

## **7.0 MCM5: POLLUTION PREVENTION AND GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS**

### **7.1 OVERVIEW**

Municipalities conduct a variety of activities throughout their daily operations, which have the potential to affect water quality throughout the community. With the adoption and implementation of stormwater management policies and procedures, the City of Sugar Land will protect stormwater quality and continue to deliver public services at the present service levels. A variety of municipal operations are affected by stormwater management policies and procedures. These municipal operations include, but are not limited to, parks maintenance, open space management, road and rights-of-way maintenance, water/wastewater utilities, fleet and building maintenance, and stormwater system maintenance.

### **7.2 FEDERAL REGULATORY REQUIREMENTS**

40 CFR 122.34 (b)(6) states that the MS4 operator must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, State, Tribe, or other organizations, the program must include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, and stormwater system maintenance.

### **7.3 TPDES PHASE II PERMIT REQUIREMENTS**

#### **7.3.1 Pollution Prevention/Good Housekeeping for Municipal Operations**

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

(a) Permittee-owned Facilities and Control Inventory

Permittees shall develop and maintain an inventory of facilities and stormwater controls that it owns and operates within the regulated area of the small MS4. The inventory must include all applicable permit numbers, registration numbers, and authorizations for each facility or controls.

(b) Training and Education

A training program must be developed for all employees responsible for municipal operations subject to the pollution prevention/good housekeeping program. All permittees shall maintain a training attendance list for inspection by TCEQ when requested.

(c) Disposal of Waste

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

(d) Contractor Requirements and Oversight

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

(e) Municipal Operations and Municipal Activities

- (1) The MS4 operator must evaluate the operation and maintenance (O&M) activities for their potential to discharge pollutants in stormwater from their own operations.
- (2) Identify pollutants of concern that could be discharged from above O&M activities.
- (3) Develop and implement a set of pollution prevention measures that will reduce the discharge of pollutants in stormwater from O&M activities.
- (4) Inspect pollution prevention measures. All pollution prevention measures implemented at permittee-owned facilities must be visually inspected to ensure they are working properly. The permittee shall develop written procedures that describes the frequency of inspections and how they will be conducted.

(f) Structural Control Maintenance

If BMPs include structural controls, maintenance of the controls must be performed at a frequency determined by the MS4 operator and consistent with maintaining the effectiveness of the BMP. The permittee shall develop written procedures that define the frequency of inspections and how they will be conducted.

**7.3.2 Additional Requirements for Level 4 small MS4s**

(a) Storm Sewer System Operation and Maintenance

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

- (2) Permittees who operate Level 4 small MS4s shall develop a list of potential problem areas. The permittees shall identify and prioritize problem areas for increased inspection.

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

Permittees who operate Level 4 Small MS4s shall implement an O&M program includes, if feasible and practicable, a street sweeping and cleaning program, or an equivalent BMP such as an inlet protection program, which will include an implementation schedule and waste disposal procedure.

- (1) If a sweeping program is implemented, the permittee shall sweep the areas in the program in accordance with a frequency and schedule determined in the permittee's O&M program.
- (2) For areas where street sweeping is technically infeasible, the permittee shall focus implementation of other trash and litter control procedures, or provide inlet protection measures to minimize pollutant discharges to storm drains and creeks.
- (3) 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.

(c) Mapping of Facilities

Permittees shall identify on a map of the regulated area under this permit, where the permittee-owned and operated facilities and stormwater controls are located.

(d) Facility Assessment

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

- (1) Assessment of Facilities Pollutant Discharge Potential. The permittee shall review the facilities identified once per permit term for their potential to discharge pollutants into stormwater.
- (2) Identification of high priority facilities. Based on the assessment, the permittee shall identify as high priority those facilities that have a higher potential to generate stormwater pollutants and shall document in a list of these facilities.
- (3) Documentation of Assessment Results. The permittee shall document the results of the assessments and maintain copies of all site evaluation checklists used to conduct the assessments.

(e) Development of Facility Specific SOPs

Permittees who operate Level 4 small MS4s shall develop facility specific stormwater management SOPs. For each high priority facility identified, 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. The SOP must be kept on site when possible and must be kept up to date.

(f) Stormwater Controls for High Priority Facilities

Permittees who operate Level 4 small MS4s shall implement the following stormwater controls at all high priority facilities identified:

- (1) Performing general good housekeeping;
- (2) Ensure to the MEP that runoff from de-icing and anti-icing material storage areas are not discharged in stormwater runoff;
- (3) Developing SOPs for fueling operations and vehicle maintenance to address spill prevention and spill controls at permittee-owned and operated facilities;
- (4) Developing SOPs that address equipment and vehicle washing activities at permittee-owned and operated facilities. Discharges of equipment and vehicle wash water to the small MS4 or directly to receiving waters from permittee-owned facilities is not authorized under the General Permit.

(g) Inspections

Permittees who operate Level 4 small MS4s shall develop and implement an inspection program, which at a minimum must include periodic inspections of high priority permittee-owned facilities.

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

- (1) 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.
- (2) The permittee shall implement the following practices to minimize landscaping-related pollutant generation regarding public spaces owned and operated by the permittee.

- a. Education activities and other measures for the permittee’s applicators and distributors;
  - b. Pest management measures that encourage non-chemical solutions where feasible;
  - c. Keeping clippings and leaves out the small MS4 and the street by encouraging mulching, composting, or landfilling;
  - d. Limiting application of pesticides and fertilizers if precipitation is forecasted within 24 hours, or as specified in label instructions; and
  - e. Reducing mowing of grass to allow for greater pollutant removal, but not jeopardizing motorist safety.
- (3) 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.
- (4) The permittee shall ensure collection and proper disposal of the permittee’s unused pesticides, herbicides, and fertilizers.
- (i) Evaluation of Flood Control Projects

The permittee shall assess the impacts of the receiving water(s) for all flood control projects. New flood control structures must be designed, constructed, and maintained to provide erosion prevention and pollutant removal from stormwater. The retrofitting of existing structural flood control devices to provide additional pollutant removal from stormwater shall be implemented to the maximum extent practicable.

## **7.4 DISCUSSION OF STORMWATER PROGRAMS**

### **7.4.1 Permittee-owned Facilities and Control Inventory**

The City will update and maintain their inventory of facilities and stormwater controls that it owns and operates within the City’s MS4 regulated area. All permit numbers, registration numbers, and authorizations will be included for each facility/control.

#### **Measurable Goals:**

- Update the inventory of City-owned and operated facilities and stormwater controls by December of each year (2019-2024).

**Evaluation:**

- Record updates to the inventory information.

**7.4.2 MS4 Training Program**

The City will provide MS4 training program for necessary City staff. The purpose of the program is to prevent and reduce stormwater pollution from activities such as park maintenance, fleet and building maintenance, and stormwater system maintenance and promote good housekeeping procedures. Training ensures that stormwater quality programs are properly implemented and BMPs are properly installed and maintained. In addition, ensuring proper management practices can reduce the need for costly structural controls.

**Measurable Goals:**

- Provide one training class to City field staff by December of each year (2019-2024).

**Evaluation:**

- Document the topic of the course provided, the names of staff participating, and the training materials utilized.

**7.4.3 Disposal of Waste Materials**

The City of Sugar Land will evaluate its facilities to ensure that usable materials are properly stored and that potentially harmful materials are disposed of in accordance with state and federal laws. The goal of this BMP is to execute the proper disposal of waste materials. The City currently removes and disposes of stockpiled materials that are unusable or are not intended for reuse. The City also participates in the disposal of household hazardous wastes and used oil recycling programs.

**Measurable Goals:**

- Develop a standard operating procedure (SOP) for waste disposal that complies with State and Federal disposal regulations by December 2021.

**Evaluation:**

- Document waste disposal SOP.

**7.4.4 Contractor Requirements and Oversight**

The City will implement strategies to ensure contractors performing services and maintenance activities for the City are familiar with the City's stormwater program and goals. Contractors and contracts will need to meet the City's program requirements.

**Measurable Goals:**

- Review and update contract language for contractors that perform work on City-owned facilities, where those activities have the potential to affect discharges to the City's MS4 by December 2021.
- Develop standard procedures to oversee that contractors are complying with updated contract terms by December 2021.

**Evaluation:**

- Record modifications to contracts and document date of contract review and update.
- Document procedure development.

**7.4.5 Municipal Operations and Maintenance Activities**

The City provides the highest quality of services to meet the needs of its citizens. The City operates and maintains a variety of facilities throughout the community, which have the potential to affect stormwater quality. The City will re-assess their operations and maintenance activities, identify pollutants of concern that may impact stormwater quality, develop and implement pollution prevention measures that will reduce pollutant discharges, and perform routine visual inspections.

**Measurable Goals:**

- Perform an assessment of municipal operations and maintenance activities and identify associated pollutants of concern by December 2021.
- Develop procedures to implement stormwater BMPs as deemed necessary in the municipal operations assessment by December 2022.
- Develop written procedures describing the frequency and steps for performing visual inspections by December 2022.
- Perform quarterly visual inspections of pollution prevention measures at all high-priority City-owned facilities by December of each year (2019-2024).

**Evaluation:**

- Document the date of the municipal operations and maintenance activity assessment.
- Document procedure development for implementing stormwater BMPs.
- Document procedure development for performing visual inspections.
- Record the number of visual inspections conducted and compare to the number of high-priority City-owned facilities.

**7.4.6 Structural Control Maintenance**

With the evaluation and inspection of the stormwater management system, an inventory of existing City-owned structural controls will be established. Structural approaches to managing stormwater include physical structures that prevent, inhibit, or slow the rate at which pollutants reach water bodies. A maintenance schedule will be established for these structural controls in order to

promote their effective operation for stormwater quality treatment. This structural maintenance can reduce suspended sediment and oxygen dissolving materials in stormwater, as well as prolong the life of the system.

**Measurable Goals:**

- Develop maintenance program procedures for structural controls by December 2021.

**Evaluation:**

- Document maintenance program procedures developed.

**7.4.7 Storm Sewer System Operation and Maintenance**

The City’s storm sewer system operation and maintenance program is meant to reduce pollutants from entering the City’s MS4 by conducting routine maintenance of catch basins and other surface drainage structures.

**Measurable Goals:**

- Review and update storm sewer operation and maintenance procedures by December 2021.
- Inspect 50% of storm sewer inlets by December of each year (2019-2024).

**Evaluation:**

- Record modifications to procedures and document date of procedure review and update.
- Document the number of storm sewer inlets inspected.

**7.4.8 Operation and Maintenance Program to Reduce Discharges of Pollutants from Roads**

Street sweeping can capture a substantial amount of solids and pollutants from street surfaces before they are washed into the stormwater drainage system and discharged into local waterways. The benefits of a street sweeping program are not limited to only pollution control, but also include increasing driver safety and the overall appearance of the City. Due to these factors, the City has chosen to continue the street sweeping program and will evaluate the frequency of street sweeping and prioritize areas by pollution potential.

The City’s street sweeping program targets boulevards and major intersections along Highway 6, Highway 90, Highway 59 main lanes, service roads, and Eldridge Road. Currently, the City does not sweep in front of residential homes unless the home is located on a major roadway.

Materials swept from streets have a significant pollution potential and must be disposed of properly. Personnel operating street-sweeping equipment will be trained in proper collection, handling, and disposal methods.

**Measurable Goals:**

- Review and update procedures for the street sweeping program to include sweeping frequency, schedule, and waste disposal methods by December 2021.
- Perform street sweeping on 3000 miles of roadway by December of each year (2019-2024).

**Evaluation:**

- Document revisions made to street sweeping operations and procedures.
- Track the volume of litter collected from street sweeping activities. Report the number of miles of sweeping conducted within the City.

**7.4.9 Mapping of Facilities**

The City maintains a map of all City-owned and operated facilities. Facilities include fire stations, storage facilities, fleet wash stations, parks, golf courses owned and operated by the City, water and wastewater treatment plants, and city buildings.

**Measurable Goals:**

- Update the map to reflect all City-owned and operated facilities by December of each year (2019-2024).

**Evaluation:**

- Record updates to the map.

**7.4.10 Facility Assessment**

The City conducted a facility assessment during the previous permit term. Facilities were evaluated and SOPs were developed for high priority locations. The City will reassess its facilities during this permit term to evaluate their potential to discharge pollutants into stormwater. High priority facilities will be identified and all assessment results will be documented.

**Measurable Goals:**

- Conduct an assessment of City-owned facilities for their potential to discharge pollutants and identify high-priority facility by December 2021.

**Evaluation:**

- Document and report the high-priority facilities identified and their potential to affect stormwater runoff.

#### **7.4.11 Facility Specific SOPs and Stormwater Controls for High Priority Facilities**

During the previous permitting term, the City developed facility specific SOPs for facilities that were considered high-priority based on their potential to affect stormwater runoff. The City will re-assess these facilities and any new ones during this permitting term. High-priority facility SOPs will be updated to include material storage and good housekeeping, de-icing and anti-icing material storage, fueling operations and vehicle maintenance, and equipment and vehicle washing.

##### **Measurable Goals:**

- Update high-priority facility SOPs to include BMPs specified in TXR040000 Part III.B.5(c)6)a-d by December 2021.
- Implement updated high-priority facility SOPs during quarterly facility inspections from January 2022 through January 2024.

##### **Evaluation:**

- Record modifications to high-priority facility SOPs and document date of SOP review and update.
- Record the number of visual inspections conducted and compare to the number of high-priority City-owned facilities.

#### **7.4.12 Facility Inspection Program**

The City established a facility inspection program during the previous permit term. Program procedures will be reviewed and updated to ensure inspections identify areas of deficiency and provide recommendations for corrective actions. Staff will review the site-specific inspection checklist of BMPs, inspection procedures, the assignment of facility inspection responsibilities, and procedures for the documentation of response. Staff will utilize these procedures to perform routine inspections of high priority City facilities.

##### **Measurable Goals:**

- Review and update the facility inspection program procedures by December 2021.
- Perform quarterly visual inspections at all high-priority City-owned facilities by December of each year (2019-2024).

##### **Evaluation:**

- Record modifications to program procedures and document date of procedure review and update.
- Record the number of visual inspections conducted and compare to the number of high-priority City-owned facilities.

#### **7.4.13 Pesticide, Herbicide, and Fertilizer Application and Management**

The City will evaluate landscape and pesticide management procedures for City-owned and operated areas and ensure proper management techniques are being implemented in order to reduce pollutant impacts to stormwater runoff entering the MS4.

##### **Measurable Goals:**

- Perform an assessment of materials used and landscape activities performed at City-operated public spaces by December 2021.
- Develop chemical application schedules and disposal procedures by December 2021.
- Provide one training class on pesticide, fertilizer, and herbicide applications and proper management techniques by December of each year (2019-2024).

##### **Evaluation:**

- Document assessment results.
- Document the application schedules and disposal procedures developed and date of creation.
- Document the topic of the course provided, the names of staff participating, and the training materials utilized.

#### **7.4.14 Evaluation of Flood Control Projects**

The City will assess the impacts of the receiving water(s) for all City-owned flood control projects. New flood control structures that are planned for development specifically for City projects will be evaluated for design, construction, and maintenance strategies that provide erosion prevention and pollutant removal from stormwater. Existing City-owned structural flood control devices will be inventoried and evaluated for potential retrofit or implementation of non-structural controls to provide additional pollutant removal from stormwater to the maximum extent practicable.

##### **Measurable Goals:**

- Inventory all City-owned flood control structures and evaluate their potential to minimize impacts to receiving waters by December 2021.
- Develop design, construction, and maintenance criteria for future City-owned flood control structure projects by December 2022.
- Implement design, construction, and maintenance criteria for new City-owned flood control projects and document retrofitting/non-structural control activities on existing City-owned flood control structures by January 2024.

##### **Evaluation:**

- Document the number of City-owned flood control structures and evaluate available stream data to document quality of receiving waters.

- Document the design criteria developed.
- Document the plan review for City-owned flood control design projects.