X	X	X	SAWS
			Maintain 100% of dry weather screening records.	X	X	X	X	X	
			Respond to 100% of non-permitted, non-stormwater dry weather discharges identified.	X	X	X	X	X	
			Document 100% of investigations required to eliminate non-permitted, non-stormwater dry weather discharges.	X	X	X	X	X	

*Management Practices that are shaded directly benefit TMDL implementation.

[13] Upper San Antonio TMDL I-Plan: Management Measure 16. Homeless and Vagrant Population: Cleaning and Control of Brush and Dumping Encampments

Table 4-4. MCM 4: Pollution Prevention and Good Housekeeping (PP/GH) for Municipal Operations Implementation Schedule

Best Management Practice	BMP #	Implementation Activities	Measurable Goals	Permit Years					Responsible Departments
				1	2	3	4	5	
Implement a PP/GH Program	**See Table 4-4-1**								
Ensure proper disposal of waste that is removed from the MS4 and other municipal operations	4.1	Dispose of municipal waste in accordance with all federal, state, and local requirements, specifically Title 30 TAC Chapters 330 and/or 335, as applicable	Dispose of 100% municipal waste in accordance with all federal, state, and local requirements.	X	X	X	X	X	SWMD
			Maintain one copy of associated waste documentation (i.e., waste manifests, invoices, etc.) and record volume.	X	X	X	X	X	
Reduce the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers to municipal property	4.2	Conduct pesticide, herbicide, and fertilizer application in accordance with TCEQ Pesticides General Permit TXG700000 administered under Title 30 TAC Chapter 205	Continue to conduct 100% of pesticide, herbicide, and fertilizer application in accordance with the TCEQ Pesticides General Permit.	X	X	X	X	X	PWD, CCDO, Parks & Recreation, Metro Health
			Maintain one schedule/log of pesticide, herbicide, and fertilizer application activity.	X	X	X	X	X	
			Maintain 100% of licenses (new or renewed) and document certification.	X	X	X	X	X	
Continue the River Loop Area Maintenance and Cleaning Operations Management Measure 19[14]	4.3	Eliminate power washing runoff on the Riverwalk through wastewater capture and disposal	Maintain one log of cleaning events conducted.		X	X	X	X	CCDO
			Capture 100% of wash water and record 100% of volume collected and disposed.	X	X	X	X	X	

*Management Practices that are shaded directly benefit TMDL implementation.

[14] Upper San Antonio TMDL I-Plan: Management Measure 19. Implement Measures to Improve Maintenance and Cleaning Operations for River Loop Area

Table 4-4-1. MCM 4: PP/GH Program Activities and Implementation Schedule

Best Management Practice	BMP #	Management Practice for Implementation	Measurable Goals	Permit Years					Responsible Departments
				1	2	3	4	5	
Maintain a list of all municipal operations subject to this program	4.4.1	Inventory applicable municipal operations	Develop and implement one written procedure for updating and maintaining inventory of applicable municipal activities and facilities.	X					PWD
			Create a municipal facility list and inventory 25% of known City facilities.		X				PWD, SWMD
			Inventory all municipally owned and operated industrial activities subject to NPDES industrial stormwater regulations.		X				PWD
			Update municipal inventory list to inventory 50% of known City facilities.			X			PWD, SWMD, DSD
			Update municipal inventory list to inventory 75% of known City facilities.				X		PWD, SWMD, DSD, BESD
			Update municipal inventory list to inventory 100% of known City facilities.					x	All
			Annually update City inventory list and document changes in the SWMP.		X	X	X	X	PWD
	4.4.2	Map applicable municipal operations	Map 100% of known applicable municipal operations.					X	PWD, ITSD
Train all City employees on reducing and preventing stormwater pollution	4.4.3	Continue the existing PP/GH program training	Conduct annual trainings for 100% of employees responsible for implementing and maintaining PP/GH at City service centers.	X	X	X	X	X	PWD, SWMD, DSD, BESD
			Record one sign-in sheet, or equivalent, for each training session.	X	X	X	X	X	PWD
	4.4.4	Expand the PP/GH program training to include employees from all municipal operations	Conduct annual trainings for 50% of employees responsible for implementing and maintaining PP/GH at municipal operations under the expanded program.				X		PWD, SWMD, DSD, BESD
			Conduct annual trainings for 100% of employees responsible for implementing and maintaining PP/GH at municipal operations under the expanded program.					X	All
			Record one sign-in sheet, or equivalent, for each training session.				X	X	PWD
Assess City operations and provide PP/GH program oversight	4.4.5	Identify and implement BMPs to reduce pollutant runoff to the MEP from municipal operations	Develop criteria for evaluating pollutant discharge of municipal activities.		X				PWD
			Develop written procedures for PP/GH BMPs to reduce pollutants to the MEP from municipal operations using pollutant discharge evaluation criteria.			X			PWD
			Provide one copy of written procedures to 100% of municipal operations supervisors.			X			PWD
			Implement 100% of BMPs for municipal operations.			X	X	X	All
	4.4.6	Conduct inspections and audits	Inspect municipal operation BMPs at least 4 times a year.	X	X	X	X	X	PWD
			Address 100% of corrective action within 30 business days of identification.	X	X	X	X	X	PWD
			Conduct an annual audit and update individual PP/GH plans.	X	X	X	X	X	PWD

Table 4-5. MCM 5: Industrial and High-Risk Runoff Activities and Implementation Schedule

Best Management Practice	BMP #	Implementation Activities	Measurable Goals	Permit Years					Responsible Departments
				1	2	3	4	5	
Continue the existing Industrial and High-Risk Inspection Program Management Measure 4[15]	5.1	Conduct Inspections as required	Conduct one inspection of regulated facilities every year using the inspection flow chart.	X	X	X	X	X	SAWS
			Conduct two inspections of high-risk/regulated facilities identified.	X	X	X	X	X	
			Document 100% of facility inspections, including violations.	X	X	X	X	X	
		Track and monitor high risk industrial stormwater sources	Maintain one inventory of 100% of known high-risk/regulated facilities.	X	X	X	X	X	

Table 4-6. MCM 6: Construction Site Stormwater Runoff Activities and Implementation Schedule

Best Management Practice	BMP #	Implementation Activities	Measurable Goals	Permit Years					Responsible Departments
				1	2	3	4	5	
Continue the existing and/or revised Construction Site Stormwater Runoff Program Management Measure 4	6.1	Maintain documentation	Record 100% of Notices of Intent and Notices of Termination received.	X	X	X	X	X	SAWS
	6.2	Conduct inspections as required	Conduct one inspection of each eligible construction site including Stormwater Pollution Prevention Plan, every year using Compliance Evaluation form.	X	X	X	X	X	
			Document 100% of construction site Compliance Evaluations, Corrective Action Requirement (CAR) letters, Field Correction Notices (FCNs), and Stop Work Orders (SWOs).	X	X	X	X	X	
	6.3	Inventory construction sites that discharge directly to the MS4	Maintain one inventory of 100% of known construction sites that disturb one acre or more of soil.	X	X	X	X	X	
	6.4	Ensure construction site inspectors have appropriate certifications	Require 100% of construction site inspectors to be a Professional Engineer (PE), a Certified Professional in Erosion and Sediment Control (CPESC), a Certified Erosion, Sediment, and Stormwater Inspector (CESSWI), or a Certified Inspector of Sediment and Erosion Control (CISEC), in accordance with City No. 2019-04-02-0123 Sec. 34-804.	X	X	X	X	X	
			Record 100% of enforcement actions regarding lack of contractor certifications.	X	X	X	X	X	
Update the City's Stormwater Design Criteria Manual to require controls to minimize the discharge of pollutants from areas of new development and significant redevelopment during construction	6.5	Request an amendment to the City's current Stormwater Design Criteria Manual	Submit Unified Development Code (UDC) Amendment request for 2022 revisions to the current Stormwater Design Criteria Manual stating, "Contractor shall phase construction and/or provide necessary BMPs to mitigate interim conditions runoff during construction due to clearing, grading, subgrade preparation, paving, buildings, etc., and to prevent adverse impacts to other property, structures, and infrastructure during construction." The requested revision applies to submittal of all construction plans including those for new or redeveloped sites one acre or more and sites that are smaller than one acre but part of a larger common plan of development.	X					PWD
	6.6	Review the City's current Stormwater Design Criteria Manual- request update, if needed	Conduct one evaluation and document in one memo, or equivalent, 2027 updates necessary to the City's current Stormwater Design Criteria Manual to further address the discharge of pollutants from development sites during construction.					X	
			Draft Unified Development Code (UDC) Amendment Request for 2027 revisions to the current Stormwater Design Criteria Manual to address 100% of evaluation comments.					X	

[15] Upper San Antonio TMDL I-Plan: Management Measure 4. MS4 Related Activities and MS4 Phase I Water Quality Protection Activities

Table 4-7. MCM 7: Public Education, Outreach, Involvement, and Participation Activities and Implementation Schedule

Best Management Practice	BMP #	Implementation Activities	Measurable Goals	Permit Years					Responsible Departments
				1	2	3	4	5	
Provide educational material about stormwater pollution prevention and the hazards associated with stormwater pollution. Management Measure 4[16]	7.1	Develop and provide educational material covering at least 8 stormwater pollution prevention topics. Topics must include: a. residential bacteria sources **(BMP 21 Pet Waste)**, b. urban bacteria sources (**BMP 20 Riverwalk Avian Management**), c. fats, oils, and grease (FOG), d. pond maintenance and operation, e. construction contractor stormwater education, f. floatable prevention (littering), g. pesticide, herbicide, and fertilizer management, and h. Household Hazardous Waste	Utilize at least 3 methods of distribution.	X	X	X	X	X	PWD, SWMD, SAWS, ACS, Parks & Rec
			Reach at least 7 target audiences. At a minimum, the following audiences must be reached: a. residents, b. visitors, c. public service employees, d. businesses, e. commercial, f. industrial, and g. construction site personnel.		X	X	X	X	
Provide opportunities for the public to participate in SWMP development and implementation Management Measure 4	7.2	Facilitate public involvement and education for stormwater pollution prevention activities	Provide at least 6 public involvement opportunities for stormwater pollution prevention activities.		X	X	X	X	PWD, SWMD, SAWS, ACS, Parks & Rec
			Document 100% of known participants and activities.	X	X	X	X	X	
			Document 100% of waste and debris collected.	X	X	X	X	X	
			Engage at least 4 target audiences from the following list: a. residents, b. visitors, c. public service employees, d. businesses, e. commercial, f. industrial, and g. construction site personnel.	X	X	X	X	X	
	7.3	Consider and facilitate public input in the implementation of the SWMP after final public notice is posted	Provide one opportunity for public to provide feedback on the SWMP during the public comment period.		X				PWD, SAWS
	7.4	Promote, publicize, and facilitate public reporting of stormwater quality concerns and illicit discharges, including residential, commercial, and industrial discharges	Maintain at least 1 mechanism for the public to submit stormwater quality reports.	X	X	X	X	X	SAWS
			Ensure the stormwater reporting mechanism is publicly accessible 90% of the time.	X	X	X	X	X	

[16] Upper San Antonio TMDL I-Plan: Management Measure 4. MS4 Related Activities and MS4 Phase I Water Quality Protection Activities

Table 4-8. MCM 8: Monitoring, Evaluation, and Reporting Activities and Implementation Schedule

Best Management Practice	BMP #	Implementation Activities	Measurable Goals	Permit Years					Responsible Departments
				1	2	3	4	5	
Continue dry weather field screenings at open sections of the MS4 and predefined Field Screen Points (FSP)		**See BMP 3.15**							
Identify priority subbasins for implementing BMPs	8.1	Develop data evaluation process to identify priority subbasins for mitigation and BMP targeting	Review all practicable data evaluation options to prioritize subbasins for mitigation.	X					PWD, SAWS
			Assess at least 2 data evaluation options for potential implementation to prioritize subbasins.		X				
			Select 1 primary data evaluation approach to prioritize subbasin mitigation.			X			
			Develop 1 data evaluation process to prioritize subbasins to targeting BMPs.				X		
			Implement 1 data evaluation process to identify at least 3 priority subbasins for targeting BMPs.					X	
Continue wet weather screening and storm event discharge monitoring Management Measure 4[17]	8.2	Perform sample collection and analysis of outfall monitoring locations during wet weather events	Sample Outfall 001 – 006 during a representative rain event at least once per season.	X	X	X	X	X	SAWS
			Sample Outfall 008 (Zoo Ultraviolet (UV) Water Disinfection Facility) once per season.	X	X	X	X	X	
			If constituent concentrations exceed the allowable TMDL, screen and monitor Outfall 008 weekly until one full season of sampling indicates the reduction of the concentrations below the allowable TMDL.	X	X	X	X	X	
	8.3	Perform storm event discharge monitoring	Complete one Discharge Monitoring Report (DMR) reporting the geometric mean and the daily maximum of E. coli in MPN/100mL or cfu/100mL and TSS in mg/L.	X	X	X	X	X	
			Complete and maintain one record of storm event characteristics for 100% of sampled storm events.	X	X	X	X	X	
Collect necessary sampling data from outfall monitoring locations to estimate seasonal pollutant loadings and event mean concentration for a representative storm event	8.4	Report seasonal loadings and event mean concentrations in accordance with Part IV, Section A.4 of Permit WQ0004284000	Report 100% of estimated seasonal loadings and event mean concentrations in annual report.				X		SAWS
Construct and implement a constructed wetlands BMP downstream of Mitchell Lake to treat releases from the lake.	8.5	Oversee the completion, operation, and contingencies of Mitchell Lake wetlands BMP	Develop at least one wetland design, including surveys, geotechnical work, preliminary and detailed designs, and city permit procurement by the deadline in Administrative Order CWA-060201901753, as amended.		X				SAWS
			Submit one Project Completion Report to the EPA within 45 days of the deadline.		X				
			Advertise at least one bid and award construction by the deadline in Administrative Order CWA-060201901753, as amended.		X				
			Submit one Project Completion Report to the EPA within 45 days of the deadline.		X				
			Construct 100% of wetland BMP in accordance with approved design by the deadline in Administrative Order CWA-060201901753, as amended.			X			
			Submit one Project Completion Report to the EPA within 45 days of the deadline.			X			
			Submit one Project Completion Report to the EPA within 45 days of the deadline.			X			

[17] Upper San Antonio TMDL I-Plan: Management Measure 4. MS4 Related Activities and MS4 Phase I Water Quality Protection Activities

Best Management Practice	BMP #	Implementation Activities	Measurable Goals	Permit Years 1	2	3	4	5	Responsible Departments
Construct and implement a constructed wetlands BMP downstream of Mitchell Lake to treat releases from the lake.	8.6	Conduct monitoring at the Mitchell Lake Wetlands in accordance with Part IV, Section A.1.d of Permit WQ0004284000	Monitor Outfall 009, 010, 109, and 110 once per season.				X	X	SAWS
			Screen and monitor Outfall 008 (Zoo Ultraviolet (UV) Water Disinfection Facility) once per season.				X	X	
			If constituent concentrations exceed the allowable TMDL, screen and monitor Outfall 008 weekly until one full season of sampling indicates the reduction of the concentrations below the allowable TMDL.				X	X	
			Complete 100% of DMRs and include the geometric mean and the daily maximum of E. coli in MPN/100Ml or cfu/100Ml and TSS in mg/L.				X	X	
	8.7	Conduct monitoring at the Mitchell Lake Spillway using the California Pipe Method in accordance with Part IV, Section A.1.e of Permit WQ0004284000	Document 100% of known spillway release events per year.	X	X	X	X	X	SAWS
			Document 100% of known days of each release event.	X	X	X	X	X	
			Complete one flow characteristic form for 100% of release events.	X	X	X	X	X	
			Collect and document one grab sample for everyday of discharge from the spillway.	X	X	X	X	X	
			Complete and submit one report with the daily maximum concentration in mg/L for 5 different parameters in the annual report.	X	X	X	X	X	
Continue operation and maintenance of the San Antonio Zoo UV Treatment System Management Measure 2[18]	8.8	Perform O&M and routine inspections on the UV treatment system	Inspect the UV Treatment System at least 4 times per year.	X	X	X	X	X	PWD
			Document 100% of the inspections conducted.	X	X	X	X	X	
			Address 100% of maintenance needs identified during inspections.	X	X	X	X	X	

*Management Practices that are shaded directly benefit TMDL implementation.

[18] Upper San Antonio TMDL I-Plan: Management Measure 2. San Antonio Zoo UV Treatment System Implementation

Appendix B
TPDES Large MS4 Individual Permit

TPDES PERMIT NO.
WQ0004284000
[For TCEQ office use only – EPA I.D. No. TXS001901]

This is a major amendment with a renewal of TPDES Permit No. WQ0004284000, issued on September 28, 2012

TEXAS COMMISSIONON ENVIRONMENTAL QUALITY
P. O. Box 13087
Austin, Texas 78711-3087

PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM
under provisions of Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

PART I: AUTHORIZATION

City of San Antonio
P.O. Box 839966
San Antonio, Texas 78283-3966; and

San Antonio Water System
P.O. Box 2449
San Antonio, Texas 78298-2449

are authorized to discharge from the City of San Antonio Municipal Separate Storm Sewer System (MS4) including all areas, except for any agricultural lands, located within the corporate boundary of the City of San Antonio served by, or otherwise contributing to discharges to the MS4 owned or operated by the permittees, located in Bexar County, Texas 78221, 78225, 78215, 78227, 78218, 78235, 78204, 78205, 78245, 78244, 78112, 78210, 78207, 78251, 78239, 78223, 78222, 78226, 78238, 78219, 78264, 78216, 78228, 78213, 78224, 78220, 78242, 78201, 78214, 78203, 78252, 78212, 78229, 78211, 78202, 78236, 78109, 78240, 78241, 78208, 78237, 78234, 78230, 78249, 78256, 78257, 78247, 78250, 78259, 78258, 78233, 78217, 78232, 78248, 78231, 78266, 78209, 78253, 78255, 78073, 78015,78254, and 78023

via the MS4 to various ditches and tributaries that eventually reach Medina River Below Medina Diversion Lake, Lower Leon Creek, Upper Leon Creek, Upper Cibolo Creek, Salado Creek, Upper San Antonio River, Medio Creek, and Mid Cibolo Creek in Segment Nos. 1903, 1906, 1907, 1908, 1910, 1911, 1912, and 1913 of the San Antonio River Basin

only according to conditions set forth in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the State of Texas, and other orders of the TCEQ. The issuance of this permit does not grant to the permittee the right to use private or public property for conveyance of stormwater and certain non-stormwater discharges along the discharge route described in this permit. This includes, but is not limited to, property belonging to any individual, partnership, corporation or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight, five years from the date of issuance.

ISSUED DATE:

December 17, 2021

For the Commission

PART II: DISCHARGES AUTHORIZED BY THIS PERMIT, PERMITTEE RESPONSIBILITES, IMPAIRED WATER BODIES, AND TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

A. Authorized Discharges.

1. This permit authorizes existing or new stormwater point source discharges to surface water in the state from those portions of the Municipal Separate Storm Sewer System (MS4) owned or operated by the permittees.

2. The following discharges, whether discharged separately or commingled with municipal stormwater, are not authorized by this permit:

   a. discharges of non-stormwater;

   b. discharges to surface water in the state that would cause, has the reasonable potential to cause, or contribute to a violation of water quality standards or that would fail to protect and maintain existing designated uses are not eligible for coverage under this permit;

   c. stormwater discharges associated with industrial activity;

   d. stormwater discharges that must be authorized by a Texas Pollutant Discharge Elimination System (TPDES) permit; and

   e. discharges of materials resulting from a spill, except when necessary to prevent loss of life, personal injury, or severe property damage.

3. This permit does not negate any person's ability to assert the *force majeure* (Act of God, war, strike, riot, or other catastrophe) defenses found in 30 Texas Administrative Code (TAC) § 70.7.

4. This permit does not transfer liability for discharging without, or in violation of, a National Pollutant Discharge Elimination System (NPDES) or a TPDES permit from the responsible party of the discharge to the permittee(s).

5. The requirements in this permit must provide compliance with the Texas Surface Water Quality Standards (TSWQS) as specified in 30 TAC §§ 307.1-307.10.

B. Responsibilities of the permittees.

The permittees are individually responsible for:

1. compliance with permit conditions;

2. implementation of the Stormwater Management Program (SWMP) Document;

3. compliance with annual reporting requirements;

4. collection of monitoring data, according to such agreements established between permittees;

5. a plan of action to assume responsibility for implementation of the stormwater management and monitoring programs on its portions of the MS4 should inter-jurisdictional agreements allocating responsibility between permittees be dissolved or in default; and

6. permittees are jointly responsible for permit compliance on portions of the MS4 where operational or SWMP implementation authority over portions of the MS4 is shared or has been transferred from one permittee to another in accordance with legally binding agreements.

C. Impaired Water Bodies and Total Maximum Daily Load (TMDL) Requirements

If applicable, the permittee shall control the discharges of pollutant(s) of concern to impaired waters and waters with approved TMDL as described in Part II.C.2.a. and b. below.

1. Discharges of the pollutant(s) of concern to impaired water bodies where there is a TCEQ and EPA-approved total maximum daily load (TMDL) are not eligible for this permit unless they are consistent with the approved TMDL. A water body is impaired for purposes of the permit if it has been identified, pursuant to the latest TCEQ and EPA-approved Texas Integrated Report Index of Water Quality Impairment, as not meeting Texas Surface Water Quality Standards.

2. The permittees shall control the discharges of pollutant(s) of concern to impaired waters and waters with approved TMDLs as provided in section(s) a and b below and shall assess the progress in controlling those pollutants.

   a. Discharges to Water Quality-Impaired Water Bodies with an Approved TMDL

      For any portion of the MS4 that discharges to a portion of a watershed with an approved TMDL, and because stormwater has the potential to cause or contribute to the impairment, the permittees shall include in the SWMP controls targeting the pollutant(s) of concern along with any additional or modified controls required in the TMDL and this section.

      The SWMP and required annual reports must include information on implementing any targeted controls required to reduce the pollutant(s) of concern as described below:

      i. Targeted Controls

         The SWMP must include a detailed description of all targeted controls to be implemented, such as identifying areas of focused effort or implementing additional Best Management Practices (BMPs) to reduce the pollutant(s) of concern in the impaired waters.

      ii. Measurable Goals

         For each targeted control, the SWMP must include a measurable goal and an implementation schedule describing BMPs to be implemented during each year of the permit term.

iii. Identification of Benchmarks

The SWMP must identify a benchmark for the pollutant(s) of concern. Benchmarks are designed to assist in determining if the BMPs established are effective in addressing the pollutant(s) of concern in stormwater discharge(s) from the MS4 to the maximum extent practicable (MEP). The BMPs addressing the pollutant of concern must be re-evaluated on an annual basis for progress towards the benchmarks and modified as necessary within an adaptive management framework. These benchmarks are not numeric effluent limitations or permit conditions but are intended to be guidelines for evaluating progress towards reducing pollutant discharges consistent with the benchmarks. The exceedance of a benchmark is not a permit violation and does not by itself indicate a violation of instream water quality standards.

The benchmark must be determined based on one of the following options:

A) If the MS4, or a portion thereof, is subject to a TMDL that identifies a Waste Load Allocation(s) (WLA) for permitted MS4 stormwater sources, then the SWMP may identify it as the benchmark. Where an aggregate allocation is used as a benchmark, all affected MS4 operators are jointly responsible for progress in meeting the benchmark and shall (jointly or individually) develop a monitoring/assessment plan as required in Part II.C.2.a.vi.

B) Alternatively, if multiple MS4s are discharging into the same impaired watershed with an approved TMDL, with an aggregate WLA for all permitted stormwater MS4s, then the MS4s may combine or share efforts to determine an alternative sub-benchmark value for the pollutant(s) of concern (e.g., bacteria) for their respective MS4. The SWMP must clearly define this alternative approach and must describe how the sub-benchmark value would cumulatively support the aggregate WLA. Where an aggregate benchmark is broken into sub-benchmark values for individual MS4s, each permittee is only responsible for progress in meeting its sub-benchmark value.

iv. Annual Report

The annual report must include an analysis of how the selected BMPs will be effective in contributing to achieving the benchmark value.

v. Impairment for Bacteria

If one of the pollutants of concern is bacteria, the permittees shall include focused BMPs addressing the areas noted below, as applicable, in the SWMP and implement as appropriate. If a TMDL Implementation Plan (I-Plan) is available, the permittees may refer to the I-Plan for appropriate BMPs or provide appropriate alternative

BMPs. The SWMP and annual report must include the selected BMPs. Permittees may not exclude BMPs associated with the minimum control measures required under 40 CFR §122.34 from their list of proposed BMPs.

The BMPs shall, as appropriate, address the following:

A) Sanitary Sewer Systems

1) Make improvements to sanitary sewers to reduce overflows;
2) Address lift station inadequacies;
3) Improve reporting of overflows; and
4) Strengthen sanitary sewer use requirements to reduce blockage from fats, oils, and grease.

B) On-Site Sewage Facilities (for entities with appropriate jurisdiction)

1) Identify and address failing systems; and
2) Address inadequate maintenance of On-Site Sewage Facilities (OSSFs).

C) Illicit Discharges and Dumping

Put in place additional effort to reduce waste sources of bacteria; for example, from septic systems, grease traps, grit traps, or other sources.

D) Animal Sources

Expand existing management programs to identify and target animal sources such as zoos, pet waste, and horse stables.

E) Residential Education - Educate residents on the following:

1) Bacteria discharging from a residential site either during rainfall runoff events or directly;
2) Fats, oils, and grease clogging sanitary sewer lines and resulting overflows;
3) Maintenance and operation of decorative ponds; and
4) Proper disposal of pet waste.

vi. Monitoring or Assessment of Progress

The permittees shall monitor or assess progress in achieving benchmarks and determine the effectiveness of BMPs, and shall include documentation of this monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods used to assess progress.

A) The permittees may use either of the following methods to evaluate progress towards the benchmark and improvements in water quality:

1) Evaluating Program Implementation Measures

The permittees may evaluate and report progress towards the benchmark by describing the activities and BMPs implemented, by identifying the appropriateness of the identified BMPs, and by evaluating the success of implementing the measurable goals.

The permittees may assess progress by using program implementation indicators such as: (1) number of sources identified or eliminated; (2) decrease in number of illegal dumping; (3) increase in illegal dumping reporting; (4) number of educational opportunities conducted; (5) reductions in sanitary sewer overflows (SSOs); or, (6) increase in illegal discharge detection through dry screening, etc.

2) Assessing Improvements in Water Quality

The permittees may assess improvements in water quality by using available data for segment and assessment units of water bodies from other reliable sources, or by proposing and justifying a different approach such as collecting additional instream or outfall monitoring data, etc. Data may be acquired from TCEQ, local river authorities, partnerships, and/or other local efforts as appropriate.

B) Progress towards achieving the benchmark shall be reported in the annual report. Annual reports shall report the benchmark and the year(s) during the permit term that the MS4 conducted additional sampling or other assessment activities.

vii. Observing No Progress towards the Benchmark

If, by the end of the third year from the effective date of the permit, the permittees observe no progress toward the benchmark either from program implementation or water quality assessments as described in Part II.C.2.a.vi, the permittees shall identify alternative focused BMPs that address new or increased efforts towards the benchmark or, as appropriate, shall develop a new approach to identify the most significant sources of the pollutant(s) of concern and shall develop alternative focused BMPs for those (this may also include information that identifies issues beyond the MS4's control). These revised BMPs must be included in the SWMP and subsequent annual reports.

Where the permittees originally used a benchmark value based on an aggregated WLA, the permittees may combine or share efforts with other MS4s discharging to the same watershed to determine an

alternative sub-benchmark value for the pollutant(s) of concern for their respective MS4s, as described in Part II.C.2.a.iii.B) above. The permittees must document, in their SWMP for the next permit term, the proposed schedule for the development and subsequent adoption of alternative sub-benchmark values for the pollutant(s) of concern for their respective MS4s and associated assessment of progress in meeting those individual benchmarks.

b. Discharges Directly to Water Quality-Impaired Water Bodies without an Approved TMDL

The permittees shall also determine whether any portion of the MS4 discharges directly to one or more water quality-impaired water bodies where a TMDL has not been approved by TCEQ and EPA. If the MS4 discharges directly into an impaired water body without an approved TMDL, the permittees shall perform the following activities for the areas of the MS4 subject to these requirements:

i. Discharging a Pollutant of Concern

A) Within the first year following the permit effective date, the permittees shall determine whether the MS4 may be a source of the pollutant(s) of concern by referring to the CWA §303(d) list and then determine if discharges from the MS4 would be likely to contain the pollutant(s) of concern at levels of concern.

B) If the permittees determines that the MS4 may discharge the pollutant(s) of concern to an impaired water body without an approved TMDL, the permittees shall, no later than two years following the permit effective date, ensure that the SWMP includes focused BMPs, along with corresponding measurable goals, that the permittees will implement to reduce the discharge of pollutant(s) of concern that contribute to the impairment of the water body.

ii. Impairment of Bacteria

Where the impairment is for bacteria, the permittees shall identify potential significant sources and develop and implement focused BMPs for those sources. The permittees shall, at a minimum, address the bacteria sources listed in Part II.C.2.a.v. of this permit.

iii. The annual report must include information on compliance with this section, including results of any sampling conducted by the permittees.

PART III: STORMWATER MANAGEMENT PROGRAM

A. Overview.

1. To control the quality of stormwater discharged from the MS4 that reach waters of the U.S., the permittees shall develop, implement, and revise a comprehensive Stormwater Management Program (SWMP) Document that includes:

a. pollution prevention measures;

b. treatment or pollutant removal techniques;

c. stormwater monitoring;

d. use of legal authority; and

e. other appropriate measures (e.g., contracts or other legal mechanisms) to control the quality of stormwater discharged from the MS4.

2. Each element of the SWMP must be developed or revised to include measurable goals, whenever feasible.

3. The SWMP, taken as a whole, must include controls necessary to effectively prohibit the discharge of non-stormwater into the MS4 (except as described in Part III. Section B.2.c. of this permit) and reduce the discharge of pollutants from the MS4 to the maximum extent practicable.

4. The SWMP must cover the term of the permit and must be updated as necessary or as required by the TCEQ, to ensure compliance with Section 402 of the Clean Water Act (CWA), Chapter 26 of the Texas Water Code, applicable EPA and TCEQ regulations, and the requirements of this TPDES permit. Any modifications to the SWMP shall be made in accordance with Part III. H. 2. of this permit. Compliance with the SWMP is defined as compliance with Part III. B. and C. The SWMP and all approved updates are incorporated by reference.

5. The controls and BMPs included in the SWMP constitute effluent limitations for the purposes of compliance with the requirements of 30 TAC Chapter 319, Subchapter B, related to Hazardous Metals, unless otherwise limited in the permit.

B. SWMP Components.

1. The SWMP must contain the following minimum control measures (MCMs) for:

a. MS4 maintenance activities;

b. post-construction stormwater control measures;

c. detection and elimination of illicit discharges;

d. pollution prevention and good housekeeping for municipal operations;

e. limiting pollutants in industrial and high-risk stormwater runoff;

f. limiting pollutants in stormwater runoff from construction sites;

g. public education, outreach, involvement and participation; and

h. monitoring, evaluation and reporting.

The SWMP must describe a program or plan of compliance with Impaired Water Bodies and TMDL requirements, as provided in Part II, Section C. 2.

2. The permittees shall ensure that the following lists of MCMs are implemented.

   a. MCM 1, MS4 Maintenance Activities.

      i. Structural Controls. To the maximum extent practicable (MEP), the permittees shall operate and maintain the MS4, including any stormwater structural controls in such a manner as to reduce erosion and the discharge of pollutants.

      ii. Floatables. The permittees shall implement a program to reduce the discharge of floatables (for example, litter and other human generated solid refuse) into the MS4. The permittees shall include source controls at a minimum, and structural controls and other appropriate controls where necessary.

      iii. Roadways. The permittees shall operate and maintain public streets, roads, and highways to minimize the discharge of pollutants, including pollutants related to deicing or sanding activities.

   b. MCM 2, Post–Construction Stormwater Control Measures.

      i. The permittees shall implement a comprehensive master planning process (or equivalent) to develop, implement, and enforce controls to minimize the discharge of pollutants from areas of new development and significant redevelopment, after construction is completed. The goals of such controls must include A) limiting increases in erosion and the discharge of pollutants in stormwater as a result of new development; and B) reducing erosion and the discharge of pollutants in stormwater from areas of redevelopment.

      ii. Within one year of permit issuance, the requirement to implement a comprehensive master planning process (or equivalent) shall be expanded to include all new development and redevelopment projects that disturb one acre or more 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 acre or more.

      iii. The permittees shall evaluate the existing SWMPs as necessary to ensure that this MCM includes a regulatory mechanism such as an ordinance to implement and enforce the new requirements of this program, and shall ensure that the SWMP includes strategies for structural and non-structural controls (i.e., BMPs) appropriate for the community. In addition, the permittees shall provide for adequate long-term operation and maintenance of BMPs.

      iv. The permittees shall assess the impacts on the receiving waters for all flood control projects. Where feasible, new flood control structures must be designed, constructed, and maintained to provide erosion prevention and pollutant removal from stormwater. If applicable, the retrofitting of

existing structural flood control devices to provide additional pollutant removal from stormwater shall be implemented, to the maximum extent practicable.

c. MCM 3, Illicit Discharge Detection and Elimination.

i. The permittees shall prohibit illicit non-stormwater discharges from entering the MS4. This program shall include:

A) A description of the program, including inspection procedures, frequencies, and methods for detecting and preventing illicit discharges, to implement and enforce an ordinance, orders, or similar means to prevent illicit discharges to the MS4;

In addition, *within one (1) year from the date of permit issuance*, the program must include items B) thru G).

B) A description of procedures to conduct on-going field screening activities, including areas or locations that will be evaluated by such field screens;

C) A description of procedures to be followed to investigate portions of the MS4 that indicate a reasonable potential of containing illicit discharges or other sources of non-stormwater;

D) A description of procedures to prevent, contain, and respond to spills that may discharge into the MS4;

E) A description of a program to promote, publicize, and facilitate public reporting of illicit discharges or water quality impacts associated with discharges from the MS4;

F) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

G) A description of controls to limit infiltration of seepage from municipal sanitary sewers to the MS4 where necessary.

ii. For the purposes of this permit, the following discharges need not be addressed as illicit discharges by the permittees nor prohibited from entering the MS4:

A) discharges regulated by a separate NPDES or TPDES permit;

B) discharges for which an NPDES or TPDES permit application has been submitted or neither an NPDES nor TPDES permit is required; and

C) miscellaneous non-stormwater discharges that are not significant contributors of pollutants to the municipal separate storm sewer system (MS4).

iii. The SWMP must identify all categories of miscellaneous, non-stormwater discharges that may be discharged into the MS4, and include a description of any local controls or conditions placed on discharges exempted from the prohibition on non-stormwater.

iv. Miscellaneous, non-stormwater discharges that are not significant contributors of pollutants to the MS4 and that may be authorized by the permittee(s) include:

A) water line flushing;

B) landscape irrigation;

C) diverted stream flows;

D) rising ground waters;

E) uncontaminated ground water infiltration;

F) uncontaminated pumped ground water;

G) discharges from potable water sources;

H) foundation drains;

I) air conditioning condensation;

J) irrigation water;

K) springs;

L) water from crawl space pumps;

M) footing drains;

N) lawn watering;

O) street wash water;

P) individual residential vehicle washing;

Q) wash waters using only potable water, and which are similar in quality and character to street wash water or individual residential vehicle washing but without the use of detergents or surfactants;

R) flows from riparian habitats and wetlands;

S) dechlorinated swimming pool discharges;

T) other allowable non-stormwater discharges listed in 40 CFR § 122.26(d)(2)(iv)(B)(1);

U) other allowable non-stormwater discharges as listed in the TPDES Construction General Permit No. TXR150000 and TPDES Multi-Sector General Permit No. TXR050000; and

V) other similar occasional incidental non-stormwater discharges. (as determined in ii. above)

v. Program descriptions must address discharges or flows from firefighting activities only where such discharges or flows are identified as significant sources of pollutants.

vi. The permittees shall prohibit any individual non-stormwater discharge otherwise exempted under this paragraph from the prohibition on non-stormwater that is determined by the permittees to be contributing significant amounts of pollutants to the MS4.

vii. Elimination of Illicit Discharges and Improper Disposal.

A) The permittees shall require the operator of an illicit discharge or improper disposal practice to eliminate the illicit discharge or stop the improper disposal practice as quickly as reasonably possible. If the elimination of an illicit discharge within 30 days is not possible, the permittees shall require the operator of the illicit discharge to remove the discharge according to an expeditious schedule. Until the illicit discharge or improper disposal is eliminated the permittees shall require the operator of the illicit discharge to take all reasonable measures to minimize the discharge of pollutants to the MS4.

B) The SWMP must include the following:

1) a list of techniques (inspection procedures, frequencies, and methods) used for detecting and preventing illicit discharges; and revise as necessary; and

2) appropriate actions and enforcement procedures for removing the source of an illicit discharge, and revise where necessary.

viii. Overflows and Infiltration. The permittees shall implement controls where necessary and feasible to prevent dry weather and wet weather overflows from sanitary sewers into the MS4. The permittees shall limit the infiltration of seepage from municipal sanitary sewers into the MS4.

ix. Household Hazardous Waste and Used Motor Vehicle Fluids. The permittee shall prohibit *t*he discharge or disposal of used motor vehicle fluids, household hazardous wastes, and the intentional disposal of collected quantities of grass clippings, leaf litter, and animal wastes into the MS4.

A) The permittees shall ensure the implementation of programs to collect used motor vehicle fluids (including, at a minimum, oil and antifreeze) and household hazardous waste materials (including

paint, solvents, pesticides, herbicides, and other hazardous materials) for recycling, reuse, or proper disposal. Such programs shall be readily available to the residential sector within the MS4 and shall be publicized and promoted on a regular basis.

B) Household hazardous waste collection centers which are operated by the permittees as a SWMP element are not an industrial activity requiring a separate TPDES authorization for the discharge of stormwater.

x. MS4 Screening and Illicit Discharge Inspections. The permittees shall implement the Dry Weather Screening Program described in Part III. B.2.h.i. of this permit, to locate portions of the MS4 with suspected illicit discharges and improper disposals. Follow-up activities to eliminate illicit discharges and improper disposals may be prioritized on the basis of magnitude and the nature of the suspected discharge; sensitivity of the receiving water; or other relevant factors. The entire MS4, but not necessarily each individual outfall, shall be screened at least once per five years.

xi. Priority Areas. *Within one year from the date of permit issuance*, the permittees shall develop a list of priority areas likely to have illicit discharges. The permittees shall continue to evaluate and update this list each year and report the results in the annual report.

xii. NPDES and TPDES Permittee List. The permittees shall maintain an updated list of dischargers that discharge directly to the MS4 and that have been issued an NPDES or a TPDES permit. The list shall include the name, location and permit number (if known) of the discharger.

xiii. MS4 Map.

A) The permittees shall maintain a current, accurate MS4 map of the location of all MS4 outfalls; the names and locations of all waters of the U.S. that receive discharges from the outfalls; and any additional information needed by the permittees to implement its SWMP. Where possible, utilize the Global Positioning System (GPS) to locate outfalls and photographs for documenting baseline conditions.

B) The permittees shall document the source information used to develop the MS4 map, including how the outfalls are verified and the process regarding how the map will be regularly updated.

C) New MS4 Areas: Within one year from the date of permit issuance, the permittees shall develop and implement procedures to ensure that the above requirements are met for all new portions of the MS4.

D) Existing MS4 Areas: Within three years from the date of permit issuance, the permittees shall demonstrate that it has evaluated all existing portions of the MS4 and that the new mapping requirements have been implemented to the maximum extent

practicable.

xiv. Spill Prevention and Response. The permittees shall implement existing programs which prevent, contain, and respond to spills that may discharge into the MS4. The spill response programs may include:

A) a combination of spill response actions by the permittees or another public or private entity, and

B) legal requirements for private entities within the jurisdiction of the permittees.

d. MCM 4, Pollution Prevention and Good Housekeeping for Municipal Operations.

i. Pollution Prevention and Good Housekeeping program. Within one year from date of permit issuance, the permittees shall implement a pollution prevention and good housekeeping program for municipal operations. The program must include MCMs that address:

A) identification and implementation of good housekeeping and best management practices (BMPs) to reduce pollutant runoff from municipal operations such as street and highway maintenance, parks, municipal office buildings and water treatment plants;

B) reduction of discharge of pollutants to the MEP from road repair, equipment yards, and material storage facilities, or maintenance facilities; and

C) training for all employees responsible for municipal operations which includes information on preventing and reducing stormwater pollution from all municipal operations subject to this MCM.

ii. Waste Handling. The permittees shall ensure proper disposal of waste that is removed from the MS4 or from other municipal operations.

iii. Pesticide, Herbicide, and Fertilizer Application. The permittee(s) shall implement controls to reduce the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers, by the permittees' employees or contractors, to public rights-of-way, parks, or other municipal property.

iv. List of Municipal Facilities. The SWMP must include a list of all municipal operations subject to the municipal operation, maintenance, and training programs listed under this MCM and all municipally owned and operated industrial activities subject to TPDES or NPDES industrial stormwater regulations.

e. MCM 5, Industrial and High-Risk Runoff.

i. The permittees shall continue to improve their existing programs to identify and control pollutants in stormwater discharges to the MS4 from:

municipal landfills; other treatment, storage, or disposal facilities for municipal waste (e.g. transfer stations, incinerators, etc.); hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to Emergency Planning and Community Right-to-Know Act (EPCRA) Title III, Section 313; and any other industrial or commercial discharge the permittees determines are contributing a substantial pollutant loading to the MS4.

ii. The permittee shall use ordinances, permits, contracts, orders or similar means to control the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity.

iii. This MCM must include:

A) priorities and procedures for inspections and for establishing and implementing control measures for such discharges;

B) an Industrial and High-Risk Monitoring Program as described in Part III. B.2.h.iii of this permit; and

C) A list of industrial stormwater sources discharging to the MS4, which shall be maintained and updated as necessary.

f. MCM 6, Construction Site Stormwater Runoff.

i. The permittees shall continue to implement a program to reduce the discharge of pollutants into the MS4 from construction sites. This MCM must include an ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law. *Within one year of date of permit issuance,* the permittees shall ensure that the existing program is revised as necessary to address construction projects that result in a land disturbance of one acre or more, including activities disturbing less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more.

ii. This MCM must include:

A) requirements to use and maintain appropriate erosion and sediment control BMPs to reduce pollutants discharged to the MS4 from construction sites;

B) requirements for construction site operators to address the control of site waste such as discarded building materials, concrete truck washout water, chemicals, litter, and sanitary waste;

C) requirements for inspection of construction sites and enforcement of control measure requirements;

D) requirements for the permittee to appropriate education and training measures for construction site operators; and

E) notifications to construction site operators of their potential responsibilities under the NPDES or TPDES permitting regulations and permits for construction site runoff;

F) procedures for site plan review which incorporate consideration of potential water quality impacts;

G) procedures for receiving and considering input received from the public;

H) procedures for site plan review of sediment and erosion plans; and

I) a description of a program to implement and maintain structural and non-structural BMPs to reduce pollutants in stormwater runoff from construction sites to the MS4, which must include a description of the following:

1) procedures for site planning which incorporate consideration of potential water quality impacts;

2) requirements for nonstructural and structural best management practices;

3) procedures for identifying priorities for inspecting sites and enforcing control measures that consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

4) appropriate educational and training measures for construction site operators.

iii. Lists of Sites. The permittees shall maintain a current list of construction sites that discharge directly to the MS4 and that have been issued an NPDES or a TPDES permit. The list must include the name, location and permit number of the discharges that have been authorized under an NPDES or TPDES stormwater discharges permit for construction activities (if known).

iv. The permittees shall ensure and demonstrate that this MCM includes the following elements, in addition to those listed above:

A) The permittees shall require construction site contractors to implement appropriate erosion and sediment control BMPs and control waste (for example, discarded building materials, concrete truck washout water, chemicals, litter, and sanitary waste) at the construction site, that may cause adverse impacts to water quality.

B) The permittees shall develop procedures for site plan reviews that incorporate consideration of potential water quality impacts, receipt and consideration of information submitted by the public, and site inspection and enforcement of control measures to the extent allowable under state and local law.

C) The permittee 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.

g. MCM 7, Public Education, Outreach, Involvement and Participation.

i. Public Education and Outreach

A) Within one year from the date of permit issuance, the permittees shall document and ensure that the SWMP promotes, publicizes, and facilitates public education and outreach to: residents, visitors, public service employees, businesses, commercial and industrial facilities, and construction site personnel and provide justification for any group that is not addressed by the program The permittees must document the activities conducted and materials used to fulfill this program element and provide enough detail to demonstrate the amount of educational and outreach resources and materials used to address each group.

B) The permittees shall continue to implement a public education and outreach program component to promote, publicize, and facilitate:

1) public reporting of illicit discharges or improper disposal of materials, including floatables, into the MS4;

2) the proper management and disposal of used oil and household hazardous wastes; and

3) the proper use, application, and disposal of pesticides, herbicides, and fertilizers by public, commercial, and private applicators and distributors.

ii. Public Involvement and Participation. Within one year from the date of permit issuance, the permittees shall develop and implement a public involvement and participation program which complies with State, Tribal, and local public notice requirements. This program element must include opportunities for a wide variety of constituents within the MS4 area to participate in the SWMP development and implementation.

h. MCM 8, Monitoring, Evaluation and Reporting. The permittees shall implement the following monitoring or screening programs for dry weather, wet weather, industrial and high-risk runoff, and discharges from Mitchell Lake:

i. Dry Weather Screening Program. This program shall continue efforts to detect the presence of illicit connections and improper discharges to the MS4. All areas of the MS4 must be screened at least once during the permit term. The permittees may utilize modified screening methods based on experience gained during previous field screening activities; the

screening methods are not required to conform to the protocol in 40 CFR § 122.26(d)(1)(iv)(D). Sample collection and analysis is not required to conform to the requirements of Part V. B.2. of this permit, "Test Procedures."

ii. Wet Weather Screening Program: The permittees shall identify, investigate, and address areas within their jurisdiction that may be contributing excessive levels of pollutants to the MS4.

The wet weather screening program shall:

A) screen the MS4, as specified in the SWMP; and

B) specify the sampling and non-sampling techniques to be used for current screening and also for follow-up screening.

Sample collection and analysis for the Wet Weather Screening Program is not required to conform to the requirements of Part V. B.2. of this permit, "Test Procedures;" however, samples taken to confirm (e.g., in support of possible legal action) a particular illicit connection or improper disposal practice must conform to the requirements of Part V.B.2. of this permit, "Test Procedures."

iii. Industrial and High-Risk Runoff Monitoring Program.

A) This program must include monitoring for pollutants in stormwater discharges to the MS4 from: municipal landfills; other treatment, storage, or disposal facilities for municipal waste (e.g., transfer stations, incinerators, etc.); hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittees determine are contributing a substantial pollutant loading to the MS4.

B) The Industrial and High-Risk Runoff Monitoring Program must include the collection of quantitative data on parameters which have been identified by the permittees as a pollutant of concern for that facility, and shall:

1) coincide with the corresponding industrial sector-specific requirements of the TPDES Multi-Sector General Permit No. TXR050000 or any applicable general permit issues after September 29, 1995, and is not contingent on whether a particular facility is actually covered by the general permit;

2) coincide with the monitoring requirements of any individual permit for the stormwater discharges from that facility; or

3) include pollutants of concern for the stormwater discharge from that facility as identified by the permittees.

C) To avoid the duplication of efforts, the permittees may review data

collected by a facility as required by any individual or general permit for that facility rather than performing additional sample collection and analysis.

D) In lieu of the monitoring discussed above, the permittees may accept a certification from a facility that raw and waste materials, final and intermediate products, by-products, material handling equipment or activities, industrial machinery or operations, or significant materials from past industrial activity are not presently exposed to stormwater and are not expected to be exposed to stormwater for the certification period. Where a permittee accepts a "no exposure" certification, the permittee shall conduct annual site inspections of the facility to verify the "no exposure" exemption.

E) The permittees may also waive monitoring requirements under this permit for facilities that they determine are in compliance with the TPDES Multi-Sector General Permit No. TXR050000.

iv. Storm Event Discharge Monitoring. The permittees shall comply with the monitoring requirements in Part IV of this permit to characterize the discharge from the MS4.

v. Mitchell Lake Wetland BMP. The permittee shall implement a constructed wetland BMP for discharges from Mitchell Lake. Monitoring and reporting shall be as outlined in Part IV Section A. and Part VI.

vi. Floatables Monitoring. The permittees shall implement a floatables program as described in Part IV.B of this permit.

C. Edwards Aquifer Protection: The permittees are prohibited from causing or knowingly allowing any activity pursuant to this permit which would be in violation of 30 TAC Chapter 213 (related to the Edwards Aquifer).

D. Deadlines for SWMP Compliance: Full implementation of the SWMP is required upon permit issuance, except for the new requirements of the permit that include a specific compliance period.

1. Except as described in items c., g. and h. below, related to the MS4 map and the Mitchell Lake BMP, respectively, the permittees shall demonstrate that they have fully implemented the new SWMP program elements *within one year from the date of issuance,* as described in Part III. B. of this permit:

a. Part III. B.2.b.ii, related to post-construction stormwater control measures;

b. Part III. B.2.c.vii.B, related to the detection and elimination of illicit discharges;

c. Part III. B.2.c.xiii, related to the MS4 outfall mapping requirements, except that existing areas that have previously been mapped must be reviewed within three years from the date of permit issuance to include, to the extent practicable, any outfalls on the MS4 map that were not previously included;

d. Part III. B.2.d.i, related to the pollution prevention / good housekeeping program for municipal operations;

e. Part III. B.2.f.i and ii.A, related to certain construction site runoff control requirements;

f. Part III. B.2.g.ii, related to public involvement and participation;

g. Part IV. A.1.d., related to the Mitchell Lake Wetlands BMP. Monitoring must begin upon permit issuance. Effluent Limitations apply one year after project completion of the constructed wetlands BMP. Milestones established for achieving operational status of the constructed wetlands are outlined in Part VI.

h. Part IV.A.1.e, related to monitoring releases over the Dam Spillway from Mitchell Lake. This monitoring must begin upon permit issuance.

2. Compliance with any new SWMP requirements not given a compliance schedule in the permit is required one year from permit issuance.

3. Compliance Schedules: The permittees shall comply with the following compliance schedules:

a. within one year from the date of permit issuance, the permittees shall fully implement all of the control measures described in this permit, with the exception of paragraph III.B.2.c.xiii (also see Part III. D1.c. above);

b. within three years from the date of permit issuance, the permittees shall fully implement the control measure related to mapping all MS4 outfalls (see Part III. B.2.c.xiii), for all existing portions of the MS4; and

c. The permittee(s) shall demonstrate, at a minimum, partial compliance with each new requirement during each permit year.

E. Roles and Responsibilities of Permittees. For shared programs, the SWMP shall clearly identify the roles and responsibilities of each permittee.

F. Legal Authority. The permittees shall ensure they have the legal authority to control discharges to and from those portions the MS4 over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements with municipal entities with existing legal authority to:

1. control the contribution of pollutants to the MS4 by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity;

2. prohibit illicit discharges to the MS4;

3. control the discharge of spills and the dumping or disposal of materials other than stormwater (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes) into the MS4;

4. control through interagency agreements among permittees the contribution of

pollutants from one portion of the MS4 to another;

5. require compliance with conditions in ordinances, permits, contracts, or orders; and

6. carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with permit conditions.

G. SWMP Resources. The permittees shall provide adequate finances, staff, equipment, and support capabilities to implement its activities required by the SWMP.

H. SWMP Review and Updates.

1. SWMP Review. The permittees shall participate in the annual review of the current SWMP in conjunction with the preparation of the annual report required under this permit.

2. SWMP Updates Requested by the permittees. No permittee shall revise the SWMP without the prior written approval of the TCEQ, unless the modification is to add controls or replace a less effective or infeasible BMP with an alternate BMP.

   a. The permittees may add components, controls, or requirements to the SWMP at any time upon written notification to the TCEQ.

   b. The permittees, at any time, may request authorization to replace less effective or infeasible BMPs specifically identified in the SWMP with an alternate BMP. Unless denied in writing by the TCEQ, the change shall be considered approved and may be implemented by the permittees 60 days from submittal of the request. Such requests must include the following:

      1) an explanation of why the BMP was eliminated;

      2) an explanation on the effectiveness of the replacement BMP; and

      3) an explanation of why the replacement BMP is expected to achieve the goals of the replaced BMP.

      If a request to make a change to a BMP(s) is denied, the TCEQ will send the permittee a written response to the request and state the reason given for denying the change.

   c. If the permittees determine that a component, control, or requirement is not effective in reducing or eliminating the impacts of pollutants on water quality, then the permittees may remove this BMP without replacement only after receiving written approval from the TCEQ's Stormwater Team. The permittees shall submit this request in writing to the TCEQ Stormwater Team (MC-148) and shall include an explanation as to why the BMP is considered ineffective, as well as the method of review that was utilized to determine its ineffectiveness. The permittees shall also demonstrate that the permit discharges from the MS4 will continue to meet the maximum extent practicable (MEP) standard for reducing pollutants, as well as the water quality requirements, after the BMP is removed.

d. Changes resulting from any compliance schedules contained in this permit may be requested following completion of an interim task or final deadline. Unless denied in writing by the TCEQ, proposed changes meeting the criteria contained in the applicable schedule shall be considered approved and may be implemented by the permittees 60 days from submittal date.

e. Change requests or notifications must be made in writing to the TCEQ's Stormwater Team (MC-148), signed by all directly affected permittees in accordance with Part V. B.8. of the permit and must include a certification that all permittees were given an opportunity to comment on the proposed changes prior to submittal to the TCEQ.

3. SWMP Updates Required by the TCEQ.

a. The TCEQ may require changes to the SWMP through a permit amendment or modification as needed to:

i. address impacts on receiving water quality either caused or contributed to by discharges from the MS4;

ii. include more stringent requirements necessary to comply with new state or federal statutory or regulatory requirements;

iii. include such other conditions deemed necessary to comply with the goals and requirements of the Texas Water Code or the Clean Water Act; or

iv. incorporate new program elements necessary to continue to meet the MEP standard.

b. If the TCEQ requires changes to the SWMP, the changes will be through a permit amendment, which will be conducted in accordance with 30 TAC § 305.62. Prior to making any changes to the SWMP, the TCEQ will:

i. notify the permittees in writing of the required changes;

ii. provide an explanation of the required changes;

iii. set forth the time schedule for the permittees to develop these changes; and

iv. allow the permittees an opportunity to propose alternative program changes to meet the objective of the request.

4. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation.

a. The permittees shall implement the SWMP on all new areas added to their portion of the MS4 (or for areas where they become responsible for implementation of stormwater quality controls) as expeditiously as practicable, but not later than three years from addition of the new areas. Implementation may be accomplished in a phased manner to allow additional time for controls that cannot be implemented immediately.

b. Within 90 days of a transfer of ownership, operational authority, or responsibility for SWMP implementation, the permittees shall have a plan for implementing the SWMP on all affected areas. The plan may include schedules for implementation. Information on all new annexed areas and any resulting updates required to the SWMP shall be included in the annual report.

5. Retention of Records. The permittees shall retain the SWMP and all associated records for at least three years after coverage under this permit terminates.

PART IV. MONITORING AND REPORTING REQUIREMENTS

A. Storm Event Discharge Monitoring: Beginning upon permit issuance (unless stated otherwise), the permittees shall implement a Wet Weather Characterization sampling program in accordance with Option 1, or 2, Part IV. A.1, or Part IV. A.2., respectively.

1. Representative Monitoring. The permittees may either conduct representative monitoring as described in this section or conduct rapid bioassessment as described in the next section (A.2.). To characterize the quality of stormwater discharges from the MS4 monitoring shall be collected from representative outfalls, internal sampling stations, or instream monitoring locations.

   a. Monitoring Requirements and Locations. During the period beginning upon date of issuance and lasting until permit expiration, the permittee shall monitor Outfalls 001 through 006 subject to the following conditions, in order to characterize the quality of stormwater discharges from the MS4.

   b. Pollutants. Outfalls 001 through 006: The permittees shall conduct monitoring at six (6) representative outfalls (001 through 006) in accordance with the following monitoring requirements:

      The permittees shall analyze each collected monitoring sample for the following parameters, and shall report the daily maximum concentration in milligrams per liter (mg/L) except as indicated:

      biochemical oxygen demand, 5-day (BOD5);
      chemical oxygen demand (COD);
      oil and grease;
      total suspended solids (TSS);
      total dissolved solids (TDS);
      total nitrogen;
      total Kjeldahl nitrogen (TKN);
      nitrate-Nitrogen;
      ammonia-Nitrogen;
      total phosphorus;
      dissolved phosphorus;
      total cadmium (micrograms per liter, or µg/L);
      total chromium (µg/L);
      total copper (µg/L);
      total cyanide (µg/L);
      total lead (µg/L);

total nickel (µg/L);
total zinc (µg/L);
E. coli [Most Probable Number (MPN)/100 mL; or colony forming units, (cfu) per 100 m/l];
pH (report daily minimum and daily maximum results in standard units, "S.U.");
hardness (as CaCO3);
temperature (degrees Centigrade, °C); and
Atrazine (µg/L).

(1) The permittee shall collect composite samples for all pollutants except as described in Part IV. A.5.b below.

(2) Samples shall be collected at a frequency of once per season (1/season) for each year of permit term unless monitoring under Alternative Rapid Bioassessment Option (See Part IV.A.2.). Seasonal monitoring periods are:

December - March (dry);
April - June (wet);
July - August (dry); and
September - November (wet).

(3) Sample Locations.

Discharge monitoring samples shall be taken at the following locations:

Outfall 001, located at San Pedro and Olmos Creek;
Outfall 002, located at South Flores Street and Six Mile Creek;
Outfall 003, located at Alderete Park and Zarzamora Creek;
Outfall 004, located at Bandera Road and Zarzamora Creek;
Outfall 005, located at Bitters Road and Salado Creek tributary;
Outfall 006, located at Business Park and Service Center Drive.

c. Individual Monitoring Requirements for Outfall 008 and its Location:

(1) Sample Location and Type: San Antonio Water System (SAWS) shall collect and analyze, by grab sample, the discharge from City of San Antonio Zoo's UV Water Disinfection Facility at Outfall 008, located immediately downstream from the City's Ultraviolet (UV) treatment plant at the San Antonio Zoo at the San Antonio River. Sampling of the base flow of the discharge from the zoo shall be conducted when the UV Water Disinfection Facility is in operation, at a point immediately downstream of the UV Water Disinfection Facility and immediately upstream of the outfall channel where the discharge reaches the Upper San Antonio River (Segment No. 1911). The sampling point is located in the drainage way that flows through the Zoo, at a point immediately downstream of the Zoo.

(2) Sampling Parameter(s): The sample shall be analyzed for the following pollutants:

E. Coli
Total Suspended Solids

(3) Sampling Frequency: The permittees shall perform the required sampling and analysis at the following frequency, when the UV Water Disinfection Facility is in operation:

(i) Once per season as described in Part IV. A.1.b.(2) above.

(ii) However, if the results of any sampling described in paragraphs c. (1) and (2) above demonstrate that the discharge from the exit of the UV Water Disinfection Facility contributes bacteria to the receiving water at a level above the allowance in the TMDL, then the sampling frequency shall be once per week until one full season of sampling demonstrates that the levels have been reduced to below the allowance provided in the TMDL.

(4) Reporting: SAWS shall report the geometric mean and the daily maximum results of *E. coli* sampling in MPN/100 mL or cfu/100 mL and TSS in mg/L. Results must be submitted on Discharge Monitoring Report forms along with the annual report including additional data collected and analyzed under Part IV. A.

(5) Sampling requirement for Outfall 008 the San Antonio Zoo does not qualify for the alternate representative monitoring.

d. Monitoring Requirements for Outfalls 109, 009, 110, and 010

The permittee shall conduct monitoring at four outfalls, Outfalls 109, 009, 110, and 010 at the Mitchell Lake Wetlands BMP, in accordance with the following monitoring requirements:

(1) Pollutants. The permittee shall analyze each collected sample for the following parameters.

biochemical oxygen demand, 5-day (BOD5);
chemical oxygen demand (COD);
oil and grease;
total suspended solids (TSS);
total dissolved solids (TDS);
total nitrogen;
total Kjeldahl nitrogen (TKN);
nitrate-Nitrogen;
ammonia-Nitrogen;
total phosphorus;
dissolved phosphorus;
total cadmium (micrograms per liter, or µg/L);
total chromium (µg/L);
total copper (µg/L);
total cyanide (µg/L);
total lead (µg/L);
total nickel ((µg/L);
total zinc (µg/L);

E. coli [Most Probable Number (MPN)/100 mL; or colony forming units, (cfu) per 100 m/L];
pH (report daily minimum and daily maximum results in standard units, S.U.);
hardness (as CaCO3);
temperature (degrees Centigrade, °C);
Atrazine (µg/L); and
dissolved oxygen (DO).

(2) The permittee shall collect grab samples for all pollutants.

(3) Discharge limits for Outfalls 009 and 010. One year after project completion of the Mitchell Lake Wetlands BMP, Outfalls 009 and 010 are subject to the following effluent limitations.

Parameter	Daily Avg.	Daily Max.	Single Grab
Flow, MGD	Report	Report	N/A
Biochemical oxygen demand (5-day)	30 mg/L	70 mg/L	100mg/L
Total suspended solids	90 mg/L	N/A	N/A

- pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.
- The effluent shall contain a minimum dissolved oxygen of 4.0 mg/L.
- There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge or visible oil.

(4) Sampling Frequency. Samples must be collected at a frequency as follows:

(i) Beginning upon the date discharging from the wetlands BMP begins and lasting one year after project completion of the wetlands BMP, samples for BOD_5, TSS, pH, and DO must be collected and analyzed once per month. For all other parameters identified in Part IV.A.1.d.(1)., samples must be collected and analyzed once per season.

(ii) During the period beginning one year after project completion of the wetlands BMP and lasting for one year, samples for BOD_5, TSS, pH, and DO must be collected and analyzed once per month. For all other parameters identified in Part IV.A.1.d.(1), samples must be collected and analyzed once per season. If there are no exceedances of the limits for BOD_5, TSS, pH, and DO, during this one-year period and as set forth in Part IV.A.d.(3), the permittee may request that sampling be changed to once per season, in accordance with Part VI.R.

(iii) Following completion of the requirements in paragraph (ii) above: samples for all parameters must be collected and analyzed once per season, as described in Part IV.A.1.b.(2) above.

However, if the results of any sampling described in paragraph (i) or (ii) above demonstrate that the quality of the discharge from Outfalls 009 or 010 of the wetlands BMP does not comply with the permit effluent limitations for BOD_5, TSS, pH, or DO in Part IV.A.1.d.(3) above, the sampling frequency may not be reduced to less than monthly for those four parameters until two full seasons of sampling demonstrate that the effluent limitations have been achieved.

(5) Sample Locations. Mitchell Lake Wetlands BMP discharge monitoring samples shall be collected at the following locations:

(i) Outfall 110, located just prior to the constructed wetlands on the east side of Cottonmouth Creek;

(ii) Outfall 010, located just after the constructed wetlands on the east side of Cottonmouth Creek and following the reaeration structure, if one is implemented, but prior to the discharge into the receiving stream;

(iii) Outfall 109, located just prior to the constructed wetlands on the west side of Cottonmouth Creek; and

(iv) Outfall 009, located just after the constructed wetlands on the west side of Cottonmouth Creek and following the reaeration structure, if one is implemented, but prior to the discharge into the receiving stream.

(6) Reporting. The permittees shall report an estimate of flow in million gallons per day (MGD), the daily maximum concentration in milligrams per liter (mg/L), and daily average concentration in mg/L, except as indicated above. Results must be submitted on Discharge Monitoring Report forms and included in the annual report along with the additional data collected and analyzed under Parts IV.A. Discharge flows at Outfalls 009 and 010 are the days that the daily maximum concentrations occur at these outfalls.

e. Monitoring Requirements for Outfall 011 (Mitchell Lake Dam Spillway)

On and after the date that this permit is issued, coverage of the discharge from Mitchell Lake transfers from TPDES Permit No. WQ0010137004 to this permit (WQ0004284000) and TPDES Permit No. WQ0010137004 is terminated. The permittees shall monitor release events over the Mitchell Lake Dam Spillway by sampling at Outfall 011 in accordance with monitoring requirements in subpart (1) below.

Until such time as the modifications to the Dam Spillway and elevation monitoring capability are in place and functional, the permittees shall continue to monitor flow using the California Pipe Method.

(1) Flow. The permittee shall document the release of discharge over the Dam Spillway in terms of:

(i) The number of release events per year;

(ii) The number of days of each release event;

(iii) Elevation of the lake at the initiation of each discharge, including the date and time of the day the elevation measurement was taken;

(iv) The estimated average rate of discharge during the release event and duration of the event, including the rate and duration of the discharge following any discharge adjustment;

(v) An estimate of the total volume of discharge released during each release event. Release volumes will be estimated using the discharge curve developed for the Dam Spillway and the record of lake elevations during the release event.

(vi) The lake surface elevation at the end of the discharge period, including the date and time of day the elevation measurement was taken.

(2) Pollutants. The permittees shall analyze each collected sample from the Dam Spillway for the following parameters:

biochemical oxygen demand, 5-day (BOD_5);
total suspended solids (TSS);
E.coli (MPN/100 mL or CFU/100 mL);
dissolved oxygen; and
pH (S.U.)

(3) Sample Type and Frequency. The permittee shall collect one daily grab sample during each release event from the Dam Spillway.

(4) Sample Location. Upon permit issuance, the permittee shall collect samples at the existing Dam Spillway location. After completion of the construction of Dam modifications and outlet works, the permittee shall collect samples at the new Dam Spillway location for the above parameters. At least forty-five days prior to relocation of the Dam Spillway outfall, the permittee shall notify TCEQ in accordance with Part VI.Q.

(5) Reporting. The permittees shall report the daily maximum concentration in mg/L for each parameter for each release event, except as indicated above. Flow must be reported as the estimated total volume of the release in MGD. The number of days of Dam Spillway releases, along with the additional data collected in accordance with item (e).1 above, must be documented and submitted in the annual report.

(6) Sampling requirements for Outfall 011 does not qualify for the alternative representative monitoring.

f. Alternate representative monitoring locations may be substituted for just cause during the term of the permit. Requests for approval of alternate monitoring locations shall be made to the TCEQ in writing and include the rationale for the requested monitoring station relocation. Unless disapproved by the TCEQ, or unless the outfall contains numeric effluent limitations use of an alternate monitoring location may commence 30 days from the date of the request. For outfalls where numeric effluent limitations have been established, the permit must be modified prior to substitution of alternate monitoring locations. Six samples shall be collected during the first year of monitoring at substitute outfall.

2. Representative Monitoring - Rapid Bioassessment Option: The permittees have the option of developing and implementing a rapid bioassessment monitoring program. This does not replace the sampling requirements at Outfall 008 for the San Antonio Zoo or Outfalls 109, 009, 110, 010, and 011 at the Mitchell Lake Constructed Wetlands BMP or the Dam Spillway releases.

a. The permittees shall obtain all necessary aquatic wildlife collection permits from appropriate State and Federal agencies

b. Permittees utilizing the rapid bioassessment monitoring option shall conduct monitoring of the MS4 as described in Part IV. A.1.a. of this permit, except the monitoring for years 2, 3, and 5 are no longer required. All other requirements of Part IV. A., remain unchanged, including A.1.b., A.3., and A.4.

c. If the permittees elect to develop and implement a rapid bioassessment monitoring program, the permittees shall submit a monitoring program to the TCEQ's Wastewater Permitting Section (MC-148) for approval no later than one year from the effective date of this permit. An approvable program must include:

(1) monitoring of at least two water bodies receiving storm water discharges from the MS4 plus a reference, site located within the same ecological region as the MS4, but that does not receive discharges from the MS4;

(2) monitoring of each station at least twice per year, with monitoring conducted at essentially the same time periods each year; and

(3) concurrent (e.g. within a day or two) monitoring of the reference site each time a station located in the receiving waters of the MS4 is monitored.

If the applicable TMDL(s) and Implementation Plan(s) are finalized and approved, then unless contacted by the TCEQ within 60 days, a proposed rapid bioassessment monitoring plan meeting the criteria herein shall be deemed approved and the permittees may implement the alternate rapid bioassessment program. If the TMDL(s) and Implementation Plan(s)

have not been approved, then the permittees may not implement the proposed rapid bioassessment monitoring plan without prior written approval from the TCEQ.

d. The permittees shall provide written notification to the TCEQ's Stormwater Team (MC-148) at least 14 days prior to commencing an alternate rapid bioassessment monitoring program

3. Storm Event Data: For sampling conducted for Part IV. A.1.a of this permit and any additional sampling conducted for Part IV. A.4., quantitative data shall be collected to estimate pollutant loadings and event mean concentrations for each parameter sampled. In addition to the parameters listed in Part IV. A.1.a of this permit, the permittees shall maintain records of the storm events which generated the sampled runoff: date and duration (in hours); rainfall measurements or estimates (in inches); the duration (in hours) between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

4. Seasonal Loadings and Event Mean Concentrations. All necessary sampling data shall be collected to provide estimates for each of the six monitoring locations (Outfalls 001 through 006 in this permit) of seasonal pollutant loadings and event mean concentrations for a representative storm event for the parameters listed in Part IV. A.1.a. of this permit. This information may be estimated from the representative monitoring locations and shall take into consideration land uses and drainage areas for the outfall. The estimates of seasonal loadings and event mean concentrations shall be included in the Fourth Year Annual Report.

5. Sample Type, Collection, and Analysis*:* The following requirements apply only to samples collected for Parts IV.A.1.a; IV.A.1.b; and IV.A.4. of this permit.

a. For discharges from holding ponds or other impoundments with a retention period greater than 24 hours, (estimated by dividing the volume of the detention pond by the estimated volume of water discharged during the 24 hours previous to the time that the sample is collected) a minimum of one grab sample may be taken.

b. Grab samples taken during the first two hours of discharge shall be used for the analyses (if applicable) of pH, temperature, hardness, cyanide, oil & grease, and *E. Coli*. For all other parameters, data shall be reported for flow-weighted composite samples of the entire event or, at a minimum, the first three hours of discharge.

c. Samples shall be collected of the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Composite samples may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen minutes.

The required 72 hour storm event interval is waived where the preceding storm event did not result in a measurable discharge. The required 72 hour storm event interval is also waived where the permittees document that less than a 72 hour interval is representative for local storm events during the season when sampling is being conducted.

6. Temporary Suspension and Waivers:

   a. Requirements to conduct representative monitoring as described in Part IV. A.1.a.(i) within a prescribed monitoring period may be temporarily suspended for adverse weather conditions. Adverse weather conditions are conditions that are either dangerous to personnel (e.g. high wind, excessive lightening) or weather conditions that prohibit access to a discharge (e.g. flooding, freezing conditions, extended period of drought). Adverse weather conditions that result in the temporary suspension of a permit requirement to conduct seasonal monitoring must be documented and included as part of the Annual Report. Documentation shall include the date, time, names of personnel that witnessed the adverse condition, and the nature of the adverse condition.

   b. When seasonal monitoring is temporarily suspended, that monitoring must be conducted within next season that discharge occurs, in addition to any monitoring required for that season. If the temporarily suspended monitoring requirement cannot be fulfilled by the end of the same season of the following year, then it is permanently waived.

B. Floatables Monitoring

The permittees shall maintain two locations where floatable material can be removed before the stormwater is discharged to or from the MS4. Floatable material shall be collected at the frequency necessary for maintenance of the removal devices, but not less than twice per year. The amount of material collected shall be estimated by weight, volume, or by other practical means. Results shall be included in the Annual Report required in this permit.

C. Annual System-Wide Report

1. Each permittee shall contribute to the preparation of an annual system-wide report to be submitted to the Stormwater Team, MC-148, P.O. Box 13087, Austin, Texas, 78711-3087 no later than March 1 of each year. The report must cover the previous reporting year as defined from October 1 to September 30.

2. The annual report must contain the following sections or chapters to describe the status of implementing the SWMP, or must cross-reference the items in this list so that the following topics may be easily located in the order provided in Part III. B.2. The report must be provided in either the following format or a format approved in writing by the Stormwater Team:

   a. MS4 Maintenance Activities

      (1) Structural Controls
      (2) Floatables

(3) Roadways

b. Post–Construction Stormwater Control Measures

(1) Areas of New Development and Significant Redevelopment, including the status of complying with new requirements

(2) Evaluation of the existing SWMP to ensure implementation and enforcement of a regulatory mechanism

(3) Flood Control Projects

c. Illicit Discharge Detection and Elimination

(1) Illicit and Allowable Discharges
(2) Detection and Elimination of Illicit Discharges, including the status of complying with new requirements
(3) Overflows and Infiltration
(4) Household Hazardous Waste and Used Motor Vehicle Fluids
(5) MS4 Screening and Illicit Discharge Inspections
(6) NPDES and TPDES Permittee List
(7) MS4 Map, including the status of complying with new requirements
(8) Spill Prevention and Response

d. Pollution Prevention/Good Housekeeping for Municipal Operations

(1) Pollution Prevention/Good Housekeeping Program, including the status of complying with new requirements
(2) Structural Control Maintenance
(3) Waste Handling
(4) Pesticide, Herbicide, and Fertilizer Application
(5) List of Municipal Facilities

e. Industrial & High-Risk Runoff

(1) Priorities and Procedures for Inspections and Implementing Control Measures
(2) Industrial and High-Risk Monitoring Program (alternatively, this may be referenced in the Monitoring section of the annual report)

f. Construction Site Stormwater Runoff

(1) Requirements for Structural and Non-Structural BMPs
(2) Inspection of Construction Sites and Enforcement Requirements
(3) Education and Training for Construction Site Operators;
(4) Notification of Requirements to Construction Site Operators
(5) List of Construction Sites
(1) Status of complying with new requirements (e.g., site plan review of projects that are one or more acres in size)

g. Public Education and Outreach/Public Involvement and Participation

(1) Public Education, including the status of complying with new requirements
(2) Public Involvement and Participation, including the status of complying with new conditions
(3) Evaluation of the effectiveness of this MCM

h. Monitoring, Evaluation and Reporting

(1) Dry Weather Screening Program
(2) Wet Weather Screening Program
(3) Industrial and High-Risk Runoff Monitoring Program
(4) Floatables Monitoring
(5) Mitchell Lake Wetland BMP and Dam Spillway
(6) If applicable, Impaired Water Bodies and TMDL Requirements

3. For each program element listed above, the permittees shall include the following separate sections, with an overview for the entire MS4:

a. For shared programs, a description of the portion of the current program that the permittee has implemented for each SWMP element;

b. the status of implementing the SWMP (status of compliance with any schedules established under this permit);

c. any proposed changes to the SWMP for the next reporting year; and

d. a summary describing the number and nature of enforcement actions and inspections, where applicable.

4. The report must include the following appendices after the program/MCM descriptions:

a. a summary of the effectiveness of the Mitchell Lake Wetland BMP as well as a summary of releases from Mitchell Lake via the Dam Spillway;

b. identification of any water quality improvements, degradations, and progress toward any measurable goals or measured reduction in pollutants;

c. progress toward reducing bacteria based on the impaired water bodies requirements in in Part II. C of this permit;

d. annual expenditures for the reporting period, with a breakdown for the major elements of the SWMP,

e. the proposed budget for the upcoming reporting year;

f. revisions, if necessary, to the assessments of controls and the fiscal analysis reported in the permit application or the most recent annual report;

g. a summary of the number of NPDES and TPDES notices of intent received for each general permit and the number of site notices received from construction site operators seeking coverage for stormwater discharges,

h. the number of inspections conducted at industrial and construction sites; and

i. representative monitoring data and a summary of any additional data that was collected during the reporting year and the status of complying with the new SWMP elements in Part III. B of the permit.

5. Preparation and submittal of a system-wide annual report shall be coordinated by the City of San Antonio. The report shall indicate which, if any, permittees have failed to provide required information on the portions of the MS4 for which they are responsible to the City of San Antonio no later than 45 days prior to report due date. Joint responsibility for report submission shall be limited to participation in preparation of the overview for the entire system and inclusion of the identity of any permittee who failed to provide input to the annual report. Each individual permittee

shall be individually responsible for content of the report relating to the portions of the MS4 for which they are responsible and for failure to provide information for the system-wide annual report in a timely manner. Each permittee shall sign and certify the annual report in accordance with Part V.B.8 of this permit and include a statement or resolution that the permittee's governing body or agency (or delegated representative) has reviewed or been apprised of the content in the annual report.

D. Certification and Signature of Reports

All reports required by the permit and other information requested by the TCEQ shall be signed and certified in accordance with Part V. B.8 of this permit.

E. Reporting, Where and When to Submit

1. Representative monitoring results (Part IV. A.1) obtained during the reporting period running from **October 1 to September 30** must be submitted online using the NetDMR reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

   Permittees that are issued an electronic reporting waiver shall submit analytical results to the TCEQ Enforcement Division (MC-224) on an approved DMR form (EPA No. 3320-1). Effluent sampling shall be conducted in accordance with the monitoring frequencies specified in this permit. Monitoring results must be signed and certified as required by Part IV.D along with the Annual Report required by Part IV.C of this permit.

   Effective September 1, 2020, annual reports must be submitted using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

2. Samples shall be collected at a frequency of once per season (1/season) for each year of permit term unless monitoring under Alternative Rapid Bioassessment Option (See Part IV.A.2.). Separate reporting is required for each monitoring period (season) specified below (See also Part IV.A.1.b(2)):

   December - March (dry);

   April - June (wet);

   July - August (dry); and

   September - November (wet).

3. Signed copies of the annual report required by Part IV.C, and all other reports required by this permit, shall be submitted to the TCEQ's Wastewater Permitting Section, Stormwater Team (MC-148) and the TCEQ Region 13 Office.

PART V: DEFINITIONS AND STANDARD PERMIT CONDITIONS

A. Definitions:

As required by 30 TAC Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC §§ 305.121 - 305.129, Subchapter F, "Permit Characteristics and Conditions" as promulgated under the Texas Water Code §§ 5.103 and

5.105, and the Texas Health and Safety Code §§ 361.017 and 361.024(a), establish the characteristics and standards for discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit.

All definitions contained in Section 26.001 of the Texas Water Code and 30 TAC Chapter 305 shall apply to this permit and are incorporated herein by reference. Unless otherwise specified, additional definitions of words or phrases used in this permit are as follows:

1. **Best Management Practices (BMPs)** - schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution in discharges that reach waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

2. **CWA -** the Clean Water 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. (6-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq.).

3. **Co-permittee** - one of several entities authorized under a single individual permit that is only responsible for permit conditions relating to the discharge for which it is the operator.

4. **Daily maximum concentration** - the maximum concentration measured on a single day, by composite sample unless otherwise specified elsewhere in this permit, within a period of one calendar month.

5. **Discharge** - unless indicated otherwise, refers to discharges from the Municipal Separate Storm Sewer System (MS4).

6. **Flow-weighted composite sample** - a composite sample consisting of a mixture of aliquots collected at either:

    a. a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge; or

    b. a constant volume at varying time intervals, proportional to the discharge flow rate.

7. **Grab sample** - an individual sample collected in less than 15 minutes.

8. **Illicit connection** - any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

9. **Illicit discharge** - any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES or TPDES permit (other than the NPDES or TPDES permit for certain discharges from the municipal separate storm sewer), discharges resulting from fire-fighting activities, and other allowable non-stormwater discharges described in Part III. SectionB.2.c. of

this permit.

10. **Landfill** - an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.

11. **Large or medium municipal separate storm sewer system (MS4)** - all MS4s that are either:

    a. located in an incorporated place (city) with a population of 100,000 or more as determined by the 1990 Decennial Census by the Bureau of Census (these cities are listed in Appendices F and G of 40 CFR Part 122); or

    b. located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties (these counties are listed in Appendices H and I of 40 CFR Part 122); or

    c. owned or operated by a municipality other than those described in paragraph (a) or (b) and that are designated by the EPA as part of the large or medium municipal separate storm sewer system.

12. **Major Outfall** - an outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive stormwater from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

13. **Maximum Extent Practicable (MEP)** - the technology-based discharge standard for MS4 established by Section 402(p) of the Federal Clean Water Act.

14. **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 a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over 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 section 208 of the CWA that discharges to waters of the United States;

    b. designed or used for collecting or conveying stormwater;

    c. which is not a combined sewer; and

    d. which is not part of a Publicly Owned Treatment Works (POTW) as defined at

30 TAC § 305.2.

15. **Outfall** – for the purpose of this permit, an outfall is a point or location where an MS4 discharges to waters of the U.S. and does not include a conveyance that connects two municipal separate storm sewers.

16. **Permittee** - any entity authorized by this permit to discharge to surface water in the state.

17. **Point source** – for the purpose of this permit, 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, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

18. **Storm sewer** - unless otherwise indicated, a municipal separate storm sewer (MS4).

19. **Stormwater** - stormwater runoff, snow melt runoff, and surface runoff and drainage.

20. **Stormwater discharges associated with industrial activity** - defined in TPDES General Permit No. TXR050000, Industrial Stormwater Multi-Sector General Permit (MSGP).

21. **Stormwater Management Program, or SWMP** - a comprehensive program to manage the quality of discharges from the municipal separate storm sewer system. For the purposes of this permit, the SWMP is considered a single document, but may actually consist of separate components (e.g. "chapters") for each permittee.

22. **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 stormwater runoff. Structural controls and practices may include but are not limited to: silt fences, earthen dikes, drainage swales, sediment traps, check dams, subsurface drains, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins.

23. **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 (MHWM) 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.

24. **Waters of the United States** - For the purposes of this permit, 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, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

i. which are or could be used by interstate or foreign travelers for recreational or other purposes;

ii. from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

iii. 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 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 United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States 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 the EPA.

B. Monitoring And Reporting Requirements

1. Self-Reporting

a. Monitoring results shall be provided at the intervals specified in the permit.

b. As provided by state law, the permittees are subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the CWA, Chapters 26, 27, and 28 of the TWC, and Texas Health and Safety Code, Chapter 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other

document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

   a. Unless otherwise specified in this permit, analytical procedures shall comply with procedures specified in 30 TAC §§ 319.11 - 319.12. Measurements, tests and calculations shall be accurately accomplished in a representative manner.

   b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

   c. Analysis must be performed using sufficiently sensitive methods for analysis that comply with the rules located in 40 CFR §136.1(c) and 40 CFR §122.44(i)(l)(iv).

3. Records of Results

   a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

   b. Monitoring and reporting records, including the SWMP, requests for SWMP changes, reports, strip charts and records of calibration and maintenance, copies of all records required by this permit, and records of all data used to complete the application for this permit shall be retained by the permittees or shall be readily available for review by a TCEQ representative for a period of three years from the date of the original record or sample, measurement, report, application, or the latest revisions, whichever is later. This period shall be extended at the request of the Executive Director.

   c. Records of monitoring activities shall include the following:

      i. date, time and place of sample or measurement;

      ii. identity of individual who collected the sample or made the measurement.

      iii. date and time of analysis;

      iv. identity of the individual and laboratory who performed the analysis;

      v. the technique or method of analysis; and

      vi. the results of the analysis or measurement and quality assurance/quality control records.

   d. The period when records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that maybe instituted against a permittee.

4. Additional Monitoring by Permittees

   If the permittees performs additional monitoring for any parameter at the outfalls included in Part IV of this permit using approved analytical methods as specified above, then all results of such monitoring shall be included in the calculation and reporting of the values submitted in the annual or other reports describing these discharges. Increased frequency of sampling shall be indicated on the reports.

5. Calibration of Instruments

   All automatic flow measuring, flow recording devices or totalizing meters for measuring flows shall be accurately calibrated by a trained person prior to use and as often as necessary to ensure accuracy, but not less often than annually. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained by the permittees and shall be readily available for review by a TCEQ representative for a period of three years.

6. Compliance Schedule Reports

   If a compliance schedule is included in this permit, reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in the compliance schedule shall be submitted no later than 14 days following each schedule date to the TCEQ Regional Office and to the Enforcement Division (MC-224).

7. Noncompliance Notification

   a. In accordance with 30 TAC § 305.125(9), any noncompliance that may endanger human health or safety, or the environment shall be reported by the permittees to the TCEQ. Report of such information shall be provided orally or by facsimile transmission (FAX) to the TCEQ Regional Office within 24 hours of becoming aware of the noncompliance. For Publicly Owned Treatment Works (POTWs), effective September 1, 2020, the permittee must submit the written report for unauthorized discharges and unanticipated bypasses that exceed any effluent limit in the permit using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains and electronic reporting waiver. A written submission of such information shall also be provided by the permittees to the TCEQ Regional Office and to the Enforcement Division (MC-224) within five working days of becoming aware of the noncompliance. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

   b. Unauthorized discharges of wastewater or any other waste from the MS4 that results from noncompliance with the SWMP shall be reported under Part V. Section B. 7.a above.

   c. In addition to 7.a and b above, and if the permit contains numeric limitations,

any violation that deviates from a permitted numeric limitation by more than 40% shall be reported by the permittees in writing to the TCEQ Regional Office and to the Enforcement Division (MC-224) within 5 working days of becoming aware of the noncompliance.

d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC-224) as promptly as possible.

e. Duty to Mitigate

The permittees shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

8. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports).

C. PERMIT CONDITIONS

1. General

a. When a permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.

b. This permit is granted on the basis of the information supplied and representations made by the permittees during action on an application in accordance with 30 TAC Chapter 50 and the application process in accordance with 30 TAC Chapter 281, and relying upon the accuracy and completeness of that information and those representations in accordance with 30 TAC Chapter 305. After notice in accordance with 30 TAC Chapter 39 and opportunity for a hearing in accordance with 30 TAC §§ 55.200 - 55.211, Subchapter B, "Hearing Requests, Public Comment," this permit may be modified, suspended, or revoked, in whole or in part in accordance with 30 TAC Chapter 305 Subchapter D, during its term for cause; including, but not limited to, the following:

i. violation of any terms or conditions of this permit, or

ii. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.

c. The permittees shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending or terminating the permit. The permittees shall also furnish to the Executive Director, upon request, copies of records required to be maintained as a provision of the permit.

2. Compliance

   a. Acceptance of the permit by a permittee to whom it is issued constitutes acknowledgment and agreement that the permittee will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.

   b. The permittees have a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation or suspension, or for denial of a permit renewal application or of an application for a permit for another facility.

   c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

   d. Before beginning any change in the permitted activity that may result in noncompliance with any permit requirements, authorization from the Commission must be obtained.

   e. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§ 305.62 and 305.66 and the TWC § 7.302. The filing of a request by a permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

   f. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under TWC §§7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal CWA §§ 301, 302, 306, 307, or 308, or any condition or limitation implementing any sections in a permit issued under the CWA § 402, or any requirement imposed in a pretreatment program approved under the CWA §§ 402 (a)(3) or 402 (b)(8).

3. Inspections and Entry

   a. Inspection and entry shall be allowed as prescribed in Chapters 26, 27, and 28 of the TWC, and Texas Health and Safety Code Chapter 361.

   b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting

under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in TWC § 7.002.

4. Permit Amendment or Renewal

   a. The permittees shall give notice to the Executive Director as soon as possible of any planned revisions to the SWMP that would require amendment of the permit.

   b. The permittees shall apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. Authorization to continue such activity will terminate upon the Commission's denial of the application.

   c. In accordance with the TWC § 26.029(b), after a public hearing, notice of which shall be given to the permittees, the Commission may require the permittees, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

   d. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant that is present in the discharge, and that standard or prohibition is more stringent than a numeric limitation that was established for that pollutant in this permit, then this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittees shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not been modified to incorporate the requirement.

5. Permit Transfer

   a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of a system authorized by this permit. Such notification should be sent to the Applications Review and Reporting Team (MC-148) of the Water Quality Division.

   b. A permit may be transferred only according to the provisions of 30 TAC § 305.64 (relating to Transfer of Permits) and 30 TAC § 50.133 (relating to Executive Director Action on Application for Transfer).

6. Relationship to Hazardous Waste Activities

   This permit does not authorize any activity of hazardous waste storage, processing,

or disposal which requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Property Rights

A permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit Enforceability

The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

D. OPERATIONAL REQUIREMENTS

1. Upon request by the Executive Director, the permittees shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules.

2. The permittees shall provide a readily accessible sampling point and, where required by the permit, a flow measuring device or other acceptable means by which discharge flow may be determined, at point sources and outfalls with discharge monitoring requirements.

3. The permittees shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under Texas Water Code § 7.302(b)(6).

4. Documentation

For all written notifications to the Commission required of the permittees by this permit, the permittees shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for applications, effluent data, permits, and other data specified in 30 TAC § 1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice.

5. Facilities which generate industrial solid waste as defined in 30 TAC § 335.1 shall comply with provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.

6. Proper Operation and Maintenance

The permittees shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by a permittee to achieve compliance with the conditions of this permit and with the requirements of stormwater management programs. Proper operation and

maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

Revised 3/2016

PART VI: OTHER REQUIREMENTS

A. **Within 180 days of permit issuance**, the permittee(s) shall submit a revised SWMP to the TCEQ Stormwater Team (MC 148) and the TCEQ Enforcement Division (MC 224) that includes all the requirements listed in Part III, Section B of this permit, including a proposed compliance schedule to meet the deadlines for implementing new requirements listed in Part III, Section D.

B. Test methods utilized shall be sensitive enough to detect the following parameters at the minimum analytical level (MAL) specified below:

POLLUTANTS	MAL (mg/L)
Cadmium, total	0.001
Chromium, total	0.003
Copper, total	0.002
Cyanide, amenable	0.010
Lead, total	0.0005
Nickel, total	0.002
Zinc, total	0.005
Atrazine	0.0005

When an analysis of an discharge sample for any of the parameters listed above indicates no detectable levels above the MAL and the test method detection level is as sensitive as the specified MAL, a value of zero (0) shall be used for that measurement when making calculations for the self-reporting form. This applies to determinations of daily maximum concentration, calculations of loading and daily averages, and other reportable results.

When an analysis of an discharge sample for a parameter indicates no detectable levels and the test method detection level is not as sensitive as the MAL specified in the permit, or an MAL is not specified in the permit for that parameter, the level of detection achieved shall be used for that measurement when making calculations for the self-reporting form. A zero (0) may not be used.

C. Monitoring results shall be provided at the intervals specified in the permit.

D. For the purposes of this permit, the following definitions apply to this permit term:

Year One: The period beginning upon date of issuance and lasting through September 30, 2022.

Year Two: The period beginning October 1, 2022, and lasting through September 30, 2023.

Year Three: The period beginning October 1, 2023, and lasting through September 30, 2024.

Year Four: The period beginning October 1, 2024, and lasting through September 30, 2025.

Year Five: The period beginning October 1, 2025, and lasting through permit expiration.

E. Permit coverage may be terminated for a single permittee, in accordance with TCEQ rules, without terminating coverage for other permittees. If a co-permittee applies for its own separate individual permit with the same terms and conditions as the current permit, then a renewal application is required for the separate permit and an application for a new permit or major amendment is not required. If a co-permittee applies for an individual permit along with different co-permittees, then a major amendment application is required.

F. Nothing in this permit limits or impairs the permittees' ability to modify existing contractual relationships or enter into new contractual relationships with other parties concerning administrative and operational services associated with implementing requirements of this permit.

G. For the purpose of this permit, the term "*E. coli*" or "*E. coli* concentration" means the number of colonies of *Escherichia coli (E. coli)* bacteria per 100 milliliters of sample analyzed. The *E. coli* bacteria daily average is a geometric mean of the values for the discharge samples collected in a calendar month. The geometric mean shall be determined by calculating the *n*th root of the product of all measurements made in a calendar month, where *n* equals the number of measurements made; or, computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements made in a calendar month. For any measurement of *E. coli* bacteria equaling zero (0), a substituted value of one (1) shall be made for input into either computation method.

H. For the purpose of this permit, the term "Daily average concentration" means the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements. When four samples are not available in a calendar month, the arithmetic average of the four most recent measurements or the arithmetic average (weighted by flow) of all values taken during the month shall be used as the daily average concentration.

I. For the purpose of this permit, the term "Daily average flow" means the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.

J. For the purpose of this permit, the term "Daily maximum flow" means the highest total flow for any 24-hour period in a calendar month.

K. For the purpose of this permit, the following definition applies: "ground water infiltration" means uncontaminated ground water that enters an MS4 (including sewer service connection and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes. This does not include, and is distinguished from, "inflow." For the purpose of this permit, "inflow" is defined as water that enters the MS4 (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, stormwaters, surface runoff, street wash waters, or drainage.

L. The TCEQ expressly recognizes that the 57th Judicial District Court of Bexar County, Texas, has continuing jurisdiction over its judgement and orders entered in Cause No. 77CI-6908. Nothing in this permit shall be construed to alter or suspend the court's judgement or orders entered in that lawsuit.

M. The permittees shall construct and implement a constructed wetlands BMP downstream of Mitchell Lake to treat releases from the lake. The wetlands is being constructed pursuant to the U.S. EPA Administrative Order issued on February 28, 2019, in Docket No. CWA-06-2019-1753, in accordance with the following schedule:

Activity	Deadline
Pilot Wetland Performance Report	December 31, 2020
Engage Phase 2 Consultants	March 31, 2021
Wetland Design (including surveys, geotechnical work, preliminary and detailed designs, and city permit procurement)	August 31, 2022
Advertise for Bid and Award Construction	November 30, 2022
Phase Construction	May 31, 2024
Completion, Operation, and Contingencies	September 30, 2024

Within 45 days of each deadline, the permittees shall submit a copy of the Project Completion Report required by EPA in the administrative order to the TCEQ Stormwater Team, Water Quality Division (MC 148). The 45-day deadlines for Project Completion Reports set forth in the administrative order replaces the deadline from progress reports set forth in Part V.B.6.

In addition, by **March 31 of each year**, the permittees shall submit a copy of the annual progress report required by EPA in the administrative order to the TCEQ Stormwater Team, Water Quality Division (MC 148). The first annual progress report is due on March 31, 2021.

If EPA amends the due dates in the administrative order issued on February 28, 2019, in Docket No. CWA-06-2019-753, or issues a superseding administrative order with new due dates, those due dates will replace the deadlines listed in the table above for the corresponding activities. The permittee shall submit a copy of the amended or superseding order to the TCEQ Stormwater Team, Water Quality Division (MC 148) and Region 13 Office within 15 days of the administrative order's issuance date.

N. For the purpose of this permit "Project Completion" is considered to be the date when the wetlands have been constructed and planting is completed. This term is different from the term "Project Completion Report."

O. **Groundwater Protection:**

a. This permit does not authorize discharge to groundwater.

b. Constructed wetlands shall be adequately lined to control seepage in accordance with 30 TAC §217.203(d) or with an alternative liner that achieves equivalent protection. Permeability shall be less than or equal to $1x10^{-7}$ cm/s with a minimum liner thickness of:

A) 1.0 foot for wetland cells with water depths of less than 4.0 feet; and

B) 2.0 feet for wetland cells with water depths greater than 4.0 feet.

c. The permittee shall demonstrate that the number, location, and test results of samples collected for geotechnical testing are in accordance with 30 TAC §217.203(e)(1)(A)-(D). in lieu of the sampling frequency requirements in the rule language, the permittee may provide an alternative testing plan to ensure that a sufficient number of samples were collected for geotechnical testing to demonstrate that they are representative of the soil type and texture variability at the site. This plan must be submitted to the Water Quality Division Plans and Specs Team at MC 148 and the Water Quality Assessment Team at MC 150 for review and approval.

d. The liner material must be placed in two to four loose lifts that are each a maximum of 8.0 inches in thickness and that are compacted to no more than 6.0 inches at 95% standard proctor density at -1% to +3% optimum moisture according to ASTM D 698. A minimum of 6 inches of topsoil placed over the liner must serve as root media.

e. The permittee shall provide certification, signed and sealed by a Texas licensed professional engineer, that the completed wetlands pond lining meets the above requirements prior to utilization of the wetlands. The certification must be provided to the TCEQ Water Quality Assessment Team (MC 150) and Regional Office (Region 13). A copy of the liner certification and construction details (i.e., as-built drawings, construction QA/QC documentation, and post construction testing) must be kept on-site or in a reasonably accessible location (in either hardcopy or digital format) until the wetland is closed.

f. The permittee shall notify the TCEQ Regional Office upon completion of construction of the constructed wetlands and at least a week prior to its use.

g. The constructed wetlands shall be built and maintained in a manner that is protective of groundwater and surface water. A wetlands construction plan prepared by a Texas licensed professional engineer or geoscientist shall be submitted to the TCEQ Water Quality Assessment Team (MC 150) and Regional Office (Region 13) prior to construction and use. The wetlands construction plan should include measures that will be taken during construction to identify groundwater and provide protective measures or controls, as necessary.

h. At least once per month, the permittee shall inspect the sides and bottom (if visible) of the wetlands cell liners for signs of damage and leakage. Leaking wetlands cells shall be removed from service or operated in a manner to prevent discharge to groundwater, until repairs are made or replacement cells are constructed.

P. **Wetlands Operation and Maintenance Plan**

Prior to start-up of the constructed wetlands cells the permittees shall submit a final Wetlands Operation and Maintenance Plan to the TCEQ Plans and Specs Team (MC 148) for review and approval. The plan must include the following:

a. Planting schedule with the types of plants to be planted.

b. A plan for how the permittees will maintain the health of the wetland cells.

c. A description of methods used for the control of vectors.

d. Frequency of inspection of plants.

Q. The permittee shall provide written notification to the TCEQ Applications Review and Processing Team (MC 148), Compliance Monitoring Team (MC 224), and Region 13 Office, at least forty-five days prior to relocation of the outfall structure for discharges from the new Dam Spillway via Outfall 011, on Notification of Completion Form 20007.

The permittee shall submit the following outfall information to the TCEQ's Stormwater Team (MC 148), no later than 45 days after the outfalls have been constructed.

Outfall Number	Latitude N	Longitude W
109		
009		
110		
010		
011		

R. When the permittees have at least twelve months of uninterrupted compliance with their limits for BOD_5, TSS, pH, and DO they may notify the commission in writing of its compliance and request a less frequent measurement schedule. To request a less frequent schedule, the permittee shall submit a written request to the TCEQ Wastewater Permitting Section (MC 148) for each phase that includes a different monitoring frequency. The request may contain all of the reported values for each parameter (Daily Ave. and Daily Max/Single Grab) for the twelve consecutive months immediately prior to the request. If the Executive Director finds that a less frequent measurement schedule is protective of human health and the environment, the permittee may be given a less frequent measurement schedule. For this permit, the monitoring frequency of once per month may be reduced to once per season.

A violation of any limits of these parameters when the facility has been granted a less frequent measurement schedule will require the permittees to return to a frequency schedule of monthly and submit written notice to the TCEQ Wastewater Permitting Section (MC 148). The permittee may not apply for another reduction in measurement frequency for at least two full seasons from the date of the last violation. The Executive Director may establish a more frequent measurement schedule, if necessary, to protect human health or the environment.

Appendix D
Year 1 Annual Report
(placeholder)

Appendix E
Year 2 Annual Report
(placeholder)

Appendix F
Year 3 Annual Report
(placeholder)

Appendix G
Year 4 Annual Report
(placeholder)

Appendix H
Year 5 Annual Report
(placeholder)