CITY OF KYLE

MUNICIPAL SEPARATE STORMWATER SEWER SYSTEM (MS4) PHASE II PERMIT

STORMWATER MANAGEMENT PLAN

2014

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1.0 INTRODUCTION

1.1 Background

The City of Kyle (City) was added to the Austin urbanized area, as determined by the U.S. Census Bureau, and now must obtain authorization for the discharge of pollutants in stormwater runoff and is eligible for coverage under a Texas Pollution Discharge Elimination System (TPDES) General Permit, complying with Title 40 CFR Part 122 of the Federal Register. This initial stormwater management plan (SWMP) is to be submitted with a Notice of Intent to the Texas Commission on Environmental Quality (TCEQ) to acquire coverage under the TPDES General Permit. Modifications to this SWMP are allowed, although the revisions shall be summarized in an annual report submitted to the TCEQ.

1.2 City Information

The City was incorporated in 1928 and is located in Hays County. With an annexation in 2016, the city now covers 30.44 square miles consisting of 19,482 acres of land, 188 acres of waters or waterways, and contains approximately 139 miles of public streets. According to the 2010 census, Kyle's population was 28,016 and 30,875 in 2012. Kyle's population as of 2016 is estimated to be 36,800 with approximately 11,000 residential homes and 320 commercial businesses in the city. Figure 1 of this section includes a vicinity map. Figure 2 illustrates the topography data for the City of Kyle, according to the U.S. Geological Survey (USGS).

The City is operated under a Council-Manager form of government and governed by an elected mayor and six city council members. The city council and planning and zoning commission regulate development within the city. The City has a public works department, planning department, engineering department, and a sophisticated building department, all of which play a role in development in Kyle.

1.3 Other Entities Assisting with the SWMP Preparation

The City is utilizing its own professional staff in the preparation of this SWMP.

There are no co-permittees included in the development and implementation of this SWMP.

FIGURE 1
VICINITY MAP

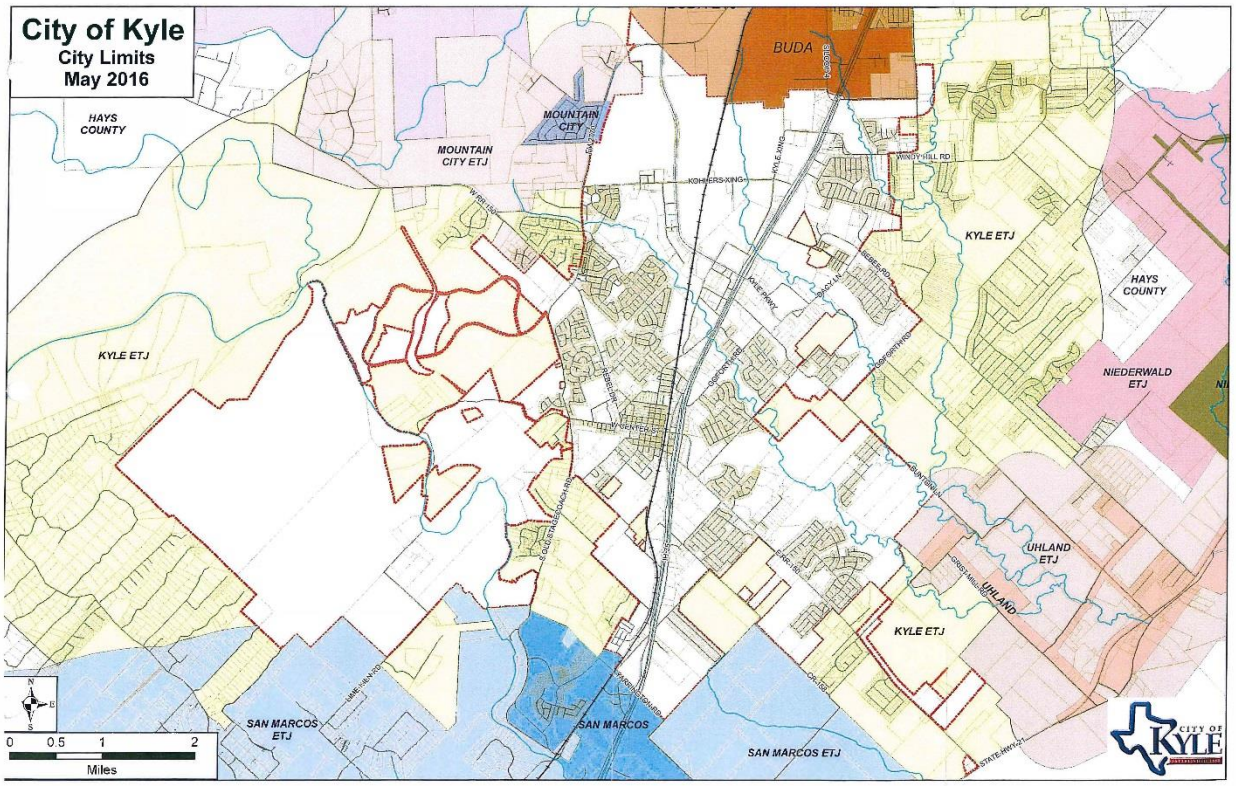
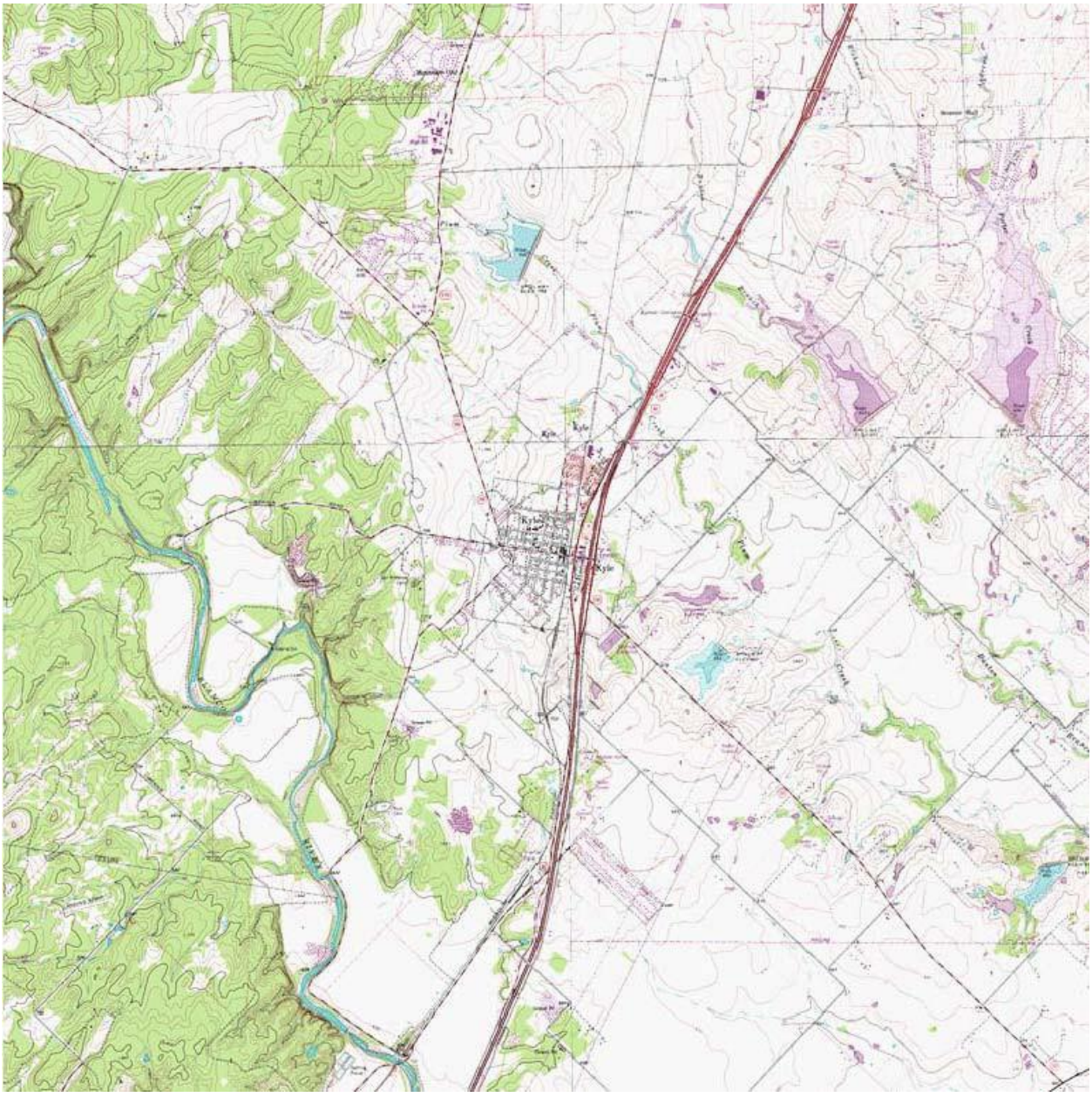


FIGURE 2
TOPOGRAPHY AND DRAINGAGE BASINS



http://www.topoquest.com/map.php?lat=29.98911&lon=-97.87723&datum=nad83&zoom=16&map=auto&coord=d&mode=zoomin&size=m

1.4 Definitions

Following are definitions to key words or phrases that are used throughout this SWMP. The definitions are taken directly from the TPDES Phase II MS4 general permit.

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

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

Classified Segment - refers to a water body that is listed and described in Appendix A or Appendix C of the Texas Surface Water Quality Standards, at 30 TAC § 307.10.

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

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

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

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

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

Construction Site Operator - The entity or entities associated with a small or large construction project that meet(s) either of the following two criteria:

(a) The entity or entities that have operational control over construction plans and specifications (including approval of revisions) to the extent necessary to meet the requirements and conditions of this general permit; or

(b) The entity or entities that have day-to-day operational control of those activities at a construction site that are necessary to ensure compliance with a stormwater pollution prevention plan (SWP3) for the site or other permit conditions (for example they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

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

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

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

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

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

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

(a) All soil disturbing activities at the site have been completed and a uniform (for example, evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or

equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

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

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

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

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

(d) In arid, semi-arid, and drought-stricken areas only, all soil disturbing activities at the site have been completed and both of the following criteria have been met:

(1) Temporary erosion control measures (e.g., degradable rolled erosion control product) are selected, designed, and installed along with an appropriate seed base to provide erosion control for at least three years without active maintenance by the operator, and

(2) The temporary erosion control measures are selected, designed, and installed to achieve 70 percent vegetative coverage within three years.

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

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

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

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

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

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

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

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

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

Industrial Activities - manufacturing, processing, material storage, and waste material disposal areas (and similar areas where stormwater can contact industrial pollutants related to the industrial activity) at an industrial facility described by the TPDES Multi Sector General Permit, TXR050000, or by another TCEQ or TPDES permit.

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

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

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

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

(b) That is designed or used for collecting or conveying stormwater;
(c) That is not a combined sewer; and
(d) That is not part of a publicly owned treatment works (POTW) as defined in 40 CFR §122.2.

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

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

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

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

Permittee - The MS4 operator authorized under this general permit.

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

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

Redevelopment - Alterations of a property that changed the "footprint" of a site or building in such a way that there is a disturbance of equal to or greater than one (1) acre of land. This term does not include such activities as exterior remodeling, routine maintenance activities, and linear utility installation.

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

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

(a) Owned or operated by the U.S., a state, city, town, borough, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, 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 CWA § 208;

(b) Designed or used for collecting or conveying stormwater;

(c) Which is not a combined sewer;

(d) Which is not part of a publicly owned treatment works (POTW) as defined in 40 CFR § 122.2; and

(e) Which was not previously regulated under a National Pollutant Discharge Elimination System (NPDES) or a Texas Pollutant Discharge Elimination System (TPDES) individual permit as a medium or large municipal separate storm sewer system, as defined in 40 CFR §§122.26(b)(4) and (b)(7).

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

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

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

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

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

Surface Water in the State - Lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state (from the mean high water mark (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 watercourses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the jurisdiction of the state; except that waters in treatment systems which are authorized by state or federal law, regulation, or permit, and which are created for the purpose of waste treatment are not considered to be water in the state.

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

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

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

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

(a) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) all interstate waters, including interstate wetlands;

(c) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) which are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) which are used or could be used for industrial purposes by industries in interstate commerce;

(d) all impoundments of waters otherwise defined as waters of the United States under this definition;

(e) tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) the territorial sea; and

(g) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR § 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to 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 EPA.

2.0 Water Quality

2.1 Stormwater and Water Quality in Texas

Stormwater affects the quality of water in urban lakes, rivers, neighborhood creeks, and storm drains. These drainage ways, both natural and man-made, effectively remove stormwater runoff from urban areas. In Texas, storm drain systems are separate from sewage systems, and typically untreated stormwater runoff flows directly to the nearest bodies of water. Any pollutants such as pesticides, oil, detergents, and bacteria that are present on urban land, streets, or other surfaces are also carried along.

In order to protect water quality, it is necessary to identify the types and sources of pollution and implement plans to protect the city's water resources. Historically, waters have been protected through State and Federal regulation of "point-sources" or end-of-pipe sources of pollution. Over time, it has become more evident that non-point sources of pollution, such as urban stormwater runoff, can create problems in water ways and impact the community's quality of life.

The Texas Commission on Environmental Quality (TCEQ) is charged through federal mandate with protecting the quality of waters within the State. 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 negatively impacted.

The 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. Four general categories for water use are defined in Texas: aquatic life use, contact recreation, public water supply, and fish consumption. These are known as "designated uses." Most streams in the State have been classified with designated uses but many smaller, intermittent streams have not been classified and do not have associated designated uses.

Since it would be cost-prohibitive to test every water body for every possible pollutant, 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 *Texas Water Quality Inventory* (305(b) report) reveal that water quality is inadequate to meet the goals of the water body's designated use, the TCEQ puts the water body on the State's 303(d) list. This list is required by the federal Clean Water Act and is submitted to EPA for approval. Water bodies put on the list are subject to a Total Maximum Daily Load (TMDL) assessment. The TMDL is an intensive assessment of the root cause of poor water quality and serves as the basis for development of a plan by local stakeholders to remediate pollution sources.

2.2 Water Quality in City Area

The major body receiving stormwater runoff in Kyle is the Plum Creek Watershed. A portion of the western and southern area of Kyle drains into the Upper Blanco River, Segment 1813, and the Lower Blanco River, Segment 1809, of the Guadalupe River Basin. The Plum Creek Watershed is comprised of the Elliot Branch, Clear Fork, and other nameless tributaries which drain into the Plum Creek, Segment 1810, which is traditionally a seasonally wet creek, but with the presence of several municipal waste water treatment plants that discharge to the segment, has failed to dry seasonally as it did historically.
The TCEQ 303(d) list identifies water bodies in Texas with known water quality impairments. The stream segment of the Plum Creek on the eastern limits of Kyle was included on the 2010 303(d) List for water quality impairment due to elevated concentrations of bacteria, specifically *e.coli*. however has been categorized as 4b in the 2012 TCEQ report due to the presence of a Watershed Protection Plan. The 303(d) list indicates that progress is being made on the water body's impairments through an alternative to a Total Maximum Daily Load order, namely a Watershed Protection Plan, which was adopted by the Plum Creek Stakeholders in 2008. Currently there is *no TMDL* order in place, and the segment has been reclassified from category 5 to category 4b which precludes compliance with Part II.D.4.(b)(1)-(3), however due to the Watershed Protection Plan, the Operator chose to address *e.coli* in the included BMPs.

TABLE 1. Plum Creek segment TX-1810_03

Designated Use	Designated Use Group	Status
Aquatic Life Use	Fish, Shellfish, And Wildlife Protection And Propagation	Good
Fish Consumption Use	Aquatic Life Harvesting	Not Assessed
General Use	Fish, Shellfish, And Wildlife Protection And Propagation	Good
Primary Recreation/Swimming	Recreation	Impaired

Source: http://iaspub.epa.gov/tmdl/attains_waterbody.control?p_au_id=TX-1810_03&p_cycle=2010&p_state=TX&p_report_type=

3.0 Regulatory Requirements

3.1 Environmental Protection agency

Under the requirements of the Clean Water Act, the EPA is required to protect the water quality of natural waters throughout the country. The EPA established the National Pollutant Discharge Elimination System (NPDES) program to identify sources of water pollution and work to reduce or eliminate the pollutants from the waters of the U.S.

The EPA has delegated responsibility for the NPDES program in Texas to the TCEQ. In addition to issuing discharge permits to traditional "point sources," such as municipal wastewater treatment plants, the TCEQ is also responsible for minimizing pollution from "non-point sources," such as stormwater runoff from construction sites, industrial facilities or municipal storm sewer systems.

The TCEQ has issued requirements for minimizing stormwater pollution from construction sites and industrial facilities through the issuance of general permits. Sites and facilities comply with these requirements by developing and implementing site-specific stormwater pollution prevention plans.

To protect stormwater quality from pollution entering municipal separate storm sewer systems (MS4s) in highly populated areas, the TCEQ developed a general permit, with specific conditions for municipalities to follow. This SWMP has been developed to meet those requirements.

3.2 Stormwater Management Plan Overview

The City is required to develop a SWMP that describes specific actions that will be taken over a five-year period 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 over the next five years.

Various BMPs must be developed for each of six required "minimum control measures" (MCMs) that are expected to minimize or eliminate stormwater pollutants discharged into the storm sewer system and provide water quality protection for receiving water bodies. An optional seventh minimum control measure, to address municipal construction activities through their SWMP is available for use by the City but has not been selected for inclusion in this SWMP.

A general description of the six required and one optional minimum control measures is provided below. The specific requirements for each minimum control measure are provided in Section 5.

1. Public Education, Outreach and Involvement – develop a public education program about stormwater quality issues and involve the public in the stormwater management program.
2. Illicit Discharge Detection and Elimination – develop a program for the detection and elimination of non-stormwater discharges

3. Construction Site Stormwater Runoff Control – develop a program to reduce pollutants in stormwater runoff from construction sites
4. Post Construction Stormwater Management in New Development and Redevelopment – develop a program to reduce pollutants in stormwater runoff from new development and redevelopment projects
5. Pollution Prevention/Good Housekeeping for Municipal Operations – develop an operation and maintenance program to reduce pollutants in stormwater runoff from municipal operations
6. Industrial Stormwater Sources – required of Level 4 MS4s only.

3.3 Permit Applicability and Coverage

The TPDES Phase II MS4 permit applies to operators of publicly-owned storm sewer systems in urbanized areas in Texas. The U.S. Census Bureau defines the urbanized areas based on the population density and total population for an area. The City is located within the Austin U.S. Census Urbanized Area and is considered a **Level 2 MS4** as defined in the general permit. This SWMP encompasses the City's MS4 area to the city limit boundaries (Figure 1).

4.0 APPROACH

4.1 Compliance With Texas Pollutant Discharge Elimination System

The City developed this SWMP 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 pollutants from the City's storm sewer system to the maximum extent practicable as required by the TPDES General Permit.

The SWMP describes specific actions that will be taken over a five-year period to reduce pollutants and protect the City's stormwater quality. The specific activities to be implemented are referred to as best management practices. Various BMPs have been developed for each of the five "minimum control measures" required by the General Permit. 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 reductions of pollutants discharged into City's streams, ponds, and lakes.

4.2 Best Management Practice Selection Process

A two-step process was utilized to select the BMPs to be included in City's SWMP. The first step in selecting BMPs included an evaluation of existing practices. The second step included meetings with staff from affected City departments to identify new BMPs. Various structural and non-structural BMPs will be implemented throughout the five-year permit term authorized under the General Permit.

4.3 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 these existing programs. Details of the City's existing stormwater-related practices are summarized below and are included as BMPs selected for this SWMP.

The City currently conducts the following activities. Each specifically aids in compliance with the City's permit requirements for stormwater quality protection.

- Storm Drain Stenciling
- Bulk Waste Cleanup
- Household Hazardous Waste Collection
- Park Cleanup
- Plum Creek Cleanup
- Pet Waste Disposal Stations
- Stormwater Mapping
- Street Sweeping
- Sanitary Sewer Line Maintenance and Inspection
- Engineering Design Review
- Illegal Dumping Response
- Chemical Applications Management
- Spill Response by Fire Department

The following activities in place in the City do not in themselves provide direct compliance with the Phase II MS4 permit requirements but do serve as the backbone for additional activities that will help the City meet specific permit provisions.

- City employee training
- Construction site inspections
- City website
- Mapping of infrastructure

As shown in Appendix B, the minimum control measure requirements met by each existing BMP are noted. Some of the City's existing programs meet specific permit requirements, while others serve as a foundation for the continued development of additional BMPs to meet the requirement of reducing pollutants to the maximum extent practicable.

4.3 Identification of Additional BMPs

Additional BMPs were selected to supplement the City's existing programs and to satisfy unmet requirements of the Phase II MS4 permit. The supplemental BMPs were evaluated based on their ability to meet at least one, and preferably several, of the minimum control measure requirements.

The evaluation process involved researching a variety of sources of BMPs, such as regulatory agencies, industry associations, and private enterprises. Some BMPs were selected directly from standard BMP "toolboxes" available from the EPA or the North Central Texas Council of Governments (NCTCOG). Each BMP considered was evaluated based on the following criteria:

- Which of the minimum control measure 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 for the development of this plan; however, BMPs with significant investment requirements and relatively minor stormwater quality benefit were not selected. More detailed budget requirements will be evaluated for each BMP in the first year of the plan's implementation. Selected BMPs are detailed in Section 6.

4.4 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 maximum extent practicable. Goals were selected with a consideration toward achieving steady implementation, assessing the ability to measure and track progress, and working within budgetary constraints.

For the first five-year permit term, the TCEQ has authorized the steady implementation of the SWMP over a five-year period. In general, measurable goals for existing BMPs monitor the effectiveness of the BMP, whereas measurable goals for new BMPs monitor their implementation progress.

The first year of the permit program is largely dedicated to identifying the budgetary requirements of each of the BMPs. The second through fifth years focus on implementation, evaluating the effectiveness of existing BMPs, and tracking the implementation of new BMPs.

4.5 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 in order 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 will be responsible for implementing portions of the SWMP and for tracking and evaluating the City's success in meeting the plan's measurable goals. Each City department with activities or responsibilities that may impact stormwater quality will provide the City staff documentation showing progress towards meeting the annual measurable goals for each BMP to the person designated for SWMP coordination.

5.0 MINIMUM CONTROL MEASURES

5.1 MCM Required by TCEQ

The TCEQ has specified six required and one optional "minimum control measures" (MCM) for inclusion in each SWMP. Specific requirements have been developed by the TCEQ for each required control measure, and the City has selected not to include the optional seventh MCM in this SWMP. The City has identified numerous existing and supplemental BMPs that will be included in the SWMP. Additional discussion of the BMPs is provided in Appendix D of the SWMP.

Following is text from the TPDES General Permit No. TXR04000, Part III. B., setting forth the regulatory requirements for each minimum control measure.

Part III. Stormwater Management Program (SWMP)
Section B. Minimum Control Measures

Operators of small MS4s seeking coverage under this general permit shall develop and implement a SWMP that includes the following six minimum control measures (MCMs), as applicable.

All program elements must be implemented according to the schedule mentioned in Part III.A. All six MCMs apply to all MS4s regardless of their level as described in Part II.A.5. Specific program elements under each MCM shall be implemented by all MS4 operators, unless it is specifically stated that particular program elements only are applicable for certain levels of small MS4s.

Permittees shall provide justification within the SWMP for any requirements that were not implemented because they were not feasible as described in each MCM.

1. Public Education, Outreach, and Involvement

(a) Public Education and Outreach

(1) All permittees shall develop, implement, and maintain a comprehensive stormwater education and outreach program to educate public employees, businesses, and the general public of hazards associated with the illegal discharges and improper disposal of waste and about the impact that stormwater discharges can have on local waterways, as well as the steps that the public can take to reduce pollutants in stormwater.

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

implemented by the end of this permit term. The program must, at a minimum:

a. Define the goals and objectives of the program based on high priority community-wide issues (for example, reduction of nitrogen in discharges from the small MS4, promoting previous techniques used in the small MS4, or improving the quality of discharges to the Edwards Aquifer);
b. Identify the target audience(s);
c. Develop or utilize appropriate educational materials, such as printed materials, billboard and mass transit advertisements, signage at select locations, radio advertisements, television advertisements, and websites;
d. Determine cost effective and practical methods and procedures for distribution of materials.

(2) Throughout the permit term, all permittees shall make the educational materials available to convey the program's message to the target audience(s) at least annually.

(3) All permittees shall review and update as necessary, the SWMP and MCM implementation procedures required by Part III.A.2.. Any changes must be reflected in the annual report. Such written procedures must be maintained, either on site or in the SWMP and made available for inspection by the TCEQ.

(4) MS4 operators may partner with other MS4 operators to maximize the program and cost effectiveness of the required outreach.

(b) Public Involvement

All permittees shall involve the public, and, at minimum, comply with any state and local public notice requirements in the planning and implementation activities related to developing and implementing the SWMP, except that correctional facilities are not required to implement this portion of the MCM.

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

(1) If feasible, consider using public input (for example, the opportunity for public comment, or public meetings) in the implementation of the program;

(2) If feasible, create opportunities for citizens to participate in the implementation of control measures, such as stream clean-ups, storm drain stenciling, volunteer monitoring, volunteer "Adopt-A-Highway" programs, and educational activities;

(3) Ensure the public can easily find information about the SWMP.

2. Illicit Discharge Detection and Elimination (IDDE)

(a) Program Development

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

Existing permittees must assess program elements that were described in the previous permit, modify as necessary, and develop and implement new elements, as necessary, to continue reducing the discharge of pollutants from the MS4 to the MEP. New elements must be fully implemented by the end of this permit term and newly regulated permittees shall have the program fully implemented by the end of this permit term. See also Part III.A.1(c).

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

a. An up-to-date MS4 map (see Part III.B.2.(c)(1));
b. Methods for informing and training MS4 field staff (See Part III.B.2.(c)(2));
c. Procedures for tracing the source of an illicit discharge (see Part III. B.2.(c)(5));
d. Procedures for removing the source of the illicit discharge (see Part III.B.2.(c)(5));
e. For Level 2, 3 and 4 small MS4s, if applicable, procedures to prevent and correct any leaking on-site sewage disposal systems that discharge into the small MS4;
f. For Level 4 small MS4s, procedures for identifying priority areas within the small MS4 likely to have illicit discharges, and a list of all such areas identified in the small MS4 (See Part III.B.2.(g)(1));
g. For Level 4 small MS4s, field screening to detect illicit discharges (See Part III.B.2.(g)(2)).

(2) For non-traditional small MS4s, if illicit connections or illicit discharges are observed related to another operator's MS4, the permittee shall notify the other MS4 operator within 48 hours of discovery. If notification to the other MS4 operator is not practicable, then the permittee shall notify the appropriate TCEQ regional office of the possible illicit connection.

(3) If another MS4 operator notifies the permittee of an illegal connection or illicit discharge to the small MS4, then the permittee shall follow the requirements specified in Part III.B.2.(c)(3).

(4) All permittees shall review and update as necessary, the SWMP and MCM implementation procedures required by Part III.A.2.. Any changes must be reflected in the annual report. Such written procedures must be maintained, either on site or in the SWMP and made available for inspection by the TCEQ.

(b) Allowable Non-Stormwater Discharges

Non-stormwater flows listed in Part II.C do not need to be considered by the permittee as an illicit discharge requiring elimination unless

the permittee or the TCEQ identifies the flow as a significant source of pollutants to the small MS4.

(c) Requirements for all Permittees

All permittees shall include the requirements described below in Parts III.B.2(c)(1)-(6)

(1) MS4 mapping
All permittees shall maintain an up-to-date MS4 map, which must be located on site and available for review by the TCEQ. The MS4 map must show at a minimum the following information:

a. The location of all small MS4 outfalls that are operated by the permittee and that discharge into waters of the U.S;
b. The location and name of all surface waters receiving discharges from the small MS4 outfalls;
c. Priority areas identified under Part III.B.2.(e)(1) if applicable.

(2) Education and Training
All permittees shall implement a method for informing or training all the permittee's field staff that may come into contact with or otherwise observe an illicit discharge or illicit connection to the small MS4 as part of their normal job responsibilities. Training program materials and attendance lists must be maintained on site and made available for review by the TCEQ.

(3) Public Reporting of Illicit Discharges and Spills
To the extent feasible, all permittees shall publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from the small MS4. The permittee shall provide a central contact point to receive reports; for example by including a phone number for complaints and spill reporting.

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

(5) Source Investigation and Elimination

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

(i) All permittees shall prioritize the investigation of discharges based on their relative risk of pollution. For example, sanitary sewage may be considered a high priority discharge.
(ii) All permittees shall report to the TCEQ immediately upon becoming aware of the occurrence of any illicit flows believed to be an immediate threat to human health or the environment.
(iii) All permittees shall track all investigations and document, at a minimum, the date(s) the illicit discharge was observed; the results of the investigation; any follow-up of the investigation; and the date the investigation was closed.

b. Identification and Investigation of the Source of the Illicit Discharge –All permittees shall investigate and document the source of illicit discharges where the permittees have jurisdiction to complete such an investigation. If the source of illicit discharge extends outside the permittee's boundary, all permittees shall notify the adjacent permitted MS4 operator or TCEQ's Field Operation Support Division according to Part III.A.3.b.

c. Corrective Action to Eliminate Illicit Discharge

(i) If and when the source of the illicit discharge has been determined, all permittees shall immediately notify the responsible party of the problem, and shall require the responsible party to perform all necessary corrective actions to eliminate the illicit discharge.

(6) Inspections –The permittee shall conduct inspections, as determined appropriate, in response to complaints, and shall conduct follow-up inspections as needed to ensure that corrective measures have been implemented by the responsible party.

(d) Additional Requirements for Level 3 and 4 small MS4s

In addition to the requirements described in Parts III.B.2(c)(1)-(6) above, permittees who operate level 3 and 4 small MS4s shall meet the following requirements:

(1) Source Investigation and Elimination Permittees who operate level 3 and 4 small MS4 shall upon being notified that the discharge has been eliminated, conduct a follow-up investigation or field screening, consistent with Part III.B.2.(e)(2), to verify that the discharge has been eliminated. The permittee shall document its follow-up investigation. The permittee may seek recovery and remediation costs from responsible parties consistent with Part III.A.3., and require compensation related costs. Resulting enforcement actions must follow the procedures for enforcement action in Part III.A.3. If the suspected source of the illicit discharge is authorized under an NPDES/TPDES permit or the discharge is listed as an authorized non-stormwater discharge, as described in Part III.C, no further action is required.

(e) Additional Requirements for Level 4 small MS4s

In addition to the requirements described in Parts III.B.2(c)-(d) above, permittees who operate level 4 small MS4s shall meet the following requirements:

(1) Identification of Priority Areas

Permittees who operate level 4 small MS4s shall identify priority areas and shall document the basis for the selection of each priority area and shall create a list of all priority areas identified. This priority area list must be available for review by the TCEQ.

(2) Dry Weather Field Screening

By the end of the permit term, permittees who operate level 4 small MS4s shall develop and implement a written dry weather field screening program to assist in detecting and eliminating illicit discharges to the small MS4. Dry weather field screening must consist of (1) field observations; and (2) as needed, field screening. If dry weather field screening is necessary, at a minimum, the permittee shall:

a. Conduct dry weather field screening in priority areas as identified by the permittee in Part III.B.2(e)(1). By the end of the permit term, all of those priority areas, although not necessarily all individual outfalls must be screened.

b. Field observation requirements – The permittee shall develop written procedures for observing flows from outfalls when there has been at least 72 hours of dry weather. The written procedures should include the basis used to determine which outfalls would be observed. The permittee shall record visual observations such as odor, color, clarity, floatables, deposits or stains.

c. Field screening requirements – The permittee shall develop written procedures to determine which dry weather flows will be screened, based on results of field observations or complaint from the public or the permittee's trained field staff. At a minimum, when visual observations indicate a potential problem such as discolored flows, foam, surface sheen, and other similar indicators of contamination, the permittee shall conduct a field screening analysis for selected indicator pollutants as determined by the permittee. Screening methodology may be modified based on experience gained during the actual field screening activities. The permittee shall document the method used.

3. Construction Site Stormwater Runoff Control

(a) Requirements and Control Measures

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

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

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

(b) Requirements for all Permittees

All permittees shall include the requirements described below in Parts III.B.3(b)(1)-(7)

(1) All permittees shall review and update as necessary, the SWMP and MCM implementation procedures required by Part III.A.2. Any changes must be included in the annual report. Such written procedures must be maintained on site or in the SWMP and made available for inspection by the TCEQ.

(2) All permittees shall require that construction site operators implement appropriate erosion and sediment control BMPs. The permittee's construction program must ensure the following minimum requirements are effectively implemented for all small and large construction activities discharging to its small MS4.

a. Erosion and Sediment Controls - Design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants.

b. Soil Stabilization - Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed within a period of time determined by the permittee. In arid, semiarid, and drought stricken areas, as determined by the permittee, where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be employed as specified by the permittee.

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

(i) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters;

(ii) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater; and

(iii) Minimize the discharge of pollutants from spills and leaks.

d. As an alternative to (a) through (c) above, all permittees shall ensure that all small and large construction activities discharging to the small MS4

have developed and implemented a stormwater pollution prevention plan (SWP3) in accordance with the TPDES CGP TXR150000. In arid, semiarid, and drought-stricken areas, as determined by the permittee, where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be employed as specified by the permittee. As an alternative, vegetative stabilization measures may be implemented as soon as practicable.

(3) Prohibited Discharges - The following discharges are prohibited:

a. Wastewater from washout of concrete and wastewater from water well drilling operations, unless managed by an appropriate control;

b. Wastewater from washout and cleanout of stucco, paint, from release oils, and other construction materials;

c. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and,

d. Soaps or solvents used in vehicle and equipment washing;

e. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, unless managed by appropriate BMPs.

(4) Construction Plan Review Procedures

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

a. The site plan review procedures must incorporate consideration of potential water quality impacts.

b. The permittee may not approve any plans unless the plans contain appropriate site specific construction site control measures that, at a minimum, meet the requirements described in Part III.B.3.(a) or in the TPDES CGP, TXR150000.

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

(5) Construction Site Inspections and Enforcement

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

a. Inspections must occur at a frequency determined by the permittee, based on the evaluation of factors that are a

threat to water quality, such as: soil erosion potential; site slope; project size and type; sensitivity of receiving water bodies; proximity to receiving water bodies; non-stormwater discharges; and past record of non-compliance by the operators of the construction site.

b. Inspections must occur during the active construction phase.

(i) All permittees shall develop, implement, and revise as necessary, written procedures outlining the inspection and enforcement requirements. These procedures must be maintained on site or in the SWMP and be made available to TCEQ.

(ii) Inspections of construction sites must, at a minimum:

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

c. Based on site inspection findings, all permittees shall take all necessary follow-up actions (for example, follow-up-inspections or enforcement) to ensure compliance with permit requirements and the SWMP. These follow-up and enforcement actions must be tracked and maintained for review by the TCEQ. For non-traditional small MS4s with no enforcement powers, the permittee shall notify the adjacent MS4 operator with enforcement authority or the TCEQ's Field Operations Support Division according to Part III.A.3(b).

(6) Information submitted by the Public

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

(7) MS4 Staff Training

All permittees shall ensure that all staff whose primary job duties are related to implementing the construction stormwater program (including permitting, plan review, construction site inspections, and enforcement) are informed or trained to conduct these activities. The training may be conducted by the permittee or by outside trainers.

(c) Additional Requirements for Level 3 and 4 small MS4s

In addition to the requirements described in Parts III.B.3(b)(1)-(7) above, permittees who operate level 3 and 4 small MS4s shall meet the following requirements:

(1) Construction Site Inventory
Permittees who operate level 3 and 4 small MS4s shall maintain an inventory of all permitted active public and private construction sites, that result in a total land disturbance of one or more acres or that result in a total land disturbance of less than one acre if part of a larger common plan or development or sale. Notification to the small MS4 should be made by submittal of a copy of an NOI or a small construction site notice. The permittee shall make this inventory available to the TCEQ upon request.

4. Post-Construction Stormwater Management in New Development and Redevelopment

(a) Post-Construction Stormwater Management Program

(1) All permittees shall develop, implement and enforce a program, to the extent allowable under state, federal, and local law, to control stormwater discharges from new development and redeveloped sites that discharge into the small MS4 that disturb one acre or more, including projects that disturb less than one acre that are part of a larger common plan of development or sale. The program must be established for private and public development sites. The program may utilize an offsite mitigation and payment in lieu of components to address this requirement.

Existing permittees shall assess program elements that were described in the previous permit, modify as necessary, to continue reducing the discharge of pollutants from the MS4 to the MEP. New elements must be fully implemented by the end of this permit term and newly regulated permittees shall have the program fully implemented by the end of the permit term.
(2) All permittees shall use, to the extent allowable under state, federal, and local law and local development standards, an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects. The permittees shall establish, implement, and enforce a requirement that owners or operators of new development and redeveloped sites design, install, implement, and maintain a combination of structural and non-structural BMPs appropriate for the community and that protects water quality. If the construction of permanent structures is not feasible due to space limitations, health and safety concerns, cost effectiveness, or highway construction codes, the permittee may propose an alternative approach to TCEQ. Newly regulated permittees shall have the program element fully implemented by the end of the permit term.

(b) Requirements for all Permittees

All permittees shall include the requirements described below in Parts III.B.4.(b)(1)-(3)

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

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

a. Maintenance performed by the permittee. See Part III.B.5
b. Maintenance performed by the owner or operator of a new development or redeveloped site under a maintenance plan. The maintenance plan must be filed in the real property records of the county in which the property is located. The permittee shall require the owner or operator of any new development or redeveloped site to develop and implement a maintenance plan addressing maintenance requirements for any structural control measures installed on site. The permittee shall require operation and maintenance performed is documented and retained on site, such as at the offices of the owner or operator, and made available for review by the small MS4.

(c) Additional Requirements for Level 4 small MS4s

In addition to the requirements described in Parts III.B.5(b)(1)-(3) above, permittees who operate level 4 small MS4s shall meet the following requirements:

(1) Inspections - Permittees who operate level 4 small MS4s shall develop and implement an inspection program to ensure that all post construction stormwater control measures are operating correctly and are being maintained as required consistent with its applicable maintenance plan. For small MS4s with limited enforcement authority, this requirement applies to the structural controls owned and operated by the small MS4 or its contractors that perform these activities within the small MS4's regulated area.

a. Inspection Reports - The permittee shall document its inspection findings in an inspection report and make them available for review by the TCEQ.

5. Pollution Prevention and Good Housekeeping for Municipal Operations

(a) Program development

(1) All permittees shall develop and implement an operation and maintenance program, including an employee training component that has the ultimate goal of preventing or reducing pollutant runoff from municipal activities and municipally owned areas including but not limited to park and open space maintenance; street, road, or highway maintenance; fleet and building maintenance; stormwater system maintenance; new construction and land disturbances; municipal parking lots; vehicle and equipment maintenance and storage yards; waste transfer stations; and salt/sand storage locations.

Existing permittees shall assess program elements that were described in the previous permit, modify as necessary, and develop and implement new elements, as necessary, to continue reducing the discharges of pollutants from the MS4 to the MEP. New elements must be fully implemented by the end of this permit term and newly regulated permittees shall have the program fully implemented by the end of this permit term. See also Part III.A.1.(c))

(b) Requirements for all Permittees

All permittees shall include the requirements described below in Parts III.B.5.(1)-(6) in the program:

(1) Permittee-owned Facilities and Control Inventory

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

a. Composting facilities;
b. Equipment storage and maintenance facilities;
c. Fuel storage facilities;
d. Hazardous waste disposal facilities;
e. Hazardous waste handling and transfer facilities;
f. Incinerators;
g. Landfills;
h. Materials storage yards;
i. Pesticide storage facilities;
j. Buildings, including schools, libraries, police stations, fire stations, and office buildings;
k. Parking lots;
l. Golf courses;
m. Swimming pools;
n. Public works yards;
o. Recycling facilities;
p. Salt storage facilities;
q. Solid waste handling and transfer facilities;
r. Street repair and maintenance sites;

s. Vehicle storage and maintenance yards; and
t. Structural stormwater controls.

(2) Training and Education

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

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

(4) Contractor Requirements and Oversight

a. Any contractors hired by the permittee to perform maintenance activities on permittee-owned facilities must be contractually required to comply with all of the stormwater control measures, good housekeeping practices, and facility specific stormwater management operating procedures described in Parts III B.5.(2)-(6).

b. All permittees shall provide oversight of contractor activities to ensure that contractors are using appropriate control measures and SOPs. Oversight procedures must be developed before the end of the permit term and maintained on site and made available for inspection by TCEQ.

(5) Municipal Operation and Maintenance Activities

a. Assessment of permittee-owned operations

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

(i) Road and parking lot maintenance may include such areas as pothole repair, pavement marking, sealing, and re-paving;

(ii) Bridge maintenance may include such areas as re-chipping, grinding, and saw cutting;

(iii) Cold weather operations, including plowing, sanding, and application of deicing and anti-icing compounds and maintenance of snow disposal areas; and

(iv) Right-of-way maintenance, including mowing, herbicide and pesticide application, and planting vegetation.

b. All permittees shall identify pollutants of concern that could be discharged from the above O&M activities (for example, metals; chlorides; hydrocarbons such as benzene, toluene, ethyl benzene, and xylenes; sediment; and trash).

c. All permittees shall develop and implement a set of pollution prevention measures that will reduce the discharge of pollutants in stormwater from the above activities. These pollution prevention measures may include the following examples:

(i) Replacing materials and chemicals with more environmentally benign materials or methods;

(ii) Changing operations to minimize the exposure or mobilization of pollutants to prevent them from entering surface waters; and

(iii) Placing barriers around or conducting runoff away from deicing chemical storage areas to prevent discharge into surface waters.

d. Inspection of pollution prevention measures - All pollution prevention measures implemented at permittee-owned facilities must be visually inspected at a frequency determined by the permittee to ensure they are working properly. A log of inspections must be maintained and made available for review by the TCEQ upon request.

(6) Structural Control Maintenance

If BMPs include structural controls, maintenance of the controls must be performed at a frequency determined by the permittee and consistent with maintaining the effectiveness of the BMP.

(c) Additional Requirements for Level 3 and 4 small MS4s:

In addition to the requirements described in Parts.B.5.(b)(1)-(6) above, permittees who operate level 3 or 4 small MS4s shall meet the following requirements:

(1) Storm Sewer System Operation and Maintenance

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

b. Permittees who operate level 3 or 4 small MS4s shall develop a list of potential problem areas. The permittees shall identify and prioritize problem areas for increased inspection (for example, areas with recurrent illegal dumping).

(2) Operation and Maintenance Program to Reduce Discharges of Pollutants from Roads Permittees who operate level 3 or 4 small MS4s shall implement an O&M program that includes, if feasible and practicable, a street sweeping and cleaning program, or an equivalent BMP such as an inlet protection program, which must include an implementation schedule and a waste disposal procedure. The basis for the decision must be included in the SWMP. If a street sweeping and cleaning program is implemented, the permittee shall evaluate the following permittee-owned and operated areas for the program: streets, road segments, and public parking lots including, but not limited to, high traffic zones, commercial and industrial districts, sport and event venues, and plazas, as well as areas that consistently accumulate high volumes of trash, debris, and other stormwater pollutants.

a. Implementation schedules – If a sweeping program is implemented, the permittee shall sweep the areas in the program (for example, the streets, roads, and public parking lots) in accordance with a frequency and schedule determined in the permittee's O&M program.

b. For areas where street sweeping is technically infeasible (for example, streets without curbs), the permittee shall focus implementation of other trash and litter control procedures, or provide inlet protection

measures to minimize pollutant discharges to storm drains and creeks.

c. Sweeper Waste Material Disposal – If utilizing street sweepers, the permittee shall develop a procedure to dewater and dispose of street sweeper waste material and shall ensure that water and material will not reenter the small MS4.

(3) Mapping of Facilities

Permittees who operate level 3 or 4 small MS4s shall, on a map of the area regulated under this general permit, identify where the permittee-owned and operated facilities and stormwater controls are located.

(4) Facility Assessment

Permittees who operate level 3 or 4 small MS4s shall perform the following facility assessment in the regulated portion of the small MS4 operated by the permittee:

a. Assessment of Facilities' Pollutant Discharge Potential - The permittee shall review the facilities identified in Part III.B.5.(b) once per permit term for their potential to discharge pollutants into stormwater.

b. Identification of *high priority* facilities - Based on the Part III.B.5.(c)(4)a. assessment, the permittee shall identify as *high priority* those facilities that have a high potential to generate stormwater pollutants and shall document this in a list of these facilities. Among the factors that must be considered in giving a facility a high priority ranking are the amount of urban pollutants stored at the site, the identification of improperly stored materials, activities that must not be performed outside (for example, changing automotive fluids, vehicle washing), proximity to water bodies, proximity to sensitive aquifer recharge features, poor housekeeping practices, and discharge of pollutant(s) of concern to impaired water(s). High priority facilities must include, at a minimum, the permittee's maintenance yards, hazardous waste facilities, fuel storage locations, and any other facilities at which chemicals or other materials have a high potential to be discharged in stormwater.

c. Documentation of Assessment Results - The permittee shall document the results of the assessments and maintain copies of all site evaluation checklists used to conduct the assessments. The documentation must include the results of the permittee's initial assessment, and any identified deficiencies and corrective actions taken.

(5) Development of Facility Specific SOPs

Permittees who operate level 3 or 4 small MS4s shall develop facility specific stormwater management SOPs. The permittee may utilize existing plans or documents that may contain the following required information:

a. For each high priority facility identified in Part III.B.5.(c)(4)b., the permittee shall develop a SOP that identifies BMPs to be installed, implemented, and

maintained to minimize the discharge of pollutants in stormwater from each facility.

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

(6) Stormwater Controls for High Priority Facilities

Permittees who operate level 3 or 4 small MS4s shall implement the following stormwater controls at all high priority facilities identified in Part III.B.5.(c)(4)b. A description of BMPs developed to comply with this requirement must be included in each facility specific SOP:

a. General good housekeeping – Material with a potential to contribute to stormwater pollution should be sheltered from exposure to stormwater when feasible.

b. De-icing and anti-icing material storage - The permittee shall ensure, to the MEP, that stormwater runoff from storage piles of salt and other de-icing and anti-icing materials is not discharged; or shall ensure that any discharges from the piles are authorized under a separate discharge permit.

c. Fueling operations and vehicle maintenance - The permittee shall develop SOPs (or equivalent existing plans or documents) which address spill prevention and spill control at permittee-owned and operated vehicle fueling, vehicle maintenance, and bulk fuel delivery facilities.

d. Equipment and vehicle washing - The permittee shall develop SOPs that address equipment and vehicle washing activities at permittee-owned and operated facilities. The discharge of equipment and vehicle wash water to the small MS4 or directly to receiving waters from permittee-owned facilities is not authorized under this general permit. To ensure that wastewater is not discharged under this general permit, the permittee's SOP may include installing a vehicle wash reclaim system, capturing and hauling the wastewater for proper disposal, connecting to sanitary sewer (where applicable and approved by local authorities), ceasing the washing activity, or applying for and obtaining a separate TPDES permit.

(7) Inspections

Permittees who operate level 3 or 4 small Ms4s shall develop and implement an inspection program, which at a minimum must include periodic inspections of high priority permittee-owned facilities. The results of the inspections and observations must be documented and available for review by the TCEQ.

(d) Additional Requirements for Level 4 small MS4s:

In addition to all the requirements described in Parts III.B.5(b) and III.B.5.(c) above, permittees who operate level 4 small MS4s shall meet the following requirements:

(1) Pesticide, Herbicide, and Fertilizer Application and Management

a. Landscape maintenance - The permittee shall evaluate the materials used and activities performed on public spaces owned and operated by the permittee such as parks, schools, golf courses, easements, public rights of way, and other open spaces for pollution prevention opportunities. Maintenance activities for the turf landscaped portions of these areas may include mowing, fertilization, pesticide application, and irrigation. Typical pollutants include sediment, nutrients, hydrocarbons, pesticides, herbicides, and organic debris.

b. The permittee shall implement the following practices to minimize landscaping-related pollutant generation with regard to public spaces owned and operated by the permittee:

(i) Educational activities, permits, certifications, and other measures for the permittee's applicators and distributors.

(ii) Pest management measures that encourage non-chemical solutions where feasible. Examples may include:

(a) Use of native plants or xeriscaping;

(b) Keeping clippings and leaves out the small MS4 and the street by encouraging mulching, composting, or landfilling;

(c) Limiting application of pesticides and fertilizers if precipitation is forecasted within 24 hours, or as specified in label instructions;

(d) Reducing mowing of grass to allow for greater pollutant removal, but not jeopardizing motorist safety.

c. The permittee shall develop schedules for chemical application in public spaces owned and operated by the permittee that minimize the discharge of pollutants from the application due to irrigation and expected precipitation.

d. The permittee shall ensure collection and proper disposal of the permittee's unused pesticides, herbicides, and fertilizers.

6.0 BEST MANAGEMENT PRACTICES

6.1 Public Education, Outreach and Involvement

BMP No. 1 – Construct Stormwater Management Page of City Website

The City maintains an Engineering section within the existing city website. A new section of the Engineering site will specifically address stormwater quality issues. Stormwater run-off pollution impacts, public education on stormwater pollution, and general stormwater management details will be outlined in this section. This section shall be tied with BMP Nos. 2 and 3 Stormwater Outreach, Utility Bill Insert respectively. Downloadable MS4 education and application forms will be housed on this website.

Another feature of the Engineering site will be a contact page to be used by members of the community seeking information regarding stormwater pollution as well as to report stormwater polluters. Details for this contact page are found in BMP No. 12—Stormwater Hotline.

Measurable Goals – The measurable goal for implementation of this BMP is to construct an acceptable Stormwater section, within the City of Kyle website, which directly addresses stormwater quality issues in the community.

Schedule

	Target Date	Activity
Public Education, Outreach and Involvement – BMP No. 1	Years 1-3	-Plan webpage addition -Implement Public Contact portion of webpage -Include downloadable forms for MS4 if applicable
	Years 4-5	Update/Maintain Webpage As Needed

BMP No. 2 – Stormwater Outreach

The City will produce and distribute outreach materials detailing the impacts of polluted stormwater run-off on water quality, hazards associated with illegal discharges and improper disposal of waste, and methods to minimize their impact on stormwater quality. Reasonable effort shall be made to distribute the information to all constituents within the city.

Measurable Goals – The measurable goals for implementation of this BMP are to research existing information and determine the content of the outreach materials to be distributed, produce the material and distribute it to the public, construction sites, etc.

Schedule

	Target Date	Activity
Public Education, Outreach and Involvement – BMP No. 2	Years 1-4	- Begin researching content of outreach material. - Research existing materials provided by TCEQ, NCTCOG, or other cities to see if they can be adopted. -Research budget requirements for printing and distribution of outreach materials.
	Year 5	Produce and distribute outreach materials to the public.

BMP No. 3 – Utility Bill Communication

The City will produce and distribute public awareness messages detailing the impacts of polluted stormwater run-off on water quality, hazards associated with illegal discharges and improper disposal of waste, and methods to minimize their impact on stormwater quality. Reasonable effort shall be made to distribute the information to all water customers within the city by using the public awareness message box on all utility bills.

Measurable Goals – The measurable goals for implementation of this BMP are to research existing information and determine the content of the public awareness messages to be distributed as a part of the utility bill based upon high-priority community-wide issues defined by public input processes.

Schedule

	Target Date	Activity
Public Education, Outreach and Involvement – BMP No. 3	Years 1-3	- Develop outline of information to be communicated - Identify budget requirements for physical inserts
	Years 4-5	Distribute information through the Utility Bill at least once per year.

BMP No. 4 – Storm Drain Stenciling or Markers

The City will coordinate stenciling or installation of markers of existing storm drain inlets throughout the city. The stenciling or markers may be performed by volunteers, possibly student or other local organizations could be contacted to supply volunteers. City development requirements will be amended to require all new construction to install storm drain stencils or markers as a part of all future development.

Measurable Goals – The measurable goal for implementation of this BMP is to complete stenciling or installation of markers of all curb inlets and those grate inlets with space for stenciling by the end of the permit period.

Schedule

	Target Date	Activity
Public Education, Outreach and Involvement – BMP No. 4	Years 1-3	- Develop schedule to inventory and mark storm drain inlets in the City over the permit term. - Identify budget requirements to acquire drain markers, as well as recruit and coordinate volunteers. - Amend or append city ordinances to require all new construction to stencil Stormwater inlets as a part of site development. Require builders to utilize the same markers adopted by the City for use.
	Years 4-5	Track placed storm drain markers and use of volunteer efforts.

BMP No. 5 – General Education of City Employees

The City will develop and implement a training program for city employees responsible for municipal operations subject to the program. Training materials will be gathered for the various municipal operations directed at preventing and reducing stormwater pollution. The employees and operations selected to require training is directly linked to the Operation and Maintenance Program.

Measurable Goals – The measurable goal for implementation of this BMP is to hold education sessions for City Employees and report attendance at CAECN luncheons.

Schedule

	Target Date	Activity
Public Education, Outreach and Involvement – BMP No. 5	Years 1-3	- Encourage staff participation in the Capital Area Erosion Control Network (CAECN). - Develop training courses for city employees. - Determine Budget requirements.
	Years 4-5	Continue staff education.

BMP No. 6 – General Education of Elected and Appointed Officials

The City will develop and implement an overview of the MS4 Phase II permit requirements for our community to be presented to Elected and Appointed Officials responsible for policy establishment and final approval of certain development processes. Education materials will be gathered for the various municipal operations directed at preventing and reducing stormwater pollution. Elected and appointed officials will have stormwater education as a part of their new member orientation and then again at least once annually.

Measurable Goals – The measurable goal for implementation of this BMP is to hold education sessions for elected and appointed officials annually and during new member orientation.

Schedule

	Target Date	Activity
Public Education, Outreach and Involvement – BMP No. 6	Years 1-3	- Develop MS4 overview presentation for elected officials. - Present MS4 education as a part of orientation. - Present MS4 program education for officials annually.
	Years 4-5	- Present MS4 education as a part of orientation. - Present MS4 program education for officials annually.

BMP No. 7 – City Inspector/Public Works Inspector Education and Training

The City will develop and implement a training program specifically for city employees responsible for inspection and plan review for new construction. Inspection employees will be responsible for validating plans, construction and adherence to BMP's by developers in the field and must be trained on proper and appropriate use and installation of stormwater quality facilities.

Measurable Goals – The measurable goal for implementation of this BMP is to hold education sessions for City Inspectors.

Schedule

	Target Date	Activity
Public Education, Outreach and Involvement – BMP No. 7	Years 1-3	- Develop training session for site review and inspections. - Train Inspectors.
	Years 4-5	Continue staff education.

BMP No. 8 – General Education of Developer/Builder/Engineer(s)

The City will develop and implement an overview of the MS4 Ph II permit requirements for our community to be presented to parties responsible for the planning, implementation and construction of new development. Education materials will be gathered for the various municipal operations directed at preventing and reducing stormwater pollution. Professionals will have access to city specific stormwater education as a part of the development process.

Measurable Goals – The measurable goal for implementation of this BMP is to make education sessions and or materials available for professionals that are a part of the development cycle.

Schedule

	Target Date	Activity
Public Education, Outreach and Involvement – BMP No. 8	Years 1-3	- Research cooperative education and training for the professionals that work on projects in the City. - Develop cooperative education and training for the professionals that work on projects in the City.
	Years 4-5	Make construction site erosion control educational material and/or training opportunities available for builders, developers, and engineers that are active in the City.

BMP No. 9 – Classroom Outreach

The City will develop and implement a classroom presentation covering stormwater quality education, either as a stand alone lecture, or in partnership with other watershed groups that also present lectures in public school classrooms. Schools will also be considered for distribution of printed stormwater quality materials such as pamphlets in BMP No. 2.

Measurable Goals – The measurable goal for implementation of this BMP is to measure the number of lectures conducted by city staff, or partnered on with other groups. The number of campuses and quantity of education material disseminated will be tracked.

Schedule

	Target Date	Activity
Public Education, Outreach and Involvement – BMP No. 9	Years 1-3	Coordinate with the School District to determine feasibility of providing stormwater education materials and or lectures.
	Years 4-5	Provide stormwater education materials and or lectures as determined by coordination meetings with the School District and budgeting may allow.

BMP No. 10 – Comply with State and Local Public Notice Requirements

The City will comply with state and local public notice requirements when implementing a public involvement/participation program. Notice is required for adoption of new ordinances or revision of existing ordinances. Notice is also required for public meetings regarding the SWMP. Notice for other actions resulting from implementation of the SWMP may also be required. Effort will be made to have notification in several different outlets posted at city hall, on the website, and through utility stuffer notices to reach as many different groups of people as feasible.

Measurable Goals – The measurable goal for implementation of this BMP is to provide state and local required public notice during implementation of a public involvement/participation program in a location that is easily and readily available to the public.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 10	Years 1-3	Provide required notice of all public meetings and adoption of new or modified ordinances as part of the planning and implementation of the SWMP.
	Years 4-5	Provide required notice of all public meetings.

BMP No. 11 – Public Meetings

The City will hold a series of public meetings to discuss and seek input on SWMP implementation measures, BMPs and stormwater management policies. These meetings will serve two roles, providing an opportunity for public involvement as well as informing the public on stormwater quality. Notification of the meetings will be included on the website, in the city newsletter and in local newspapers as necessary. Key stakeholders that should be involved in these meetings include local developers, builders and environmental groups. Documentation of public notice for these meetings is required.

Measurable Goals – The measurable goal for implementation of this BMP is to hold at least one public meeting per year on stormwater management policies and BMPs. During these meetings input regarding SWMP revisions will be considered, notes will be taken, and a record of attendances will be saved.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 11	Years 1-5	Hold at least one Public Meeting to seek input on SWMP and BMP's.

BMP No. 12 – Stormwater Hotline

The City encourages the public to be involved in the reporting of potential stormwater quality violations. To facilitate public reporting, the City will investigate the potential for a dedicated public "hotline" for reports to be filed through. With the increase in smart phones and public access to internet and web services, an alternative web form will be considered as an alternative to a dedicated phone line.

Measurable Goals – The measureable goal for this BMP is the creation of either a dedicated phone "hotline" or the creation of a web form for the public to make reports to the city.

Schedule

	Target Date	Activity
Public Involvement/Participation –	Years 1-3	- Develop plan for stormwater hotline. Consider online submission form in lieu of dedicated 24/7 phone line. - Identify procedures for receiving calls, routing calls to appropriate personnel for proper response, and documenting subject of call for future analysis. - Identify budget requirements for stormwater hotline. - Establish stormwater hotline and/or create online form. - Document each report for proper response. - Conduct annual review of reported violations to identify trends.
	Years 4-5	- Document each report for proper response. - Conduct annual review of reported violations

BMP No. 13 – Bulk Waste Cleanup

The City offers a once per year curbside bulk trash pickup for every household in partnership with the city's franchise sanitation service. The City needs to publicize this to increase the number of participants. The City has also budgeted to provide a roll off dumpster for a fixed period of time in strategic locations in the city to allow property owners to dispose of bulk trash, limbs, and large items.

Measurable Goals – The measureable goal for this BMP is the amount of education done, as well as the number of extra dumpsters placed by the city. If possible, the City will attempt to collect data from the sanitation franchisee to track the number of bulk pickups requested each year to track trends.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 13	Years 1-3	- Continue Bulk Pickup through contract - Communicate to the public annually about the ability to use one curbside bulk pick up per calendar year for free. - If budget allows, deliver one roll off dumpster per year in strategic areas identified by staff to allow targeted bulk cleanup.
	Years 4-5	- Continue Bulk Pickup through contract - Communicate to the public. - If budget allows, deliver one roll off dumpster to allow targeted bulk cleanup.

BMP No. 14 – Household Hazardous Waste Collection

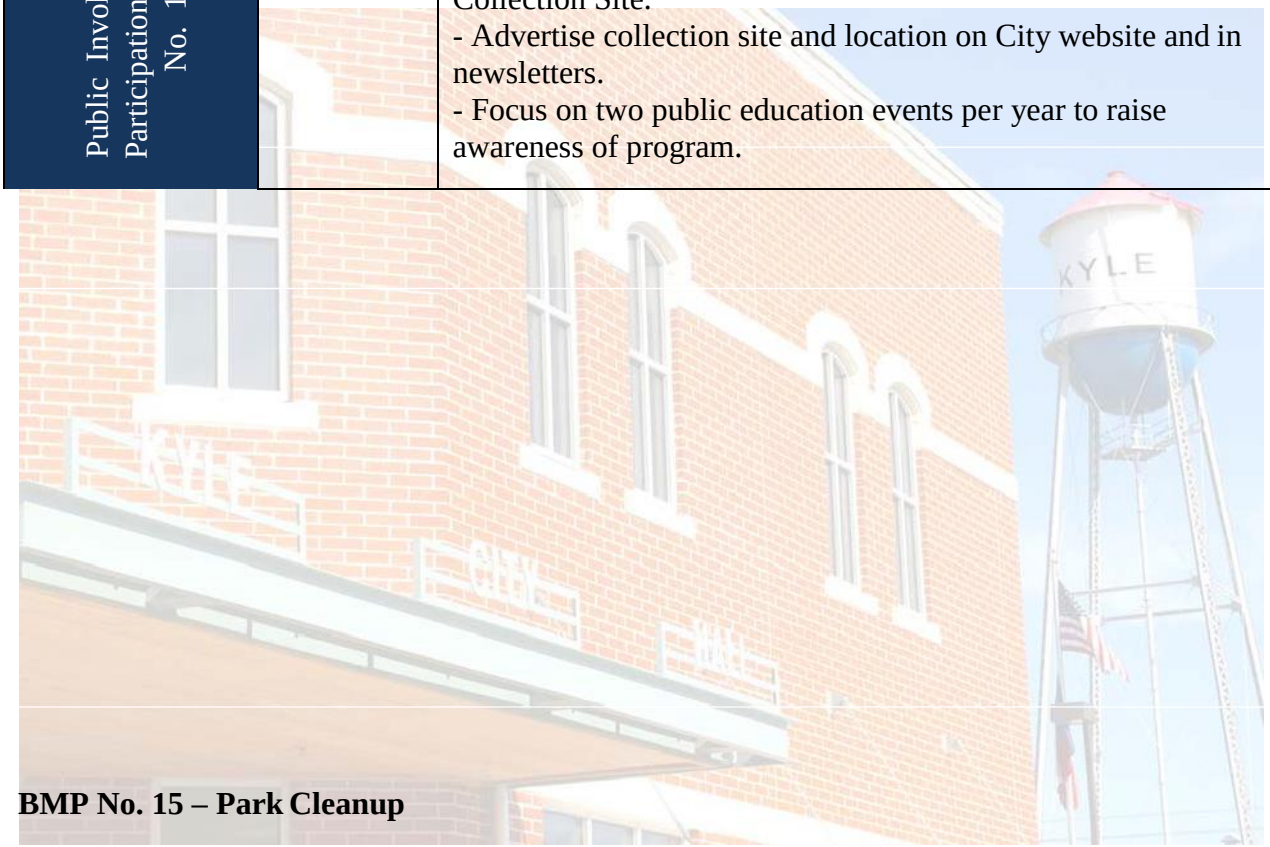
The City encourages the public to dispose of household hazardous waste such as chemicals, pesticides, batteries and paint through a recycling effort available to all county residents and

hosted in the county seat. All county residents can take household hazardous waste for recycling or disposal free of charge, however this program is not known widely. The City will raise awareness of the program through education efforts and public information dissemination.

Measurable Goals – The measureable goal for this BMP is the creation of public service announcements distributed to the public throughout the year.

Schedule

	Target Date	Activity
Public Involvement/ Participation – BMP No. 14	Years 1-5	- Continue support of County Household Hazardous Material Collection Site. - Advertise collection site and location on City website and in newsletters. - Focus on two public education events per year to raise awareness of program.



BMP No. 15 – Park Cleanup

The City encourages the public to be involved in picking up debris and illegally dumped items from the City's parks and waterways. Currently there is one annual park clean up held in conjunction with a creek clean up where thousands of pounds of trash, some recyclable, get removed from the park land and trails. Dead trees and brush are removed and nature trails are groomed just in time for the busy spring and summer. This item is related to BMP 16.

Measurable Goals – The measureable goal for this BMP is holding at least one annual park cleanup day.

Schedule

	Target Date	Activity
Public Involvement/Particpation – BMP No. 15	Years 1-3	- Evaluate existing program by identifying Park Cleanup locations. - Conduct cleaning once per year for selected parks.
	Years 4-5	Conduct cleaning once per year for selected parks.

BMP No. 16 – Plum Creek Cleanup

The City encourages the public to be involved in picking up debris and illegally dumped items from the City's parks and waterways. The primary waterway of the City is impaired, and this activity is directly related to improving water quality in the waterway. Currently there is one annual creek cleanup held in conjunction with a park clean up where thousands of pounds of trash, some recyclable, get removed from the park land and trails. Dead trees and brush are removed and nature trails are groomed just in time for the busy spring and summer. This item is related to BMP 15.

Measurable Goals – The measureable goal for this BMP is holding at least one annual creek cleanup day.

Schedule

	Target Date	Activity
Public Involvement/ Participation – BMP No. 16	Years 1-5	Continue Plum Creek Clean Up annually, in partnership with the Plum Creek Watershed Protection Group and GBRA.

BMP No. 17 – Pet Waste

The City encourages the public to be involved in picking up after their animals to limit the amount of fecal coliform that washes into the City's waterways. The primary waterway of the City is impaired, and this activity is directly related to improving water quality in the waterway. Currently there are pet waste stations in one park that has unimpeded access to the waterway. The City will develop a pet waste management program focused on education and abatement.

Measurable Goals – The measureable goal for this BMP is developing a Pet Waste Management Plan, and providing public education events, including at least one for school age children. If budget allows, the installation of additional pet waste stations.

Schedule

	Target Date	Activity
Public Involvement/ Participation – BMP No. 17	Years 1-3	- Develop pet waste management and education program. - Develop education materials to be included in stormwater education material delivered to schools. - Develop budget for installation of additional pet waste stations in parks and public places as needed.
	Years 4-5	- Continue the pet waste management education program. - Continue distribution of educational materials. - Install additional pet waste stations as needed.

6.2 Illicit Discharge

BMP No. 18 – Stormwater Map

The city will develop a stormwater system map, detailing the location of major stormwater conveyances within the city i.e., rivers, tributaries, creeks, etc. The location of all major outfalls and receiving streams shall be shown. The map will be created from existing survey and map information (which will be field verified) as well as through field surveys if necessary. The map will be updated as necessary at least once per year. A base map of the existing watersheds within the city and its surrounding areas is included on Figure 3.

Measurable Goals – The measurable goal for implementation of this BMP is to complete the storm sewer system map by the end of the permit period.

Schedule

	Target Date	Activity
Public Involvement / Participation – BMP No. 18	Years 1-3	- Collect existing mapping information for the storm sewer system. - Develop plan and budget requirements for effort necessary to identify regulated stormwater outfalls and drainage areas or system features.
	Years 4-5	Continue developing map of stormwater outfall drainage areas or system features for the City.

BMP No. 19 – Illicit Discharge Ordinance

The City will review existing ordinances and develop modifications as deemed necessary to effectively prohibit non-stormwater discharges into the storm sewer system. The ordinance will include prohibitions against illicit discharges defined in Part III.B.3.(b)(3) and enforcement procedures and actions.

Measurable Goals – The measurable goal for implementation of this BMP is to develop an ordinance and have it implemented by Year 4 of the permit period to include penalty-based enforcement and mandatory corrections to leaking on-site sewage disposal systems, as well as limiting new on-site installations.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 19	Years 1-4	- Draft revised/new illicit discharge prohibition ordinance, if necessary, for public review and comment. - Solicit input from the public for the draft ordinance. - Issue final illicit discharge prohibition ordinance. - Conduct education activities to inform the public about the new ordinance requirements. - Begin education-focused enforcement of ordinance.
	Year 5	Begin penalty-based enforcement of illicit discharge ordinance.

BMP No. 20 – Illicit Discharge Inspections

The City will review existing plans and modify them as necessary to detect and address non-stormwater discharges, including illegal dumping into the MS4. The program shall include responding to citizen complaints, locating problem areas, identifying sources contributing to problem areas, and correction of the sources. All actions under this program shall be documented. The techniques used to detect illicit discharges and the enforcement procedures will be determined during the implementation of this BMP.

Measurable Goals – The measurable goal for implementation of this BMP is to develop a program and implement it during the permit period.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 20	Years 1-3	- Develop plan to inspect the storm sewer system for illicit connections, illegal dumping, and dry weather discharges. - Identify inspection staff, inspection schedule, and training procedures. - Begin training personnel in illicit discharge detection and elimination (IDDE) procedures. - Establish procedure to eliminate detected illicit discharges. - Identify budget requirements for illicit discharge inspections.
	Years 4-5	- Continue to train personnel IDDE procedures. - Conduct illicit discharge inspections for the City's regulated outfalls, as specified in the illicit discharge inspection plan.

BMP No. 21 – Sanitary Sewer Line Maintenance and Inspection

The City will review existing procedures for inspection of sanitary sewer lines, including related facilities such as manholes, lift stations and treatment plants, and put in place plans to limit sanitary sewer overflows by providing appropriate maintenance. In locations where regular operations may result in occasional overflows, strategies will be considered to limit and contain overflows, especially in low lying areas either located in a drainage way, or near a waterway.

Measurable Goals – The measurable goal for implementation of this BMP is to develop a program and implement it during the permit period.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 21	Years 1-3	- Develop plan to inspect the sanitary sewer system. - Identify inspection staff, schedule, and training procedures. - Begin training personnel in inspection procedures. - Establish procedure to eliminate detected deficiencies. - Identify budget requirements for maintenance. - Enter into the TCEQ SSOI to reduce SSOs
	Years 4-5	- Continue to train personnel in detection procedures. - Conduct regular maintenance on sanitary sewer system. - Maintain compliance with the SSOI.

6.3 Construction Site Controls

BMP No. 22 – Construction Site Stormwater Runoff and Erosion Control Ordinance

The City will evaluate the existing city ordinances regarding control of construction site stormwater run-off for all sites, including those one acre and greater. Sanctions for noncompliance will also be evaluated.

Measurable Goals – The measurable goal for implementation of this BMP is to evaluate and develop modifications to the existing ordinance as necessary and have them adopted by Year 4 of the permit period.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 22	Years 1-3	- Evaluate the City's existing ordinances to identify adequacy of erosion control requirements and enforcement mechanisms in meeting the MS4 permit requirements. - Include BMP for regional detention ponds that includes "first flush" channelization for all detention ponds that serve more than one parcel, or five acres. - Include Low Impact Design criteria in controlling ordinances. - Require biodegradable mulch tubes for areas adjacent to or draining to waterways, or located within environmentally sensitive areas. - Develop draft ordinance to meet permit conditions. - Provide draft to City Council and the community for review and input.
	Year 4	- Issue final ordinance. - Conduct education activities to inform the public about the new ordinance requirements. - Begin education-focused enforcement of ordinance.
	Year 5	Begin penalty-based enforcement of illicit discharge ordinance.

BMP No. 23 – Review/Implement Site Plan Review Procedures

The City will evaluate the existing city procedures for site plan review for new development so that potential water quality impacts are considered. This shall include control of erosion, sediment and waste at the site.

Measurable Goals – The measurable goal for implementation of this BMP is to first evaluate the existing procedures for site plan review and then recommend modifications as necessary to control erosion, sediment and waste at the site. The modifications to the existing procedures will then be implemented.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 23	Years 1-3	- Evaluate existing plan review procedures for compliance with permit requirements. - Review for inclusion of Low Impact Design criteria in Site Plans. - Identify any necessary modifications to the procedures needed to achieve compliance with the permit conditions. - Revise plan review procedures, if necessary, to include adequate consideration of potential stormwater quality impacts. - Educate the public about new plan review procedures.
	Years 4-5	Begin/continue to conduct plan reviews.

BMP No. 24 – Review/Implement Construction Plan Review and Inspection Procedures

The City will evaluate the existing city procedures for construction plan review and inspections for new development so that potential water quality impacts are addressed. This shall include control of erosion, sediment and waste at the site that was included in the site plan submission. Construction plans shall be reviewed for compliance with site development standards and onsite inspections. Enforcement procedures shall be included and may include stop work orders, fines and other suitable enforcement procedures.

Measurable Goals – The measurable goal for implementation of this BMP is to first evaluate the existing procedures for construction plan review and then recommend modifications as necessary to ensure that site development controls are executed in construction phase. In addition building inspections shall include regular water quality and erosion control inspections. The modifications to the existing procedures will then be implemented.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 24	Years 1-3	- Evaluate existing site inspection procedures for compliance with permit requirements. - Identify any necessary modifications to the procedures needed to achieve compliance with the permit conditions. - Identify budget requirements for erosion control site inspections, documentation, and tracking. - Revise site inspection procedures, if necessary, to include documented inspection of erosion control measures. - Educate the public about new site inspection procedures.
	Year 4	Begin to conduct erosion control site inspections.
	Year 5	Continue to conduct erosion control site inspections.

6.4 Post Construction

BMP No. 25 – Post Construction Stormwater Runoff Control Ordinance

The City will evaluate the existing city ordinances regarding control of postconstruction site stormwater run-off to include development and redevelopment sites of one acre or more, or smaller projects that are part of a larger common development. Penalties will be adopted. Records of violators will be kept in accordance to State retention laws.

Measurable Goals – The measurable goal for implementation of this BMP is to evaluate and develop modifications to the existing ordinances and have them implemented by Year 4 of the permit period. Modifications will be developed for the City's Zoning Plan, Comprehensive Plan, Greenspace and Tree Preservation, Subdivision Rules, Setback and Platting Rules, Impervious Limits, etc.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 25	Years 1-4	- Include in stormwater ordinance post construction requirements and make available for public review and input. - Implement the new ordinance requirements (if revised). - Conduct education activities to inform the public about the new ordinance requirements. - Begin education-focused enforcement of ordinance. - Issue final ordinance.
	Year 5	Begin penalty-based enforcement of new ordinance requirements.

BMP No. 26 – Develop and Implement Post Construction Structural and Non-Structural BMPs

The City will develop and implement standard structural and non-structural BMPs which will mitigate post construction run-off and will be required of new development or redevelopment projects. Review existing ordinances and modify to include the selected BMPs and ensure adequate long-term operation and maintenance of BMPs. Records of maintenance will be required of all private property owners.

Measurable Goals – The measurable goals for implementation of this BMP will be to review and select post-construction structural and non-structural strategies for typical development in the City. Post-construction strategies to be developed include operation and maintenance procedures, inspection requirements, a design criteria manual, plan review and approval procedures, and final plan BMPs.

Schedule

	Target Date	Activity
Public Involvement/ Participation – BMP No. 26	Years 1-3	- Review post-construction structural and non-structural strategies for inclusion in stormwater control ordinance. - Include BMP's in control ordinance. - Continue to explore additional BMP's for consideration presented through professional development trainings or CAECN luncheons.
	Years 4-5	- Evaluate new BMP's for inclusion in stormwater control ordinance. - Continue to explore additional BMP's for consideration presented through professional development trainings or CAECN luncheons.

BMP No. 27 – Stormwater Sampling

The City will develop stormwater sampling procedures to utilize the two automated sampling stations the city owns, but does not currently operate, along with stormwater samples taken by hand during storm events in other locations.

Measurable Goals – The measurable goals for implementation of this BMP will be to establish a stormwater sampling plan, properly fund the operation of automated sampling stations and/or grab sampling and testing of samples.

Schedule

	Target Date	Activity
Public Involvement/ Participation – BMP No. 27	Years 1-3	- Design a stormwater sampling plan using hand grabs and/or two automated water sampling stations. - Develop budget requirements for regular stormwater sampling. - Implement stormwater sampling plan. - Determine feasibility to reactivate two automated sampling stations. - Track results of samples for trends - Budget for regular sampling as well as wet weather sampling.
	Years 4-5	- Continue stormwater sampling plan - Track results of samples for trends - Budget for regular sampling as well as wet weather sampling.

BMP No. 28 – Land Use Plan

The City will evaluate its comprehensive plan, taking into account uses that contribute to stormwater, as well as acceptable land use and traits of structures adjacent or immediately contributing to waterways. In addition, water quality will be taken into account during zoning change requests that come before the Planning and Zoning Commission.

Measurable Goals – The measurable goals for implementation of this BMP will be to incorporate stormwater considerations into the next 5 year update of the comprehensive plan as well as reviewing stormwater concerns during zoning cases.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 28	Years 1-4	- Evaluate the comprehensive plan with respect to water quality protection through acceptable land use. - Evaluate the current process of assessing proposed zoning changes with respect to the water quality protection goals of the land use plan. - Assess proposed zoning changes in relation to the City's existing land use plan with respect to water quality protection.
	Year 5	Continue the existing process of assessing proposed zoning changes in relation to the City's existing land use plan.

6.5 Pollution Prevention and Good Housekeeping

BMP No. 29 – Municipal Operations and Industrial Activity Operations and Maintenance Program

The City will develop and implement an operation and maintenance program with the goal of preventing or reducing pollutant run-off from municipal operation into the storm sewer system. The operations to be included in this process shall include: park and open space maintenance, street maintenance, fleet and building maintenance, stormwater system maintenance, new construction and land disturbances, municipal parking lots, vehicle and equipment maintenance and storage yards, waste transfer stations, salt/sand storage locations, waste disposal from municipal operations, and structural control maintenance for BMPs. The program will include a list of all maintenance activities, maintenance schedules, and long term inspection procedures for controls used to reduce floatables and other pollutants. As part of the program, procedures for the proper disposal of waste from structural controls and maintenance activities will be included. Contractors hired by the City will be required to comply with O&M procedures.

Measurable Goals – The measurable goal for implementation of this BMP is to develop the operation and maintenance program and implement the program in Year 4.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 29	Years 1-3	- Develop a plan to evaluate municipal operations with the potential to impact stormwater quality. - Identify the budget requirements to conduct assessments of the municipal operations. - Begin assessments of selected municipal operations and develop recommendations for O&M BMPs. - Identify budget requirements to implement recommended modifications.
	Year 4	- Begin implementation of the BMPs for facilities evaluated in prior years.
	Year 5	- Continue the implementation of the BMPs identified through municipal operations assessments. - Require City hired contractors to comply.

BMP No. 30 – Develop and Implement Training Program for City Employees to Minimize Runoff Caused by Municipal Operations

The City will develop and implement a training program for city employees responsible for municipal operations subject to the program described in BMP No. 29. Training materials will be gathered for the various municipal operations directed at preventing and reducing stormwater pollution. The employees and operations selected to require training is directly linked to the Operation and Maintenance Program developed as part of BMP No. 29.

Measurable Goals – The measurable goal for implementation of this BMP is to develop the operation and maintenance training program and implement the training program by Year 3.

Schedule

	Target Date	Activity
Public Involvement/ Participation – BMP No. 30	Years 1-3	- Identify municipal operations in which activities have the potential to impact stormwater. - Identify effort and method necessary to properly train affected employees. - Develop budget requirements for employee training program. - Conduct BMP training for the municipal employees responsible for activities that may impact stormwater quality.
	Years 4-5	- Conduct BMP training for the municipal employees responsible for activities that may impact stormwater quality.

BMP No. 31 – Chemical Applications and Materials Management

The City will develop and implement procedures for management of the storage and application of chemicals and materials.

Measurable Goals – The measurable goal for implementation of this BMP is to develop the procedures in Year 3 of the permit period and implement the procedures in Year 4.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 31	Years 1-3	- Evaluate the status of the city's chemical and materials management procedures. - Develop plan. - Continue to provide training for chemical applicators. - Identify chemicals and materials used in municipal activities. - Develop a chemical and materials management program. Develop material management procedures for each facility.
	Year 4	- Begin implementation of chemical and materials management program, and evaluate effectiveness of current program. - Continue to provide and document refresher training for chemical applicators in accordance with industry guidelines.
	Year 5	- Continue implementation of existing chemical and materials management program, and implement any changes based on prior year's evaluation. - Continue to provide and document refresher training for chemical applicators in accordance with industry guidelines.

BMP No. 32 – Storm Sewer System Maintenance

The City will develop a schedule to conduct visual inspections of the City's storm sewer system and evaluate the need for maintenance.

The system will be cleaned as needed in response to complaints or reported problems, and procedures will be developed to remove the debris and eroded materials from the system prior to discharge into a waterway.

Measurable Goals – The measurable goal for implementation of this BMP is to develop and implement the procedures by Year 4.

Schedule

	Target Date	Activity
Public Involvement/ Participation – BMP No. 32	Years 1-3	- Develop a schedule to conduct visual inspections of the City's storm sewer system and evaluate the need for maintenance. - Develop a system to monitor and track storm sewer maintenance activities. - Identify budget requirements to perform routine maintenance on the storm sewer system. - Implement the inspection schedule. - Clean system as needed in response to complaints or reported problems.
	Years 4-5	- Perform maintenance as necessary. - Clean system as needed in response to complaints or reported problems.

BMP No. 33 – Street Sweeping

The City will develop a schedule to conduct regular street sweeping to remove debris from roadways before it washes into the storm sewer system.

The streets will be cleaned as needed in response to complaints or reported problems.

Measurable Goals – The measurable goal for implementation of this BMP is to measure the distance and regularity of roadways that are swept.

Schedule

	Target Date	Activity
Public Involvement/ 33	Years 1-3	- Continue street sweeping program for City streets. - Develop schedule for street sweeping activities. - Identify budget requirements for street sweeping program. - Evaluate the need for supplemental street sweeping efforts as funds are available.
	Years 4-5	- Continue street sweeping program for City streets. - Implement any supplemental street sweeping efforts.

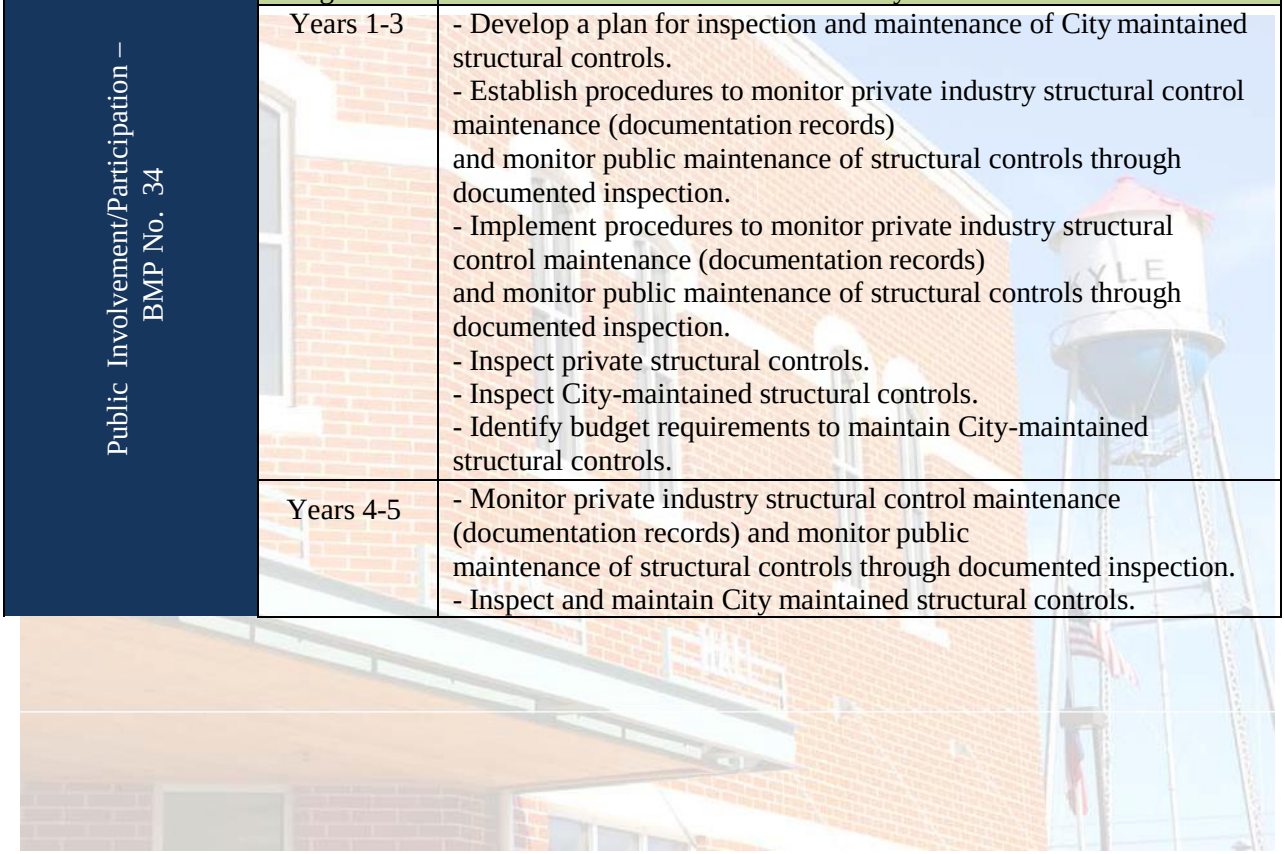
BMP No. 34 – Structural Control Maintenance

The City will develop a plan for inspection and maintenance of City maintained structural controls as well as establish procedures to monitor private industry structural control maintenance (documentation records) and monitor public maintenance of structural controls through documented inspection. Penalties for failure to maintain private structural controls will be implemented.

Measurable Goals – The measurable goal for implementation of this BMP is to implement procedures in Year 3, fully by Year 4.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 34	Years 1-3	- Develop a plan for inspection and maintenance of City maintained structural controls. - Establish procedures to monitor private industry structural control maintenance (documentation records) and monitor public maintenance of structural controls through documented inspection. - Implement procedures to monitor private industry structural control maintenance (documentation records) and monitor public maintenance of structural controls through documented inspection. - Inspect private structural controls. - Inspect City-maintained structural controls. - Identify budget requirements to maintain City-maintained structural controls.
	Years 4-5	- Monitor private industry structural control maintenance (documentation records) and monitor public maintenance of structural controls through documented inspection. - Inspect and maintain City maintained structural controls.



BMP No. 35 – Spill Response

The City will develop a plan for assisting the Emergency Service District Fire Personnel in the event of hazardous, or non-hazardous material spills on the city's roadways. Public works crews and equipment will be trained and made available to assist the Fire Department to minimize and mitigate contamination or runoff.

Measurable Goals – The measurable goal for implementation of this BMP is to implement procedures and training to assist in spill responses.

Schedule

	Target Date	Activity
Public Involvement/Participation – BMP No. 35	Years 1-3	- Develop spill response procedures and training to assist the Fire Department on spill responses. - Implement spill response procedures and training in assistance to the Fire Department.
	Years 4-5	- Continue implementation of existing spill response procedures and training in assistance to the Fire Department.

BMP No. 36 – Disposal of Collected Storm Sewer System Waste

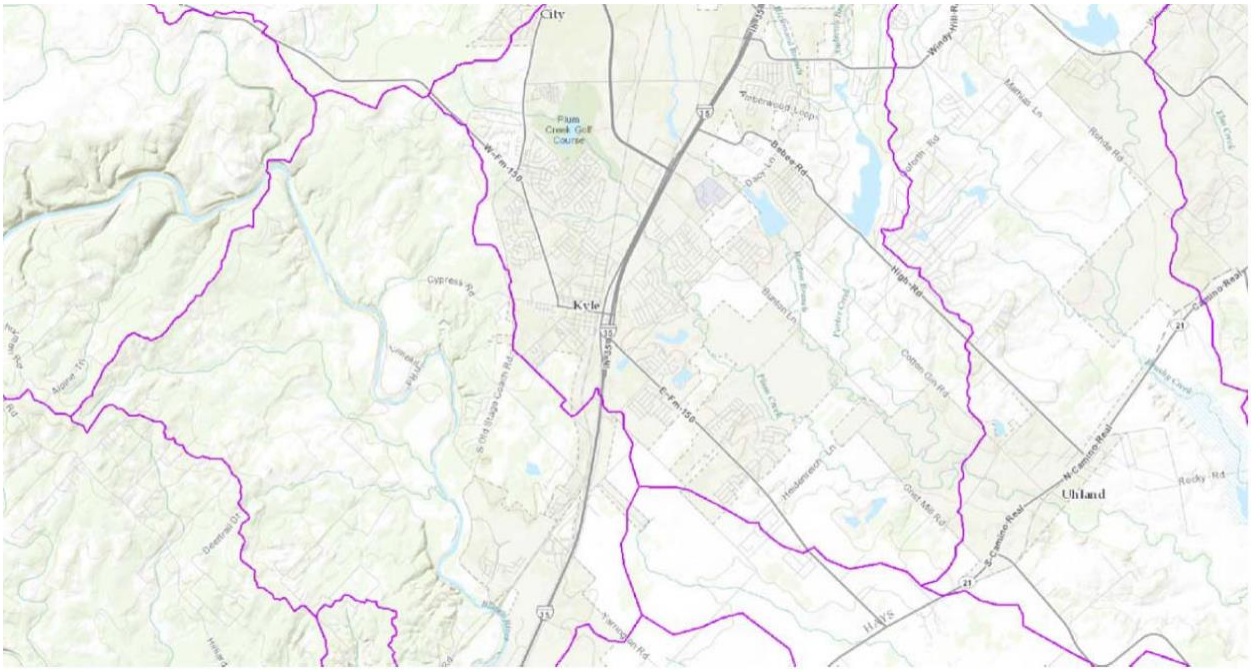
The City will develop a plan for disposing of waste collected and removed during the cleaning and maintenance of the Storm Sewer System. Attention will be paid to using proper methods of disposal, reusing material when able, and hauling or disposing of material when necessary.

Measurable Goals – The measurable goal for implementation of this BMP is to implement procedures in regards to disposal of waste from Stormwater Sewer systems.

Schedule

	Target Date	Activity
Public Involvement/Participation	Years 1-3	Develop budget requirements for waste handling and disposal. - Identify sources of waste requiring disposal as part of stormwater management program activities. - Identify proper methods for handling and disposal of waste materials. - Develop a procedure to evaluate waste and properly dispose according to water quality protection goals.
	Years 4-5	Perform proper disposal of waste materials according to the developed procedures.

FIGURE 3
DRAINAGE BASIN MAP



7.1 ASSESSMENT OF ALLOWABLE NON-STORMWATER DISCHARGES

In accordance with the requirements of the Phase II MS4 permit, the following non-stormwater discharges will be assessed in order to determine whether they are known to be significant contributors of pollutants to the City's water bodies:

1. Water line flushing (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
2. Runoff or return flow from landscape irrigation, lawn irrigation, and other irrigation utilizing potable water, groundwater, or surface water sources;
3. Discharges from potable water sources that do not violate Texas Surface Water Quality Standards;
4. Diverted stream flows;
5. Rising ground waters and springs;
6. Uncontaminated ground water infiltration;
7. Uncontaminated pumped ground water;
8. Foundation and footing drains;
9. Air conditioning condensation;
10. Water from crawl space pumps;
11. Individual residential vehicle washing;
12. Flows from wetlands and riparian habitats;
13. Dechlorinated swimming pool discharges that do not violate Texas Surface Water Quality Standards;
14. Street wash water excluding street sweeper waste water;
15. Discharges or flows from emergency fire fighting activities (fire fighting activities do not include washing of trucks, run-off water from training activities, test water from fire suppression systems, and similar activities);
16. Other allowable non-stormwater discharges listed in 40 CFR § 122.26(d)(2)(iv)(B)(1);
17. Non-stormwater discharges that are specifically listed in the TPDES Multi Sector General Permit (MSGP) TXR050000 or the TPDES Construction General Permit (CGP) TXR150000;
18. Discharges that are authorized by a TPDES or NPDES permit or that are not required to be permitted; and
19. Other similar occasional incidental non-stormwater discharges such as spray park water, unless the TCEQ develops permits or regulations addressing these discharges.

Non-stormwater discharges from the list above must be evaluated by the City to determine if any known, significant, water quality impacts were created as a result of the discharges. Evaluation of allowable non-stormwater discharges will be conducted as part of the illicit discharge inspection BMP identified in Appendix B and detailed in Section 6.

8.0 RECORDKEEPING AND REPORTING

8.1 Introduction

Recordkeeping is a required element of the SWMP. The City must retain all records, a copy of the TPDES General Permit, and records of all data used to complete the application for this permit for the term of the permit, currently 5 years. A copy of this SWMP must be retained at a location accessible to the TCEQ and the public.

The City is required to submit an annual report to the Executive Director within 90 days of the end of each fiscal year, which for the purposes of the City of Kyle is September 30. A copy of the annual report must be readily available for review by the TCEQ. The annual report shall contain an assessment of the BMPs, report on progress of implementing the BMPs, proposed changes, and an evaluation of the success of the SWMP. More detailed requirements for recordkeeping and reporting are found in the individual permit application.

8.2 Recordkeeping

The City will maintain all records, a copy of the TPDES general permit and all data used to complete the Notice of Intent (NOI) for this permit, for a period of at least three years, or for the term of this permit, whichever is longer. A current, up-to-date copy of the SWMP and a copy of the general permit requirements will be maintained at City Hall.

The City will make the compiled records, including the NOI and SWMP, available for public viewing at City Hall. The SWMP will be available for viewing during normal office hours, and available supporting documents will be able to be viewed within ten working days following the request from the public. Other records will be provided within 10 working days, unless the request requires an unusual amount of time or effort to assemble. In such a case, Texas law regarding the Public Information Act will be followed. Reasonable charges, in accordance with Texas law, may be levied by the City for researching and preparing any requested materials.

8.3 Annual Report

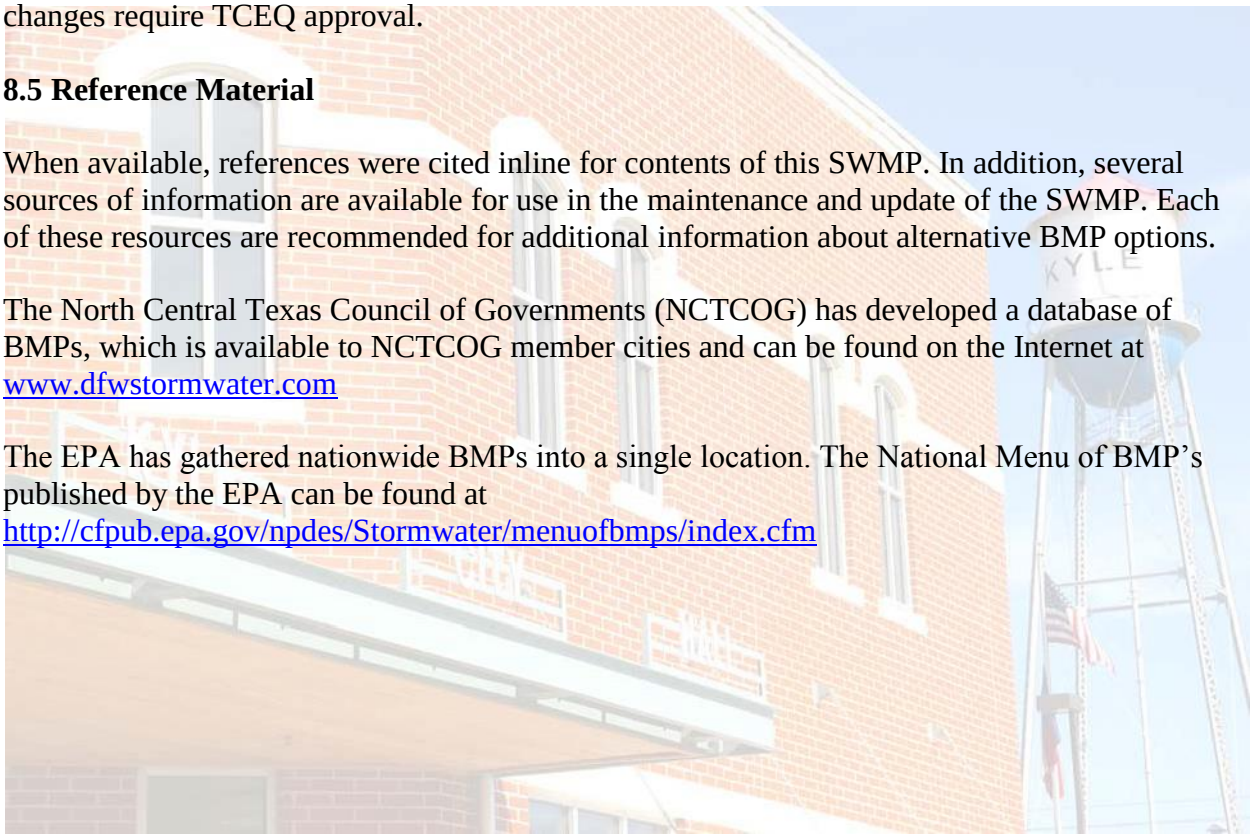
The City will submit an annual update report to the Executive Director of the TCEQ by the reporting deadline each year of the permit term. The City will maintain copies of the annual reports at City Hall.

The annual report will address the requirements listed in the TPDES Phase II MS4 general permit rules. Generally, the update report will document the stormwater-related activities for the previous year, evaluate the success of each BMP relative to their measurable goals, and discuss plans for the upcoming year, including modifications to the SWMP. Modifications may include replacement of previously selected BMPs, alteration of the implementation schedule, or other changes allowed by the permit.

8.4 Plan Updates

This plan may be updated by the City at any time. When considering eliminating a BMP, it is necessary to review the information in Appendix B to determine if the removal of the BMP will result in non-compliance for any of the minimum control measures. This would occur 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.

According to the general permit, "adding components, controls, or requirements to the SWMP", or replacing a BMP with an equivalent or better BMP only requires notification of TCEQ. Other changes require TCEQ approval.



8.5 Reference Material

When available, references were cited inline for contents of this SWMP. In addition, several sources of information are available for use in the maintenance and update of the SWMP. Each of these resources are recommended for additional information about alternative BMP options.

The North Central Texas Council of Governments (NCTCOG) has developed a database of BMPs, which is available to NCTCOG member cities and can be found on the Internet at www.dfwstormwater.com

The EPA has gathered nationwide BMPs into a single location. The National Menu of BMP's published by the EPA can be found at http://cfpub.epa.gov/npdes/Stormwater/menuofbmps/index.cfm

APPENDIX A

Water Pollution Abatement Plans – Edwards Recharge Zone Properties

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 213	EDWARDS AQUIFER
SUBCHAPTER A	EDWARDS AQUIFER IN MEDINA, BEXAR, COMAL, KINNEY, UVALDE, HAYS, TRAVIS, AND WILLIAMSON COUNTIES
RULE §213.5	**Required Edwards Aquifer Protection Plans, Notification, and Exemptions**

Historical Texas Register

(a) Required plans. A plan must be submitted for the following, as appropriate:

(1) a **water pollution abatement plan** under subsection (b) of this section to conduct regulated activities on the recharge zone not covered by subsections (c), (d), or (e) of this section;

(2) an organized sewage collection system plan under subsection (c) of this section for rehabilitation or construction related to existing or new organized sewage collection systems on the recharge zone;

(3) an underground storage tank facility plan for static hydrocarbon and hazardous substance storage under subsection (d) of this section for the construction or rehabilitation of an underground storage tank system; including tanks, piping, and related systems located on the recharge zone or transition zone; and

(4) an aboveground storage tank facility plan for static hydrocarbon and hazardous substance storage under subsection (e) of this section for the construction or rehabilitation of an aboveground storage tank system; including tanks, piping, and related systems, for the storage of hydrocarbon or hazardous substance located on the recharge zone or transition zone.

(b) **Water pollution abatement plan**. A **water pollution abatement plan** must contain the following information.

(1) Application. The information required under §213.4 of this title (relating to Application Processing and Approval) is part of the plan and must be filed with the executive director at the appropriate regional office.

(2) Site location.

(A) Location data and maps must include a legible road map with directions, including mileage, which would enable the executive director to locate the site for inspection.

(B) A general location map must include:

(i) the site location on a copy (or spliced composite of copies, if necessary) of an official recharge zone map(s) with quadrangle name(s) and recharge and transition zone boundaries clearly labeled; and

(ii) a drainage plan, shown on the recharge zone map, indicating all paths of drainage from the site.

(C) A site plan with a minimum scale of one inch to 400 feet must show:

(i) the 100-year floodplain boundaries (if applicable);

(ii) the layout of the development showing existing and finished contours as appropriate, but not greater than ten-foot contour intervals;

(iii) the location of all known wells (including, but not limited to, water wells, oil wells, and unplugged and abandoned wells);

(iv) the location of any sensitive feature on the site of the proposed regulated activity as identified in the geologic assessment under paragraph (3) of this subsection;

(v) the drainage patterns and approximate slopes anticipated after major grading activities;

(vi) areas of soil disturbance and areas which will not be disturbed;

(vii) locations of major structural and nonstructural controls identified in the technical report;

(viii) locations where stabilization practices are expected to occur;

(ix) surface waters (including wetlands); and

(x) locations where stormwater discharges to a surface water or a sensitive feature.

(3) Geologic assessment. For all regulated activities, the applicant must submit a geologic assessment report prepared by a geologist describing the site-specific geology. The report must identify all potential pathways for contaminant movement to the Edwards Aquifer. Single-family residential subdivisions constructed on less than ten acres are exempt from this requirement. The geologic assessment report must be signed, sealed, and dated by the geologist preparing the report.

(A) The geologic assessment must include a geologic map, at site-plan scale, illustrating:

(i) the outcrop of surface geologic units; and

(ii) all geologic and manmade features, specifically identifying:

(I) caves;

(II) sinkholes;

(III) faults;

(IV) permeable fractures;

(V) solution zones;

(VI) surface streams; and

(VII) other sensitive features.

(B) The geologic assessment must contain a stratigraphic column showing, at a minimum, formations, members, and thicknesses.

(C) The geologic assessment must contain a description and evaluation of all geologic and manmade features, on forms provided by, or approved by, the executive director. The assessment must determine which of these features are sensitive features. The assessment must include:

(i) the identification of each geologic or manmade feature, with a cross-reference to the site-plan map coordinates; and

(ii) the type of geologic or manmade feature including, but not limited to:

(I) sinkholes;

(II) caves;

(III) faults;

(IV) wells;

(V) surface streams; or

(VI) potentially permeable fractures and solution zones.

(D) The geologic assessment must contain a narrative assessment of site-specific geology. The assessment must detail the potential for fluid movement to the Edwards Aquifer and include a

discussion of the stratigraphy, structure, and karstic characteristics of the site.

(E) The geologic assessment must contain a narrative description of soil units and a soil profile, including thickness and hydrologic characteristics.

(4) Technical report.

(A) The technical report must address the following issues.

(i) The report must describe the nature of the regulated activity (such as residential, commercial, industrial, or utility), including:

(I) the size of the site in acres;

(II) the projected population for the site;

(III) the amount and type of impervious cover expected after construction is complete, such as paved surface or roofing;

(IV) the amount of surface expected to be occupied by parking lots; and

(V) other factors that could affect surface water and groundwater quality.

(ii) The report must describe the volume and character of wastewater expected to be produced. Wastewater generated at a site should be characterized as either domestic or industrial, or if commingled, by approximate percentages of each type.

(iii) The report must describe the volume and character of stormwater runoff expected to occur. Estimates of stormwater runoff quality and quantity should be based on area and type of impervious cover, as described in clause (i) of this subparagraph. An estimate of the runoff coefficient of the site for both the pre-construction and post-construction conditions should be included in the report.

(iv) The report must describe any activities or processes which may be a potential source of contamination.

(v) The report must describe the intended sequence of major activities which disturb soils for major portions of the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation).

(vi) The report must contain estimates of the total area of the site that is expected to be disturbed by excavation, grading, or other activities.

(vii) The report must contain the name of the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project.

(B) The technical report must describe the temporary best management practices (BMPs) and measures that will be used during and after construction. The technical report must clearly describe for each major activity identified in subparagraph (A)(v) of this paragraph appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

(i) BMPs and measures must prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site as provided under this paragraph.

(ii) BMPs and measures must prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site as provided under this paragraph.

(iii) BMPs and measures must prevent pollutants from entering surface streams, sensitive features, or the aquifer as provided under this paragraph.

(iv) To the maximum extent practicable, BMPs and measures must maintain flow to naturally- occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

(I) The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

(II) A request to temporarily seal must include a justification as to why no reasonable and practicable alternative exists. The request will be evaluated by the executive director on a case-by-case basis.

(v) Temporary BMPs and measures must meet the requirements contained in subparagraph (D)(i) of this paragraph.

(vi) The report must include a plan for the inspection of temporary BMPs and measures and for their timely maintenance, repair, and, if necessary, retrofit.

(vii) Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure must be prepared by or under the direct supervision of a Texas licensed professional engineer. All construction plans and design information must be signed, sealed, and dated by the Texas licensed professional engineer.

(viii) Pilot-scale field testing (including water quality monitoring) may be required for BMPs that are not contained in technical guidance recognized by, or prepared by, the executive director.

(ix) The construction-phase BMPs for erosion and sediment controls should be designed to retain sediment on site to the extent practicable.

(x) All control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicates a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

(xi) If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize off-site impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

(xii) Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%.

(xiii) Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

(C) The technical report must describe the permanent BMPs and measures that will be used during and after construction is completed.

(i) BMPs and measures must prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site.

(ii) BMPs and measures must prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site.

(iii) BMPs and measures must prevent pollutants from entering surface streams, sensitive features, or the aquifer.

(iv) To the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

(I) The permanent sealing of, or diversion of, flow from a naturally occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement

measure should be avoided.

(II) A request to seal a naturally occurring sensitive feature must include a justification as to why no reasonable and practicable alternative exists. The request will be evaluated by the executive director on a case-by-case basis.

(v) Permanent BMPs and measures must meet the requirements contained in subparagraph (D)(ii) of this paragraph.

(vi) Construction plans and design calculations for the proposed permanent BMPs and measures must be prepared by, or under the direct supervision of, a Texas licensed professional engineer. All construction plans and design information must be signed, sealed, and dated by the Texas licensed professional engineer.

(vii) The technical report must include a plan for the inspection of the permanent BMPs and measures and for their timely inspection, maintenance, repair, and, if necessary, retrofit. The plan must be prepared and certified by the engineer designing the permanent BMPs and measures. The plan must be signed by the owner or responsible party. (viii) Pilot-scale field testing (including water quality monitoring) may be required for BMPs that are not contained in technical guidance recognized by, or prepared by, the executive director.

(I) When pilot-scale field testing of an innovative technology (including water quality monitoring) is required, only one pilot site will be approved.

(II) No additional approvals will be granted until the pilot study is complete and the applicant demonstrates adequate protection of the Edwards Aquifer.

(III) If the innovative technology demonstrates adequate protection of the Edwards Aquifer, additional units may be approved for use as permanent pollution abatement measures on the Edwards Aquifer recharge zone.

(IV) If the innovative technology demonstrates inadequate protection of the Edwards Aquifer, a retrofit of the pollution abatement measure may be required to achieve compliance with requirements under subparagraph (D) of this paragraph and no additional units will be approved for use on the Edwards Aquifer recharge zone.

(D) Requirements for BMPs and measures.

(i) Temporary BMPs.

(I) The technical report must include a description of interim and permanent stabilization practices for the site, including a schedule of when the practices will be implemented. Stabilization practices may include, but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures.

(-a-) The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.

(-b-) Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary

stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

(II) The technical report must include a description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable. Structural practices may include, but are not limited to: silt fences, earth dikes, drainage swales, sediment traps, checks dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and sediment basins. Placement of structural practices in floodplains should be avoided to the degree attainable.

(-a-) For common drainage locations that serve an area with ten or more acres disturbed at one time, a sediment basin that provides storage for a calculated volume of runoff from a two-year, 24-hour storm from each disturbed acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. Where no such calculation has been performed, a sediment basin providing 3,600 cubic feet of storage per acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. When computing the number of acres draining into a common location it is not necessary to include flows from off-site areas and flows from on-site areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin.

(-b-) In determining whether installing a sediment basin is attainable, the applicant may consider factors such as site soils, slope, and available area on site. For drainage locations which serve ten or more disturbed acres at one time and where a sediment basin or equivalent controls is not attainable, smaller sediment basins and/or sediment traps should be used. Where neither the sediment basin nor equivalent controls are attainable due to site limitations, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area and for those side slope boundaries deemed appropriate as dictated by individual site conditions. The executive director encourages the use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal.

(-c-) For drainage locations serving less than ten acres, smaller sediment basins and/or sediment traps should be used. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction area unless a sediment basin providing storage for a calculated volume of runoff from a two-year, 24- hour storm or 3,600 cubic feet of storage per acre drained is provided. The executive director encourages the use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal.

(ii) Permanent BMPs and measures.

(I) BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction. These practices and measures must be designed, constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids from the site caused by the regulated activity is removed. These quantities must be calculated in accordance with technical guidance prepared or accepted by the executive director.

(II) Owners of permanent BMPs and measures must insure that the BMPs and measures are constructed and function as designed. A Texas licensed professional engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

(III) Where a site is used for low density single-family residential development and has 20% or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by §213.4(g) of this title, may no longer apply and the property owner must notify the appropriate regional office of these changes.

(IV) The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by §213.4(g) of this title, may no longer apply and the property owner must notify the appropriate regional office of these changes.

(E) The technical report must describe measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development. The measures should address the following:

(i) increased stream flashing;

(ii) the creation of stronger flows and in-stream velocities; or

(iii) other in-stream effects caused by the regulated activity which increase erosion that results in water quality degradation.

(F) The technical report must describe the method of wastewater disposal from the site.

(i) If wastewater is to be disposed of by conveyance to a sewage treatment plant for treatment and disposal, the existing or proposed treatment facility must be identified.

(ii) If wastewater is to be disposed of by an on-site sewage facility, the application must include a written statement from the appropriate authorized agent, stating that the site is suitable for the use of private sewage facilities and will meet the special requirements for on-site sewage facilities located on the Edwards Aquifer recharge zone as specified under Chapter 285 of this title (relating to On-Site Sewage Facilities), or identifying those areas that are not suitable.

(G) The technical report must describe the measures that will be used to contain any spill of hydrocarbons or hazardous substances such as on a roadway or from a pipeline or from temporary aboveground storage of 250 gallons or more.

(i) Temporary storage facilities are those used on site for less than one year.

(ii) Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

(5) Responsibility for maintenance of permanent BMPs and measures after construction is complete.

(A) The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another

entity assumes such obligations in writing or ownership is transferred.

(B) A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer.

(C) This paragraph applies to:

(i) multiple single-family residential developments, multi-family residential; and

(ii) non-residential developments such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

(c) Organized sewage collection systems.

(1) No person may commence rehabilitation or construction related to an existing or new organized sewage collection system on the recharge zone, until final design plans, specifications, and an engineering report, as specified in Chapter 317 of this title (relating to Design Criteria for Sewerage Systems) and appropriate special requirements of this section, have been filed with and approved by the executive director.

(2) General design of sewage collection systems. Design of new sewage collection systems on the recharge zone must comply with Chapter 317 of this title.

(3) Special requirements for sewage collection systems. In addition to the requirements in paragraph (2) of this subsection, sewage collection systems on the recharge zone must meet the following special requirements.

(A) Manhole rehabilitation or construction. All manholes rehabilitated or constructed after March 21, 1990, must be watertight, with watertight rings and covers and must be constructed and tested to meet the requirements of §317.2(c)(5)(H) of this title (relating to Sewage Collection System).

(B) Piping for gravity and pressurized collection systems. Compliance with the following is required, unless local regulations dictate more stringent standards:

(i) for gravity collection systems, all PVC pipe must have a Standard Dimension Ratio (SDR) of 35 or less and meet the requirements of §317.2(a) - (c)(4) of this title; and

(ii) for all pressurized sewer systems, all PVC pipe must have a minimum working pressure rating of 150 pounds per square inch and meet the requirements of §317.2(d)(2) - (4) and §317.3(d)(5) - (7) of this title (relating to Sewage Collection System and Lift Stations).

(C) Lift station design. Lift stations must be designed and constructed to ensure that bypassing of any sewage does not occur. All lift stations must be designed to meet the requirements of §317.2(d) and §317.3 of this title. A lift station application must include final construction plans and a design report prepared by or under the direct supervision of a Texas licensed professional engineer. All design information must be signed, sealed, and dated by a Texas licensed professional engineer.

(D) Certification of new sewage collection system lines by a Texas licensed professional engineer. Owners of sewage collection systems must insure that all new gravity sewer system lines having a diameter greater than or equal to six inches and all new force mains are tested for leakage following construction. Such lines must be certified by a Texas licensed professional engineer to meet the appropriate requirements of §317.2 of this title. The engineer must retain copies of all test results which must be made available to the executive director upon request. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Following the completion of the new sewer lines and manholes, they must be tested every five years thereafter in accordance with subparagraph (E) of this paragraph.

(E) Testing of existing sewer lines. Owners of sewage collection systems must insure that all

existing sewer lines having a diameter greater than or equal to six inches, including private service laterals, manholes, and connections, are tested to determine types and locations of structural damage and defects such as offsets, open joints, or cracked or crushed lines that would allow exfiltration to occur. Existing manholes and lift station wet wells must be tested using methods for new structures which are approved by the executive director.

(i) Testing of all sewage collection systems must be conducted every five years after being put into use. Any sewage collection system in place as of March 21, 1990 must have commenced and completed the first round of five-year testing. Every five years, existing sewage collection systems must be tested to determine types and locations of structural damage and defects such as offsets, open joints, or cracked or crushed lines that would allow exfiltration to occur. These test results must be certified by a Texas licensed professional engineer. The test results must be retained by the plan holder for five years and made available to the executive director upon request. The use of one of the following methods will satisfy the requirements for the five-year testing of existing sewer lines.

(I) In-place deflection testing must meet the requirements of §317.2(a)(4)(C) of this title. No pipe shall exceed a deflection rate of 5.0%.

(II) Internal line inspections, using a color television camera to verify that the lines are free of structural damage such as offsets, open joints, or cracked or crushed lines, that would allow exfiltration to occur, are acceptable. The use of black and white television equipment may be used following demonstration to the executive director that an acceptable inspection can be performed as provided in subclause (IV) of this clause.

(III) In-line smoke testing is acceptable only for the testing of private service laterals.

(IV) Testing methods other than those listed in this subsection must be approved by the executive director prior to initiating the sewer line testing.

(ii) Except as otherwise provided in an enforcement order of the commission, as soon as possible, but at least within one year of detecting defects, repairs to the sewage collection system must be completed by the system's owner. However, all leakage must be immediately contained to prevent any discharge to water in the state or pollution of the Edwards Aquifer whether necessary repairs have been completed or not. Leakage is a violation of Texas Water Code, §26.121 and these rules are not intended to excuse such unlawful discharge of waste into or adjacent to water in the state. All repairs must be certified by a Texas licensed professional engineer. Repairs must be tested within 45 days of completion using the methods described in clause (i) of this subparagraph. Results must be submitted to the appropriate regional office within 30 days of testing.

(F) Blasting for sewer line excavation. Blasting for sewer line excavation must be done in accordance with appropriate criteria established by the National Fire Protection Association. Should such blasting result in damage to an existing or newly completed sewer line or any of its appurtenances, the owner of the sewer system and appurtenances must repair and retest the damaged sewer line and its appurtenances immediately. The use of sand for pipe embedment or backfill in blasted rock is prohibited.

(G) Sewer line stub outs. New collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the proposed extensions. All stub outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a

manufactured saddle in accordance with accepted plumbing techniques.

(i) Main line stub outs. Manholes must be placed at the end of all sewer lines that will be extended at a future date, as specified in §317.2(c)(5) of this title. If the main line is to be extended within one year, a variance to allow the use of a stub out until the line is extended will be considered on a case-by-case basis. At the time of original construction, new stub outs must be constructed sufficiently to extend beyond the end of the street pavement. Stub outs that were not anticipated at the time of original construction must enter the manhole using a bored or drilled hole. Chiseling or hammering to enter a manhole is prohibited.

(ii) Private service lateral stub outs. Such stub outs must be manufactured using wyes or tees that are compatible in size and material with both the sewer line and the extension. Private service lateral stub outs that were not anticipated at the time of original construction must be connected using a manufactured saddle in accordance with accepted plumbing techniques.

(H) Locating sewer lines within a five-year floodplain. Sewer lines may not be located within the five-year floodplain of a drainageway, unless an exemption is granted by the executive director. If the applicant demonstrates to the executive director that such location is unavoidable, and the area is subject to inundation and stream velocities which could cause erosion and scouring of backfill, the trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete must have a minimum thickness of six inches.

(I) Inspection of private service lateral connections. After installing and prior to covering and connecting a private service lateral to an organized sewage collection system, a Texas licensed professional engineer, Texas registered sanitarian, or appropriate city inspector must inspect the private service lateral and the connection to the collection system and certify that construction conforms with the applicable provisions of this subsection and local plumbing codes. Private service laterals may only be connected to approved sewage collection systems.

(J) Embedment materials. Embedment materials must meet the specification for bedding contained in §317.2(a)(5) of this title.

(K) Sewer lines bridging caverns or other sensitive features. Sewer lines that bridge caverns or sensitive features must be constructed in a manner that will maintain the structural integrity of the line. When such geologic features are encountered during construction, the location and extent of those features must be assessed by a geologist and must be reported to the appropriate regional office in writing within two working days of discovery. Notification and inspection must comply with the requirements under subsection (f) of this section.

(L) Erosion and sedimentation control. A temporary erosion and sedimentation control plan must be included with all construction plans. All temporary erosion and sedimentation controls must be installed prior to construction, must be maintained during construction, and must be removed when sufficient vegetation is established to control the erosion and sedimentation and the construction area is stabilized.

(M) Alternative sewage collection systems. The executive director may approve an alternative procedure which is technically justified; signed, sealed, and dated by a Texas licensed professional engineer indicating equivalent environmental protection; and which complies with the requirements of §317.2(d) of this title.

(N) Required corrective action. Notwithstanding compliance with the requirements of subparagraphs (A) - (M) of this paragraph, sewage collection systems must operate in a manner that will not cause pollution of the Edwards Aquifer. Any failure must be corrected in a manner satisfactory to the executive director.

(4) Contents of organized sewage collection system plan.

(A) Application. For organized sewage collection systems, the information required under §213.4 of this title must be filed with the executive director at the appropriate regional office.

(B) Narrative description of proposed organized sewage collection system. A narrative report must include, at a minimum, a geographic description and anticipated type of development within the sewage collection system service area.

(C) Geologic assessment. A geologic assessment, as described in subsection (b)(3) of this section, must be performed by a geologist along the path of the proposed sewer line(s), plus 50 feet on each side of the proposed sewer line(s). The geologic assessment report must be signed, sealed, and dated by the geologist preparing the report.

(D) Technical report. For an organized sewage collection system, a technical report must be submitted on forms provided by, or approved by, the executive director. The technical report must contain the information requested in the following subsections of this section: (b)(4)(A)(ii) and (iv), (B), (D)(i), (F)(i), and (G). A technical report for a water pollution abatement plan submitted under subsection (b) of this section satisfies this requirement, provided it properly addresses the proposed sewage collection system.

(E) Plans and specifications. Plans and specifications addressing all the requirements in paragraphs (2) and (3) of this subsection, must include at a minimum:

(i) a map showing the location of the organized sewage collection system layout in relation to recharge zone boundaries;

(ii) a map showing the location of the organized sewage collection system layout overlaid by topographic contour lines, using a contour interval of not greater than ten feet, and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way;

(iii) construction documents prepared by, or under the supervision of, a Texas licensed professional engineer, which have also been signed, sealed, and dated by that Texas licensed professional engineer, at a minimum, must include:

(I) plan and profile views of the collection system;

(II) construction details of collection system components;

(III) specifications for all collection system components; and

(IV) proposed pollution abatement measures for sensitive features identified along the path of the proposed sewer line.

(d) Static hydrocarbon and hazardous substance storage in underground storage tanks system.

(1) Standards for underground storage tank systems. New or replacement systems for the underground storage of static hydrocarbons or hazardous substances must be of double-walled or an equivalent method approved by the executive director. Methods for detecting leaks in the inside wall of a double-walled system must be included in the facility's design and construction. The leak detection system must provide continuous monitoring of the system and must be capable of immediately alerting the system's owner of possible leakages.

(A) Installation. All underground hydrocarbon and hazardous substance storage tank systems must be installed by a person possessing a valid certificate of registration in accordance with the requirements of Chapter 334, Subchapter I of this title (relating to Underground Storage Tank On-Site Supervisor Licensing and Contractor Registration).

(B) Siting. Any new underground hydrocarbon and hazardous substance storage tank system that does not incorporate a method for tertiary containment must be located a minimum horizontal distance of 150 feet from any domestic, industrial, or irrigation well, or other sensitive feature as determined under the geologic assessment at the time of construction or replacement

under paragraph (2)(C) of this subsection or the tankhold inspection under subsection (f)(2)(B) of this section. This method of tertiary containment also applies to the placement of a tank system within 150 feet of a public water supply well without a sanitary control easement of 150 feet as defined in §290.41(c)(1)(F) of this title (relating to Water Sources).

(2) Contents of an underground storage tank facility plan. An underground storage tank facility plan must, at a minimum, contain the following information.

(A) Application. The information required under §213.4 of this title must be filed with the executive director at the appropriate regional office.

(B) Site location map. A site location map as specified in subsection (b)(2) of this section including a legible road map, a general location map, and a site plan, must be submitted as part of the plan.

(C) Geologic assessment. For all facilities located on either the recharge zone or transition zone, a geologic assessment prepared by a geologist, as described in subsection (b)(3) of this section, must be submitted for the site. The geologic assessment report must be signed, sealed, and dated by the geologist preparing the report.

(D) Technical report. For all facilities, located on either the recharge zone or transition zone, a technical report must be submitted on forms provided by, or approved by, the executive director. The technical report must contain the information requested in subsection (b)(4)(B) and (C) and (5) of this section. A technical report for a water pollution abatement plan submitted under subsection (b) of this section satisfies this requirement, provided it properly addresses the proposed underground storage tank facility.

(e) Static hydrocarbon and hazardous substance storage in an aboveground storage tank facility.

(1) Design standards. Systems used for the temporary and permanent aboveground storage of static hydrocarbon and hazardous substance must be constructed within controlled drainage areas that are sized to capture one and one-half (1-1/2) times the storage capacity of the system. The controlled drainage area must be constructed of, and in a material impervious to, the substance(s) being stored, and must direct spills to a convenient point for collections and recovery. Any spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

(2) Contents of an aboveground storage tank facility plan. A permanent aboveground storage tank facility plan must contain, at a minimum, the following information.

(A) Application. For an aboveground storage tank facility, the information required under §213.4 of this title must be filed with the executive director at the appropriate regional office.

(B) Site location map. A site location map as specified in subsection (b)(2) of this section, including a legible road map, a general location map, and a site plan, must be submitted as part of the plan for a permanent facility.

(C) Geologic assessment. For all facilities located on either the recharge zone or transition zone, a geologic assessment prepared by a geologist, as described in subsection (b)(3) of this section, must be submitted for the area containing the aboveground storage tank system. The geologic assessment report must be signed, sealed, and dated by the geologist preparing the report.

(D) Technical report. For all facilities located on either the recharge zone or transition zone, a technical report must be submitted on forms provided by, or approved by, the executive director. The technical report must contain the information requested in subsection (b)(4)(B) and (C) and (5) of this section. A technical report for a water pollution abatement plan submitted under subsection (b) of this section satisfies this requirement, provided it properly addresses the

proposed aboveground storage tank facility.

(3) A description of measures that will be used to contain any spill of hydrocarbons or hazardous substances from temporary storage of 250 gallons or more must be included with the plan unless described under subsection (b)(4)(G) of this section. Any new temporary aboveground hydrocarbon and hazardous substance storage tank system must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

(4) Exemptions from this section.

(A) Equipment used to transmit electricity that utilizes oil for insulation or cooling purposes, including transformers and oil circuit breakers, are exempt from this subsection. Construction of supporting structures is a regulated activity for which a water pollution abatement plan under subsection (a)(1) of this section is required.

(B) Permanent storage facilities with a cumulative storage capacity of less than 500 gallons are exempt from this section.

(f) Notification and inspection.

(1) The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation. Notification must be given to the appropriate regional office no later than 48 hours prior to commencement of the regulated activity.

(A) Written notification must include:

(i) the date on which the regulated activity will commence;

(ii) the name of the approved plan for the regulated activity; and

(iii) the name of the prime contractor and the name and telephone number of the contact person.

(B) The executive director will use the notification to determine if the applicant is eligible for an extension of an approved plan. Construction will not be considered to have commenced until written notification is received by the appropriate regional office.

(2) If any sensitive feature is discovered during construction, replacement, or rehabilitation, all regulated activities near the sensitive feature must be suspended immediately.

(A) The holder of an approved Edwards Aquifer protection plan must immediately notify the appropriate regional office of any sensitive features encountered during construction. This notice must be given before continuing construction.

(B) Regulated activities near the sensitive feature may not proceed until the executive director has reviewed a geologic assessment report prepared by a geologist that consists of information required under subsection (b)(3)(C) and (D) of this section for the sensitive feature and has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality. The geologic assessment report must be signed, sealed, and dated by the geologist preparing the report.

(C) The holder of an approved sewage collection system plan, must meet the following.

(i) Upon completion of any lift station excavation, a geologist must certify that the excavation has been inspected for the presence of sensitive features. The certification must be signed, sealed, and dated by the geologist preparing the certification. Certification that the excavation has been inspected must be submitted to the appropriate regional office.

(I) Further activities may not proceed until the executive director has reviewed and approved the methods proposed to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality from the lift station.

(II) Construction may continue if the geologist certifies that no sensitive feature or features

were present.

(ii) The applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The plan must be certified by a Texas licensed professional engineer. These plans must be submitted to the appropriate regional office for review and approval.

(D) For an approved underground storage tank facility plan, a geologist must certify that a completed tankhold excavation has been inspected for the presence of sensitive features. The certification must be signed, sealed, and dated by the geologist preparing the certification.

(i) Certification that the tankhold excavation has been inspected must be submitted to the appropriate regional office.

(ii) If a sensitive feature is discovered, the applicant must propose methods to protect the feature and the Edwards Aquifer from potentially adverse impacts to water quality from the underground storage tank system. Installation activities may not proceed until the executive director has reviewed and approved the proposed methods. The protection methods must be consistent with subsection (d)(1)(B) of this section.

(iii) Construction may continue if the geologist certifies that no sensitive feature or features were present.

(3) The executive director must review methods or plans proposed to protect sensitive features and the Edwards Aquifer from potentially adverse impacts to water quality. This review will be completed within one week of receiving a method or plan. Regulated activities near the sensitive feature may not continue until the executive director has approved the proposed methods or plans.

(g) On-site sewerage systems. On-site sewerage systems located on the recharge zone are subject to §285.40 of this title (relating to OSSFs on the Recharge Zone of the Edwards Aquifer) and other applicable provisions contained in Chapter 285 of this title. Systems must be designed, installed, maintained, repaired, and replaced in accordance with Chapter 285 of this title.

(h) Exemption.

(1) Regulated activities exempt from the Edwards Aquifer protection plan application requirements under this section are:

(A) the installation of natural gas lines;

(B) the installation of telephone lines;

(C) the installation of electric lines;

(D) the installation of water lines;

(E) the installation of other utility lines which are not designed to carry and will not carry the following:

(i) pollutants;

(ii) stormwater runoff;

(iii) sewage effluent; or

(iv) treated effluent from a wastewater treatment facility.

(2) An individual land owner who seeks to construct his/her own single-family residence or associated residential structures on the site is exempt from the Edwards Aquifer protection plan application requirements under this section, provided that he/she does not exceed 20% impervious cover on the site.

(3) Temporary erosion and sedimentation controls are required to be installed and maintained for exempted activities on the recharge zone.

(4) All temporary erosion and sedimentation controls:

(A) must meet the requirements contained in subsection (b)(4)(D)(i) of this section;
(B) must be installed prior to construction;
(C) must be maintained during construction; and
(D) may be removed only when vegetation is established and the construction area is stabilized.

(5) The executive director may monitor stormwater discharges from these projects to evaluate the adequacy of the temporary erosion and sedimentation control measures. Additional protection will be required if the executive director determines that these controls are inadequate to protect water quality.

APPENDIX B

Best Management Practice Tables

I. PUBLIC EDUCATION, OUTREACH AND INVOLVEMENT

BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
1	Construct Stormwater Management Page on City Website	SWMP Administrator Communications Public Works	III.A.1. Public Education (a)(1) Residents (a)(2) Visitors (a)(3) Public Service Employees (a)(4) Businesses (a)(5) Commercial/Industrial (a)(6) Construction Site Personnel (b) Documentation III.A.2. Public Involvement/Participation	-Plan webpage addition -Implement Public Contact portion of webpage -Include downloadable forms for MS4 if applicable			Update/Maintain Webpage As Needed	
2	Stormwater Outreach	SWMP Administrator Communications Public Works	III.A.1. Public Education (a)(1) Residents (a)(2) Visitors (a)(3) Public Service Employees (a)(4) Businesses (a)(5) Commercial/Industrial (b) Documentation	-Begin researching content of outreach materials. -Research existing materials provided by TCEQ, NCTCOG, or other cities to see if they can be adopted. -Research budget requirements for printing and distribution of outreach materials.				Produce and distribute materials to the public and through utility bill if funding allows.
3	Utility Bill Insert	SWMP Administrator Communications Public Works Utility Billing	III.A.1. Public Education (a)(1) Residents (a)(2) Visitors (a)(3) Public Service Employees (a)(4) Businesses (a)(5) Commercial/Industrial (b) Documentation	-Develop outline of information to be communicated over a 5 year period. -Identify budget requirements for physical inserts and weigh against Utility Bill public messages.			-Distribute educational information through the Utility Bill at least once per year. -If budget allows, utilize insert, otherwise utilize Public Message Box on bill.	

I. PUBLIC EDUCATION, OUTREACH AND INVOLVEMENT

BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
4	Storm Drain Stenciling or Markers	SWMP Administrator Public Works Planning	III.A.1. Public Education (a)(1) Residents (a)(2) Visitors (a)(3) Public Service Employees (a)(4) Businesses (a)(5) Commercial/Industrial (a)(6) Construction Site Personnel (b) Documentation III.A.2. Public Involvement/Participation III.A.3. Illicit Discharge Detection and Elimination (a) Illicit Discharges	-Develop schedule to inventory and mark storm drain inlets in the City over the permit term. -Identify budget requirements to acquire drain markers, as well as recruit and coordinate volunteers. -Amend or append city ordinances to require all new construction to stencil storm water inlets as a part of site development. Require builders to utilize the same markers adopted by the City for use.			Track location of placed storm drain markers and use of volunteer efforts.	
5	General Education of City Employees	SWMP Administrator Human Resources Public Works Engineering Building	III.A.1. Public Education (a)(3) Public Service Employees (b) Documentation III.A.3. Illicit Discharge Detection and Elimination (a)(1) detection (a)(2) elimination	-Encourage staff participation in the Capital Area Erosion Control Network, or equivalent, in order to develop staff in localized Best Management Practices, and create a network for staff to reach out to for support. -Develop general training courses to educate city employees on Storm Water Management. -Determine Budget requirements for training.			-Encourage staff participation in the Capital Area Erosion Control Network, or equivalent, in order to develop staff in localized Best Management Practices, and create a network for staff to reach out to for support. -Provide general training courses to educate city employees on Storm Water Management as the budget allows.	
6	General Education of Elected and Appointed Officials	SWMP Administrator Public Works	III.A.1. Public Education (a)(3) Public Service Employees (b) Documentation III.A.2. Public Involvement/Participation	-Provide overview of Phase II MS4 permit requirements and annual updates of implementation progress. -Conduct a minimum of one public meeting per year.			-Provide overview of Phase II MS4 permit requirements and annual updates of implementation progress. -Conduct a minimum of one public meeting per year.	

I. PUBLIC EDUCATION, OUTREACH AND INVOLVEMENT

BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
7	City Inspector/Public Works Inspector Education and Training	SWMP Administrator Public Works Engineering Building	III.A.1. Public Education (a)(3) Public Service Employees (b) Documentation III.A.4. Construction Site Storm Water Runoff Control (c)(3) site inspection and enforcement of control measures III.A.6. Pollution Prevention/Good Housekeeping for Municipal Operations (a)(5) new construction and land disturbances (b) training	-Develop education and training program for site inspections. -Track and document training courses of individual inspectors. -Identify budget requirements for the inspector training program. -Distribute educational information through the Utility Bill at least once per year. information through the Utility Bill at least once per year. -If budget allows, utilize insert, otherwise utilize Public Message Box on bill. -Provide appropriate construction site erosion control training to inspection personnel as needed. -Provide appropriate training for new City inspectors prior to them conducting unassisted construction site erosion control inspections.			-Provide appropriate construction site erosion control training to inspection personnel at least once every three years. -Provide appropriate training for new City inspectors prior to them conducting unassisted construction site erosion control inspections.	
8	Developer/Builder/ Engineer Education and Training	SWMP Administrator Public Works Engineering	III.A.1. Public Education (a)(6) Construction Site Personnel (b) Documentation III.A.4. Construction Site Storm Water Runoff Control (b) construction site requirements III.A.5. Post-Construction Storm Water Management in New and Redevelopment (a) structural and non-structural BMPs (b) long-term BMP maintenance	-Research storm water programs that include developers, builders and engineers to begin developing cooperative education and training for the professionals that work on projects in the City. -Develop cooperative education and training for the professionals that work on projects in the City. -Make construction site erosion control educational material and/or training opportunities available for builders, developers, and engineers that are active in the City.			Make construction site erosion control educational material and/or training opportunities available for builders, developers, and engineers that are active in the City.	
9	Classroom Outreach	SWMP Administrator Public Works	III.A.1. Public Education (a)(1) Residents (b) Documentation III.A.2. Public Involvement/Participation	-Coordinate with the School District to determine feasibility of providing storm water education materials and or lectures. -Identify budget requirements and resource and needs. -Provide storm water education materials and or lectures as determined by coordination meetings with the School District and budgeting may allow.			Provide storm water education materials and or lectures as determined by coordination meetings with the School District and budgeting may allow.	

I. PUBLIC EDUCATION, OUTREACH AND INVOLVEMENT - Cont

BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
10	Comply with State and Local Public Notice Requirements	SWMP Administrator City Secretary	III.A.2. Public Involvement/ Participation	Provide required notice of all public meetings and adoption of new or modified ordinances as part of the planning and implementation of the SWMP.			Provide required notice of all public meetings as required.	
11	Public Meetings	SWMP Administrator Public Works	III.A.2. Public Involvement/ Participation	Hold at least one Public Meeting to seek input on SWMP and BMP's.				
12	Storm Water "Hotline"	SWMP Administrator Communications	III.A.2. Public Involvement/ Participation III.A.3. Illicit Discharge Detection and Elimination (a)(1) Detection III.A.4. Construction Site Storm Water Runoff Control (c)(2) public information submittals	-Develop plan for storm water hotline program through Public Works Department. Consider online submission form to serve as "hotline" in lieu of dedicated 24/7 phone line. -Identify procedures for receiving calls, routing calls to appropriate personnel for proper response, and documenting subject of call for future analysis. -Identify budget requirements for storm water hotline. -Document each report and dispatch to appropriate department for proper response, as necessary. -Conduct annual review of reported violations to identify trends (i.e., repeated reports of illegal dumping in certain areas of the City), general needs for hotline improvement, and areas requiring additional educational or enforcement effort to protect storm water quality.				-Establish the storm water hotline and educate the public about its availability through various Public Education BMPs. -Document each report and dispatch to appropriate department for proper response, as necessary. -Conduct annual review of reported violations to identify trends (i.e., repeated reports of illegal dumping in certain areas of the City), general needs for hotline improvement, and areas requiring additional educational or enforcement effort to protect storm water quality.

I. PUBLIC EDUCATION, OUTREACH AND INVOLVEMENT - Cont

BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
13	Bulk Waste Cleanup Education	SWMP Administrator Communications	III.A.2. Public Involvement/Participation III.A.3. Illicit Discharge Detection and Elimination (a)(2) Elimination	-Continue Bulk Pickup through contracted waste disposal service. -Communicate to the public annually about the ability to use one curbside bulk pick up per calendar year for free. -If budget allows, deliver one roll off dumpster per year in strategic areas identified by staff to allow targeted bulk cleanup.			-Continue Bulk Pick up through contracted waste disposal service. -Communicate to the public annually about the ability to use one curbside bulk pick up per calendar year for free.	
14	Household Hazardous Waste Collection	SWMP Administrator Communications Commuications	III.A.2. Public Involvement/ Participation III.A.3. Illicit Discharge Detection and Elimination (a)(2) Elimination	-Continue support of County Household Hazardous Material Collection Site. -Advertise collection site and location on City website and in newsletters. -Focus on two public education events per year to raise awareness of program.				
15	Park Cleanup	SWMP Administrator Communications Parks	III.A.2. Public Involvement/ Participation III.A.3. Illicit Discharge Detection and Elimination (a)(2) Elimination	-Evaluate existing program by identifying number of actual Park Cleanup locations and the number of potential Park Cleanup locations. -Conduct cleaning once per year for selected parks.			Conduct cleaning once per year for selected parks.	
16	Plum Creek Cleanup	SWMP Administrator Communications Parks	III.A.2. Public Involvement/ Participation III.A.3. Illicit Discharge Detection and Elimination (a)(2) Elimination	-Continue Plum Creek Clean Up annually, in partnership with the Plum Creek Watershed Protection Group and GBRA.				

I. PUBLIC EDUCATION, OUTREACH AND INVOLVEMENT - Cont

BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
17	Pet Waste	SWMP Administrator Communications Parks	III.A.1. Public Education (a)(1) Residents (a)(2) Visitors (b) Documentation III.A.2. Public Involvement/ Participation	-Develop pet waste management and education program. -Develop education materials to be included in storm water education material delivered to schools. -Develop budget for installation of additional pet waste stations in parks and public places. -Install additional pet waste stations as needed.			-Continue the pet waste management education program. -Continue distribution of educational materials to schools and new residents. -Install additional pet waste stations as needed.	

II. ILLICIT DISCHARGE DETECTION AND ELIMINATION

BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
18	Create Storm Water System Map	SWMP Administrator Communications Planning/GIS Public Works	III.A.3. Illicit Discharge Detection and Elimination (d) storm sewer map	-Collect existing mapping information for the storm sewer system. -Develop plan and budget requirements for effort necessary to identify regulated storm water outfalls and drainage areas or system features.			Continue developing map of storm water outfall drainage areas or system features for the City.	
19	Illicit Discharge Ordinance	SWMP Administrator Public Works Engineering	III.A.3. Illicit Discharge Detection and Elimination (a) illicit discharges (b) non-storm water discharges	-Draft revised/new illicit discharge prohibition ordinance, if necessary, for public review and comment. -Solicit input from the public for the draft ordinance. -Issue final illicit discharge prohibition ordinance. -Conduct education activities to inform the public about the new ordinance requirements. -Begin education-focused enforcement of ordinance.				Begin penalty-based enforcement of illicit discharge ordinance.
20	Illicit Discharge Inspections	SWMP Administrator Public Works	III.A.3. Illicit Discharge Detection and Elimination (a) illicit discharges (b) non-storm water discharges	-Develop plan to inspect the storm sewer system for illicit connections, illegal dumping, and dry weather discharges. -Identify inspection staff, inspection schedule, and training procedures. -Begin training personnel in illicit discharge detection procedures. -Establish procedure to eliminate detected illicit discharges. -Identify budget requirements for illicit discharge inspections.			-Continue to train personnel in illicit discharge detection procedures. -Conduct illicit discharge inspections for the City's regulated outfalls, as specified in the illicit discharge inspection plan.	
21	Sanitary Sewer Line Maintenance and Inspection	SWMP Administrator Public Works	III.A.3. Illicit Discharge Detection and Elimination (a) illicit discharges (b) non-storm water discharges	-Evaluate and identify a plan to conduct sanitary sewer inspections. -Identify budget requirements for sanitary sewer inspections. -Begin implementation of sanitary sewer inspection procedures. -Enter into the TCEQ SSOI to reduce SSOs			-Conduct sanitary sewer system inspections in accordance with the sanitary sewer inspection plan. -Maintain compliance with SSOI	

III. CONSTRUCTION SITE STORM WATER CONTROLS

BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
22	Construction Site Storm Water Runoff and Erosion Control Ordinance	SWMP Administrator Public Works Engineering Building	III.A.4. Construction Site Storm Water Runoff Control (a) ordinance (b) contractor requirements	-Evaluate the City's existing ordinances to identify adequacy of erosion control requirements and enforcement mechanisms in meeting the MS4 permit requirements. -Consider BMPs for regional detention ponds that includes "first flush" channelization for all detention ponds that serve more than one parcel, or five acres. -Consider Low Impact Design criteria in controlling ordinances. -Consider biodegradable mulch tubes for areas adjacent to or draining to waterways, or located within environmentally sensitive areas. -Develop draft ordinance to meet permit conditions. -Provide draft to City Council and the community for review and input.			-Issue final ordinance. -Conduct education activities to inform the public about the new ordinance requirements. -Begin education-focused enforcement of ordinance.	Begin penalty-based enforcement of illicit discharge ordinance.
23	Review/Implement Site Plan Review Procedures	SWMP Administrator Engineering	III.A.4. Construction Site Storm Water Runoff Control (c)(1) site plan review	-Evaluate existing plan review procedures for compliance with permit requirements. -Review for inclusion of Low Impact Design criteria in Site Plans. -Identify any necessary modifications to the procedures needed to achieve compliance with the permit conditions. -Revise plan review procedures, if necessary, to include adequate consideration of potential storm water quality impacts. -Educate the public about new plan review procedures.			Begin/continue to conduct plan reviews.	

III. CONSTRUCTION SITE STORM WATER CONTROLS								
BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
24	Review/Implement Construction Inspection Procedures	SWMP Administrator Engineering Public Works	III.A.4. Construction Site Storm Water Runoff Control (c)(3) site inspection and enforcement	-Evaluate existing site inspection procedures for compliance with permit requirements. -Identify any necessary modifications to the procedures needed to achieve compliance with the permit conditions. -Identify budget requirements for erosion control site inspections, documentation, and tracking. -Revise site inspection procedures, if necessary, to include documented inspection of erosion control measures. -Educate the public about new site inspection procedures.			Begin conducting erosion control site inspections.	Continue to conduct erosion control site inspections.

IV. POST CONSTRUCTION STORM WATER MANAGEMENT								
BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
25	Post Construction Storm Water Runoff Control Ordinance	SWMP Administrator Engineering	III.A.5. Post-Construction Storm Water Management (b) ordinance (c) long-term operation and maintenance of BMPs	-Include in storm water ordinance post construction requirements and make available for public review and input. -Implement the new ordinance requirements (if revised). -Conduct education activities to inform the public about the new ordinance requirements. -Begin education-focused enforcement of ordinance. -Issue final ordinance.				Begin penalty-based enforcement of new ordinance requirements.
26	Develop and Implement Post Construction Structural and Non-Structural BMPs	SWMP Administrator Engineering	III.A.5. Post-Construction Storm Water Management (a) appropriate use of structural/nonstructural BMPs (c) long-term operation and maintenance of BMPs	-Review post-construction structural and non-structural strategies for inclusion in stormwater control ordinance. -Include BMP's in control ordinance. -Continue to explore additional BMP's for consideration presented through professional development trainings or CAECN luncheons.			-Evaluate new BMP's for inclusion in storm water control ordinance. -Continue to explore additional BMP's for consideration presented through professional development trainings or CAECN luncheons.	
27	Stormwater Sampling	SWMP Administrator Public Works	III.A.5. Post-Construction Storm Water Management (a) appropriate use of structural/nonstructural BMPs (c) long-term operation and maintenance of BMPs	-Design a stormwater sampling plan using hand grabs and two automated water sampling stations. -Develop budget requirements for regular stormwater sampling and for operation of two automated sampling stations. -Implement stormwater sampling plan. -Determine feasibility to reactivate two automated sampling stations. -Track results of samples for trend information, management information, and determination of effectiveness of stormwater controls. -Budget for regular sampling as well as wet weather sampling.			-Continue stormwater sampling plan utilizing hand grabs and/or two automated sampling stations. -Track results of samples for trend information, management information, and determination of effectiveness of stormwater controls. -Budget for regular sampling as well as wet weather sampling.	
28	Land Use Plan	SWMP Administrator Planning	III.A.5. Post-Construction Storm Water Management (a) appropriate use of structural/nonstructural BMPs	-Evaluate the comprehensive plan with respect to water quality protection through acceptable land use. -Evaluate the current process of assessing proposed zoning changes with respect to the water quality protection goals of the land use plan. -Assess proposed zoning changes in relation to the City's existing land use plan with respect to water quality protection.				Continue the existing process of assessing proposed zoning changes in relation to the City's existing land use plan.

V. POLLUTION PREVENTION/GOOD HOUSEKEEPING

BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
29	Municipal Operations and Industrial Activity Operations and Maintenance Program	All Departments	III.A.6. Pollution Prevention/ Good Housekeeping (a)(1) park and open space maintenance (a)(2) street, road, or highway maintenance (a)(3) fleet and building maintenance (a)(4) storm water system maintenance (a)(5) new construction and land disturbances (a)(6) municipal parking lots (a)(7) vehicle and equipment maintenance and storage yards (a)(8) waste transfer stations (a)(9) salt/sand storage locations (b) training (e) municipal operations and industrial activities	-Develop a plan to evaluate municipal operations with the potential to impact storm water quality. -Identify the budget requirements to conduct assessments of the municipal operations. -Begin assessments of selected municipal operations and develop recommendations for BMPs. -Identify budget requirements to implement recommended modifications.			Begin implementation of the BMPs for facilities evaluated in prior years.	Continue the implementation of the BMPs identified through municipal operations assessments.
30	Develop and Implement Training Program for City Employees to Minimize Runoff Caused by Municipal Operations	SWMP Administrator Public Works Engineering Building Inspections Parks & Recreation	III.A.6. Pollution Prevention/ Good Housekeeping (b) training	-Identify municipal operations in which activities have the potential to impact storm water. -Identify effort and method necessary to properly train affected employees. -Develop budget requirements for employee training program. -Conduct BMP training for the municipal employees responsible for activities that may impact storm water			Conduct BMP training for the municipal employees responsible for activities that may impact storm water quality	

V. POLLUTION PREVENTION/GOOD HOUSEKEEPING

BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
31	Chemical Applications and Materials Management	SWMP Administrator Public Works Parks	III.A.6. Pollution Prevention/ Good Housekeeping (a)(1) park and open space maintenance (a)(2) street, road, or highway maintenance (a)(3) fleet and building maintenance (a)(4) storm water system maintenance (a)(5) new construction and land disturbances (a)(6) municipal parking lots (a)(7) vehicle and equipment maintenance and storage yards (a)(8) waste transfer stations (a)(9) salt/sand storage locations (b) training	-Evaluate the status of the city's chemical and materials management procedures. -Develop plan to identify chemicals and materials used in municipal activities and the location of the stored raw materials that may contribute to stormwater pollution. -Identify chemicals and materials used in municipal activities and the location of the stored chemicals and materials that may contribute to stormwater pollution. -Continue to provide and document refresher training for chemical applicators in accordance with industry guidelines. -Develop a chemical and materials management program to address the identified chemicals and materials that may contribute to storm water pollution.			-Begin implementation of chemical and materials management program, and evaluate effectiveness of current program. -Continue to provide and document refresher training for chemical applicators in accordance with industry guidelines.	Continue implementation of existing chemical and materials management program, and implement any changes based on prior year's evaluation. Continue to provide and document refresher training for chemical applicators in accordance with industry guidelines.
32	Storm Sewer System Maintenance	SWMP Administrator Public Works	III.A.6. Pollution Prevention/ Good Housekeeping (a)(4) storm water system maintenance	-Develop a schedule to conduct visual inspections of the City's storm sewer system and evaluate the need for maintenance. -Develop a system to monitor and track storm sewer maintenance activities. -Identify budget requirements to perform routine maintenance on the storm sewer system. -Implement the inspection schedule. -Clean system as needed in response to complaints or reported problems.			-Perform maintenance as necessary. -Clean system as needed in response to complaints or reported problems.	
33	Street Sweeping	SWMP Administrator Public Works	III.A.6. Pollution Prevention/ Good Housekeeping (a)(2) street, road, or highway maintenance (a)(6) municipal parking lots (d) disposal of waste	-Continue street sweeping program for City streets. -Develop schedule for street sweeping activities. Identify budget requirements for street sweeping program. -Evaluate the need for supplemental street sweeping efforts as funds are available.			-Continue street sweeping program for City streets. -Implement any supplemental street sweeping efforts identified in the evaluation.	

V. POLLUTION PREVENTION/GOOD HOUSEKEEPING

BMP ID	Best Management Practices	Responsible Department	Applicable Minimum Control Measure(s)	FY 2014-2015 Measureable Goals	FY 2015-2016 Measureable Goals	FY 2016-2017 Measureable Goals	FY 2017-2018 Measureable Goals	FY 2018-2019 Measureable Goals
34	Structural Control Maintenance	SWMP Administrator Public Works	III.A.6. Pollution Prevention/ Good Housekeeping (a)(4) storm water system maintenance (c) structural control maintenance	-Develop a plan for inspection and maintenance of City maintained structural controls. -Establish procedures to monitor private industry structural control maintenance (documentation records) and monitor public maintenance of structural controls through documented inspections. -Implement procedures to monitor private industry structural control maintenance (documentation records) and monitor public maintenance of structural controls through documented inspection. -Inspect private structural controls. -Inspect City-maintained structural controls. -Identify budget requirements to maintain City-maintained structural controls.			-Monitor private industry structural control maintenance (documentation records) and monitor public maintenance of structural controls through documented inspection. -Inspect and maintain City maintained structural controls.	
35	Spill Response	SWMP Administrator Public Works	III.A.6. Pollution Prevention/ Good Housekeeping (a) good housekeeping and BMPs (d) disposal of waste	-Develop spill response procedures and training to assist the Fire Department on spill responses. -Implement spill response procedures and training in assistance to the Fire Department.			Continue implementation of existing spill response procedures and training in assistance to the Fire Department.	
36	Disposal of Collected Storm Sewer System Waste	SWMP Administrator Public Works	III.A.6. Pollution Prevention/ Good Housekeeping (d) disposal of waste	-Develop budget requirements for waste handling and disposal. -Identify sources of waste requiring disposal as part of storm water management program activities. -Identify proper methods for handling and disposal of waste materials. -Develop a procedure to evaluate waste and properly dispose according to water quality protection goals.			Perform proper disposal of waste materials according to the developed procedures.	