Springfield, Tennessee

Stormwater Management Plan

Tracking No. TNS077640

December 2023

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List of Acronyms

BMP– Best Management Practice CSR – Construction Site Runoff

EPA –EnvironmentalProtection Agency

EPSC –Erosion prevention and sediment control

ERP–Enforcement ResponsePlan

GIP–Green InfrastructurePractice

IDDE– Illicit Discharge Detection and Elimination

LID – Low Impact Development

MCM – Minimum Control Measures

MS4 – Municipal Separate Storm Sewer System

NPDES –National Pollutant Discharge Elimination System

P2 –pollutionPrevention

SCM – Stormwater Control Measure

SOP- Standard Operating Procedures

SQSH – Semi-quantitative single habitat method

SQKICK– Semi-quantitative single habitat kick method

SQBANK– Semi-quantitative single habitat bank method as described

SWMP– Stormwater Management Program SWPPP– Stormwater Pollution Prevention Plan TAB – Tennessee Association of Broadcasters

TDEC – Tennessee Department of Environment and Conservation

TDEC SOP– Quality System Standard Operating Procedure for Chemical and Bacteriological Sampling of Surface Water

TDOT – Tennessee Department of Transportation TNSA – Tennessee Stormwater Association

USFWS –United StatesFish and Wildlife Service

List of Definitions

BMP – Best Management Practice – This may refer collectively or specifically to a structural or non-structural practice intended to address water quantity or quality as best available. Best management practices may also mean schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to Waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or lea s, sludge or waste disposal, or drainage from raw material storage.

Bond – An instrument with a clause or irrevocable letter of credit, with a sum of money fixed as a penalty, binding the parties to pay the same: conditioned, however, that the payment of the penalty may be avoided by the performance by some one or more parties of certain acts.

Building – Any structure built for support, shelter, or enclosure for any occupancy of persons, animals or chattels, or storage; or moveable property of any kind; including mobile homes.

Channel – A natural or artificial watercourse of perceptible extent, with definite bed and banks to confine and conduct continuously or periodically flowing water.Channel (bank full flow is thatquantity of water that is flowing within the limits of the defined channel.

Development – Any man-made change to improved or unimproved real estate, including but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavating, drilling operations, or permanent storage of materials (as defined as materials of li e nature stored in whole or in part for more than six months.

Director of Public Works – Refers to the City of Springfield, Tennessee Director of Public Works, and designated staff.

Dry Weather – Conditions consistent with a minimum of 72 hours of no rainfall.

Easement – Authorization by a property owner for the use by another, for a specified purpose, of any designated part of his/her property.

Engineer – An engineer certified and registered by the State Board of Architectural and EngineerExaminers pursuant to Tennessee Code Annotated, to practice in Tennessee.

Engineering Department– Refers to the City of Springfield, Tennessee City Engineer, and designated staff.

EPSC –Erosion prevention and sediment control; also see “erosion prevention” and “sediment control”.

Erosion – The disintegration or wearing away, of soil particles, caused by the action of flowing water or impact of precipitation on the particles.

Erosion and Sediment Control Plan – A written plan, including drawings or other graphic representations, for the control of soil erosion and sedimentation resulting from a land disturbing activity.

Erosion Prevention – Practices implemented to prevent, through shielding, binding or other mechanism(s), the suspension of soil particles in Stormwater runoff, often associated with erosion prevention and sedimentation control.

Grading (land disturbance*)* – Any operation or occurrence by which the existing site elevations are changed; or where any ground cover, natural, or man-made, is removed; or any watercourse or body of water, either natural or man-made, is relocated on any site, thereby creating an unprotected area (soil particles directly

exposed to precipitation and Stormwater runoff). This includes stripping, grubbing, cutting, filling, stock piling, or any combination thereof, and shall apply to the land in its cut or filled condition. Grading activities may only be performed with a and Disturbance Permit.

Green Infrastructure Practices – Green infrastructure utilizes vegetation, soils, and natural processes to manage Stormwater runoff and create healthier urban environments.

Illicit Discharge – Any discharge to the municipal separate storm sewer system that is not entirely composed of Stormwater and not specifically exempted under Section .4.

Impervious Surface – A term applied to any ground or structural surface that water cannot penetrate or through which water penetrates with great difficulty.

Low Impact Development – *An approach to land development (or re-development) that works with nature to manage Stormwater as close to its source as possible. LID employs principals such as preserving natural landscape features, minimizing impervious area, and creating functional and appealing site drainage that treats Stormwater runoff as a resource.*

Maintenance – Any activity necessary to keep a Stormwater management facility in good working order so it will function as designed. Maintenance shall include complete reconstruction of a Stormwater management facility if reconstruction is required in order to restore the facility to its original operational design parameters. Maintenance shall also include the correction of any problem on the site, where the Stormwater management facility is located, that directly impair the functions of the Stormwater management facility.

Maintenance Agreement – A document recorded in the land records that acts as a property deed restriction, and which provides for access to the site for inspection by City staff and which provides for long-term maintenance of the Stormwater management facilities.

Municipal Separate Storm Sewer System (MS4) – As defined in 40 C.F.R. §122.26(b)(8) means a conveyance or system of conveyances (e.g., roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that are: publicly owned; designed or used for collecting or conveying stormwater; not a combined sewer; and not part of a Publicly Owned Treatment Works (POTW) as defined in 40 C.F.R. §122.2.

National Pollutant Discharge Elimination System (NPDES) Permit – A permit issued pursuant to 33 U.S.C. 1342.

New Construction – Structures for which the start of construction commenced on or after the effective date of these regulations. The term also includes any subsequent improvements to such structures.

NPDES MS4 Phase II Program – National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) program is the Environmental Protection Agency Stormwater program that focuses on smaller communities such as Springfield, Tennessee.

Owner – Any person, group of persons, firm or firms, corporation or corporations, or any other legal entity having legal title to or sufficient proprietary interest in the real property.

Performance Bond – See bond.

Permittee – Any person, firm, or any other legal entity to whom a land disturbance, grading, building or other related permit is issued in accordance with City of Springfield regulations.

Priority Area – An area where land use or activities generate/may generate highly contaminated Stormwater

runoff, with concentrations of pollutants in excess of those typically found in Stormwater. Priority areas may also refer to areas that discharge to streams that do not meet their designated use such as 303(d) streams or that discharge to “high quality waters”.

Priority Construction Activity – Those construction activities discharging directly into, or immediately upstream of, waters that the state recognizes as having unavailable parameters (for siltation and habitat alteration or have been classified as Exceptional Tennessee Waters (ETW).

Public Improvement – Any drainage ditch, roadway, sidewalk, pedestrian way, tree, lawn, off street parking area, lot improvement, Stormwater facility, or other facility for which the governing body may ultimately assume the responsibility for maintenance and operation, or which may affect an improvement for which the governing body’s responsibility is established.

Runoff– The draining away of water (or substances carried in it) from the surface of an area of land, a building structure, etc.

Sediment – Solid material, both mineral and organic, that is in suspension, being transported, or has been moved from its site of origin by air, water, or gravity as a product of erosion.

Sediment Control –Practices implemented to manage through filtering, settling or other mechanisms to remove suspended particles (soil, organic or mineral) from water, often associated with erosion prevention and sedimentation control.

Site – All contiguous land and bodies of water in one ownership, graded or proposed for grading or development as a unit, although not necessarily at one time.

Slope – Degree of deviation of a surface from the horizontal, usually expressed in percent or ratio.

Start of Construction – or purposes of erosion and sediment control, any alteration of the original surface area of the land, from and after the date and adoption of this ordinance.

Stormwater – Stormwater runoff, snowmelt runoff, surface runoff, and drainage.

Stormwater Control Measure (SCM) – Stormwater control measures are a new approach to site design where the existing site features, soils, and vegetation are used together with structural SCMs to effectively achieve the required runoff reduction, pollutant removal, and other site-specific goals.

Stormwater Pollution Prevention Plan (SWPPP) – A Stormwater pollution prevention plan is a written site-specific plan to eliminate or reduce and control the pollution of Stormwater through designated facilities, sedimentation ponds, natural or constructed wetlands, and best management practices.

Stormwater Coordinator – Reports to the City of Springfield, Tennessee Director of Public Works. Primarily responsible for implementation of the Stormwater Management Plan

Stormwater Management Facilities – Facilities that include drainage structures, conduits, ditches, combined sewers, sewers, and all device appurtenances by means of which Stormwater is collected, transported, pumped, treated, or disposed of.

Stormwater Management Plan (SWMP) - A written document that guides the City on management of the MS4 Program.

Water Quality – Those characteristics of Stormwater runoff that relate to physical, chemical, biological, or radiological integrity of water.

Water Quantity – Water quantity means those characteristics of Stormwater runoff that relate to the rate and volume of Stormwater runoff.

Waters of the State - *Any water body determined to be in the jurisdiction of the Tennessee Department of Environment and Conservation (TDEC). Waters of the State are separate and distinct from an MS4 and private infrastructure.*

Water Body – A channel, natural depression, slough, gulch, stream, creek, pond, reservoir, or lake in which Stormwater runoff and floodwater flows either regularly or infrequently. This includes major drainage ways for carrying storm runoff.

Watershed – The area upstream of a specified point including all overland flow that directly or indirectly connects down-slope to the specified point. This is also referred to as drainage area.

1 BASIC SWMP INFORMATION

This Stormwater Management Plan was developed by the City of Springfield, Tennessee (City) to describe the activities and measures that will be implemented to meet the terms and conditions of the General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) in the State of Tennessee (General Permit). The city obtained coverage under the current General Permit on November 10, 2022.

As required, this SWMP includes information for each of the program elements described in sub-part 4.2 of the General Permit. This includes detailed narrative descriptions of the Best Management Practices (BMPs), programs and processes to be implemented for each of the Stormwater control minimum measures; measurable goals for each of the BMPs including, as appropriate, the timeline of required actions and milestones or frequency of the actions; identification by job title or department those responsible for implementing or coordinating the program element; and a detailed description of the monitoring and inspection programs.

1.1 BENEFITS OF THE PROGRAM

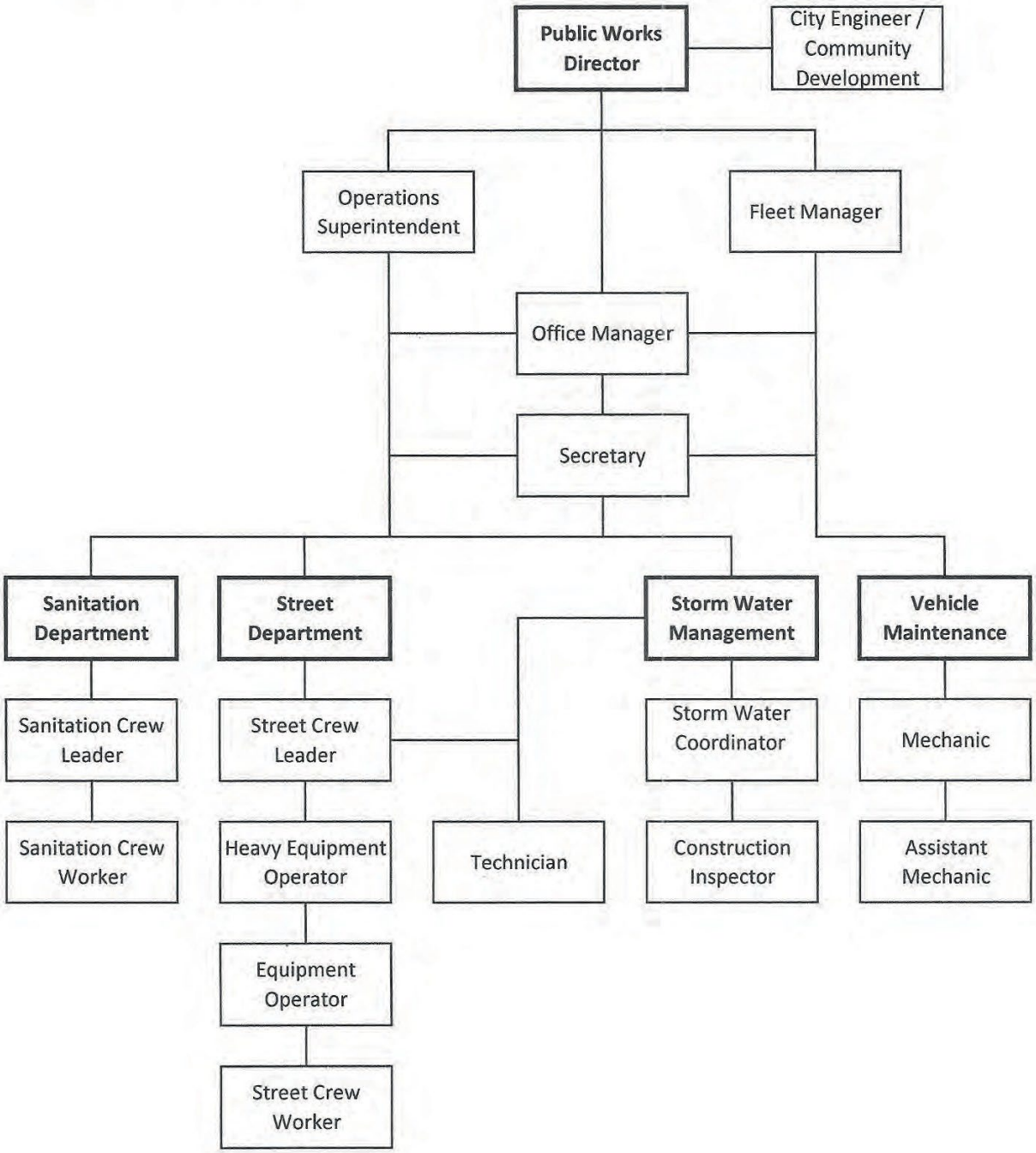
Implementation of requirements of the General Permit will help minimize impacts of new development on the City's water resources. The Stormwater Management Program will also result in an incremental improvement in the control of Stormwater quantity and quality within the City's more developed areas. Streams in urbanized areas are at risk due to increased sedimentation.

1.2 STAFF ORGANIZATION

The following page contains an organizational chart for the Springfield Public Works Department, which oversees the operations of the Stormwater Management Department.

Table 1. Springfield, TN Organizational Chart

CITY OF SPRINGFIELD
PUBLIC WORKS DEPARTMENT
Storm Water Organization Chart



2 RECEIVING WATERS

The City's MS4 discharges into several waters identified on the most recent (2022) State of Tennessee 303(d) list of impaired waters with unavailable parameters. These impaired streams have been identified due to nutrients, pathogens, siltation, or other parameters related to Stormwater runoff from urbanized areas. A map from the online Water Quality Assessment Viewer can be seen in Figure 1. The identified waters along with sources and causes of impairment are listed in Table 2.

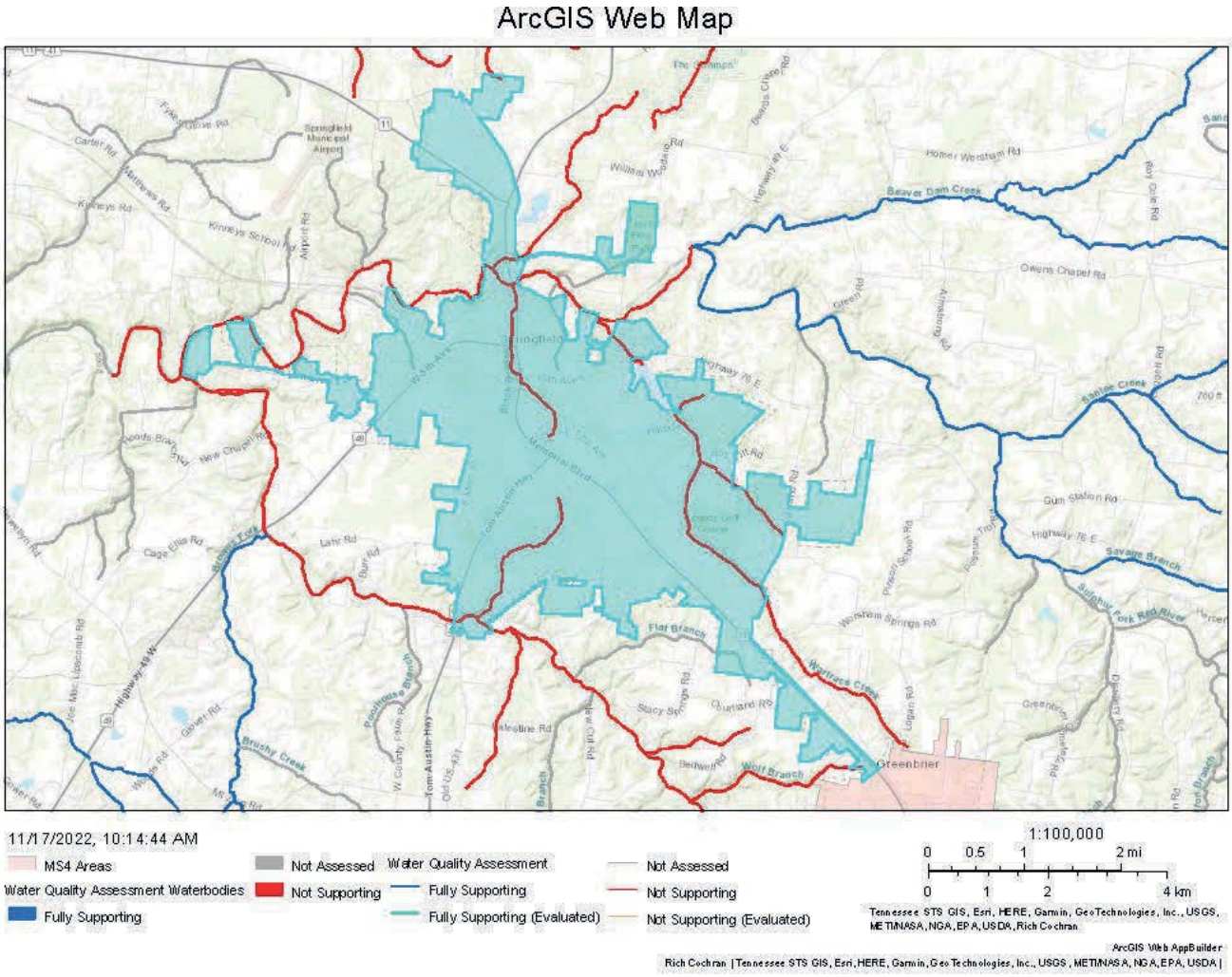


Figure 1. Springfield 2020 Impaired Stream Segments

Table 2. Tennessee 2022 Final List of Impaired Waters

Receiving Water (Enter Source_FeatureID Value)	Number of Outfalls	Nutrients	Pathogens	Siltation	Other	ETW	TMDL	MS4 Jurisdiction
Buzzard Creek from Red River to headwaters (TN05130206002_0400)	0	No	Yes	No	No	Yes	Yes	
Trib to Sulphur Fork (north of Springfield) to headwaters (TN05130206003_0300)	4	No	No	Yes	Yes	No	No	
Wartrace Creek from Sulphur Fork to Wartrace Lake Dam (TN05130206003_1100)	4	No	No	No	Yes	No	No	
Wartrace Creek from Wartrace Lake to headwaters (TN05130206003_1150)	27	No	No	Yes	Yes	No	No	
Black Branch from Sulphur Fork to headwaters (TN05130206003_1200)	29	No	No	No	Yes	No	No	
Carr Creek from Sulphur Fork to confluence of Browns Fork (TN05130206003_1300)	0	No	Yes	No	No	No	No	
Carr Creek from Browns Fork to confluence of Flat Branch (TN05130206003_1350)	11	No	Yes	No	No	No	No	
Carr Creek from confluence of Flat Branch to headwaters (TN05130206003_1355)	0	Yes	Yes	No	No	No	No	
Sulphur Fork from rapids d/s of confluence of Carr Creek to Springfield STP outfall (TN05130206003_3000)	0	Yes	Yes	Yes	Yes	No	No	
Sulphur Fork from Springfield STP outfall (just u/s of Carr Creek) to confluence of Beaver Dam Creek (TN05130206003_4000)	0	No	Yes	No	No	No	No	
Flat Branch from Carr Creek to headwaters (TN05130206003_1310)	0	No	No	No	No	No	No	
Misc tribs to Sulphur Fork (TN05130206003_0999)	4	No	No	No	No	No	No	

3 ENDANGERED AND THREATENED SPECIES AND CRITICAL HABITAT

The United States FishandWildlife Service (U S FWS) List of Threatened and Endangered Species reports several species potentially present within the watersheds into which the MS4 discharges. However, the location of the species, whether they are present within the jurisdictional area, and determination of the effect of MS4 discharges on those endangered species have not been determined.

3.1 Identify Potential Endangered and Threatened Species

The City will evaluate if listed threatened or endangered species and critical habitat are present within the MS4 urbanized area. Stream surveys may be used to determine if any significant populations are present within the MS4 and receiving waters. If any species or habitats are determined to be present, the SWMP will be updated with a table identifying the findings. Furthermore, the City will implement, as part of this SWMP, processes to protect the species or habitat and include a description of the measures to be taken.

The MS4 Permit does not authorize:

Discharges not protective of aquatic or semi-aquatic threatened and endangered species, species deemed in need of management or special concern species. Discharges or discharge-related activities that are likely to jeopardize the continued existence of listed or proposed threatened or endangered aquatic species, or their critical habitat, under the
Endangered Species Act (ESA), or other applicable state law or rule. Discharges or conducting discharge-related activities that will cause a prohibited “take” of federally listed aquatic species (as defined under Section 3 of the ESA and 50 C.F.R. §17.3) unless such take is authorized under Sections 7 or 10 of the ESA. Discharges or conducting discharge-related activities that will cause a prohibited take of state listed aquatic species, unless such take is authorized under the provisions of T.C.A. § 70-8-106(e).

Person(s) or Department Responsible: Stormwater Coordinator

The following table contains Species that are known or are believed to occur in the Springfield, Tennessee MS4 jurisdiction.

SPECIES	CRITICAL HABITAT	STATUS
Gray Bat	None Designated	Endangered
Indiana Bat	None in MS4	Endangered
Northern Long-Eared Bat	None Designated	Endangered
Tricolored Bat	None Designated	Proposed Endangered
Slabside Pearlymussel	None in MS4	Endangered
Monarch Butterfly	None Designated	Candidate

Table 3: Threatened and Endangered Species. Retrieved from https://ecos.fws.gov/ipac/location/PU7T4P7KKFC7VCW25OPMTXWWFA/resources on 12/20/2022

4 MAP OF SEPARATE STORM SEWER SYSTEM

As required by the General Permit, the City maintains a storm sewer system map including MS4 outfalls, stormwater infrastructure, direction of stormwater flow and receiving streams as shown in Figure 2.

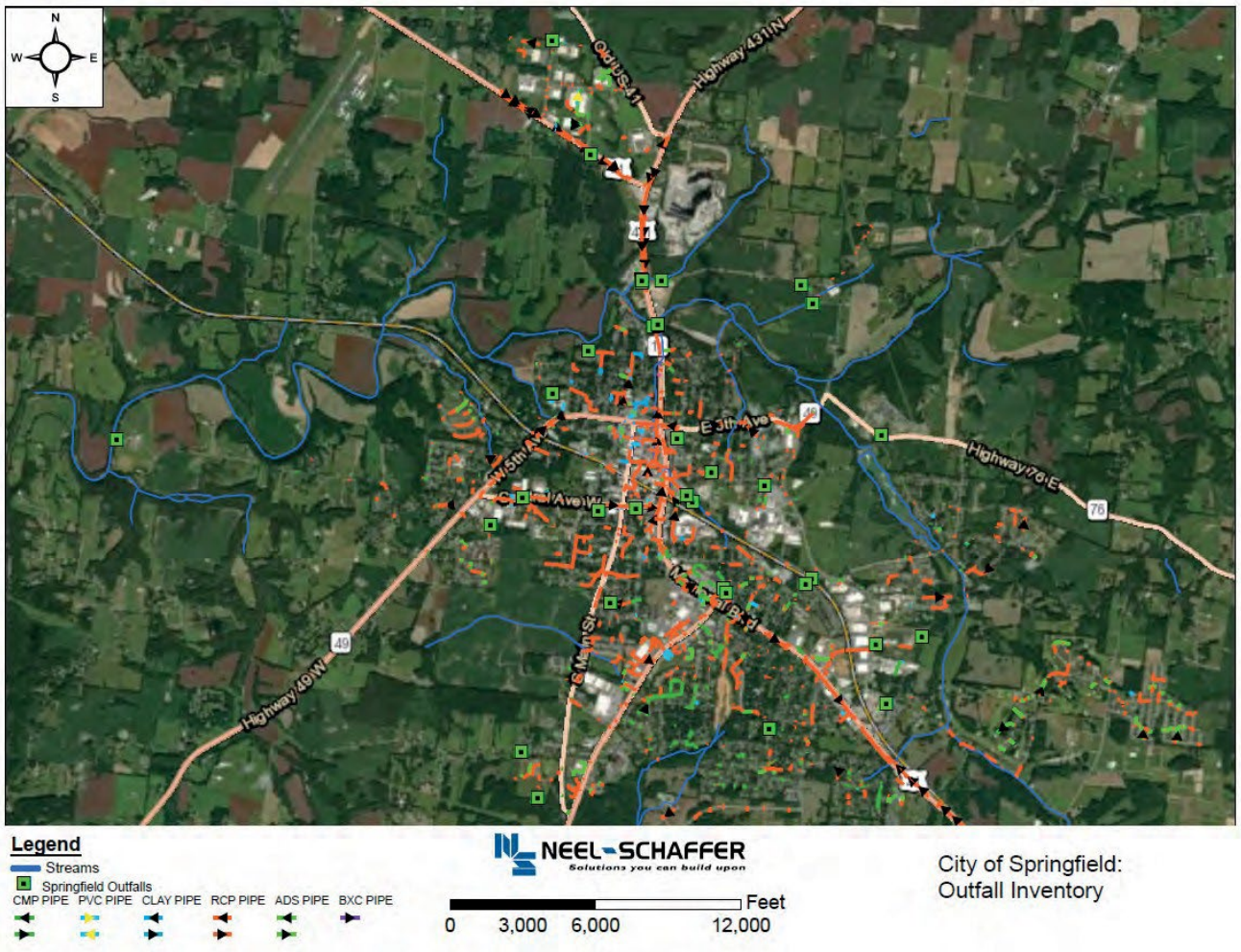


Figure 2. Springfield 2022 MS4 Map

Accessible at
https://neelschaffer.maps.arcgis.com/apps/PublicInformation/index.html?appid=f01c371c36a24c7e826c5d18ce4fdfca

5 LEGAL AUTHORITY AND ENFORCEMENT

A developed and maintained SWMP is a requirement of the City's MS4 permit. The permit is issued by TDEC on a five-year cycle. The City's current permit became effective on December 1, 2022, and the general permit expires on July 31, 2027.

The Director of Public Works or his designee shall administer the provisions of this plan. A more in-depth discussion of the legal authority granted to implement and enforce the requirements the General Permit is discussed in Section 4 of the City's Stormwater Management Ordinance.

[See Annex 1 for Stormwater Management Ordinance]

Section 4.5 of the MS4 permit refers to the development and implementation of an Enforcement ResponsePlan (ERP). In order to respond to violations of MS4 ordinances, the plan establishes the City's potential

response to violations and addresses repeat violations through progressive enforcement as needed to achieve compliance. The City of Springfield shall have the authority to issue notices of violation and citations, and to impose civil penalties as provided by law.

[See Annex 1 for ERP]

6 CONTROLS TO REDUCE POLLUTANTS TO THE MAXIMUM EXTENT PRACTICABLE

The permit lists six minimum control measures (MCMs) that the City must accomplish in order to maintain permit compliance.

This plan outlines the six minimum control measures to be utilized to achieve reductions in Stormwater pollution to the maximum extent practicable.

Minimum Control Measures:

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination (IDDE)
4. Construction Site Stormwater Runoff Control
5. Post-Construction/ Permanent Stormwater Management in New Development and Redevelopment
6. Pollution Prevention/Good Housekeeping

The following sections describe the City's program to reduce pollutants from Stormwater discharges to the maximum extent practicable. The measures will be discussed individually with specific measurable goals and requirements.

6.1 PUBLIC EDUCATION AND OUTREACH

The following sections discuss how the City will educate the public using programs that comply with the General Permit. The program will focus on stormwater issues of individual significance within the MS4 area, including targeted education programs to address potential sources of pollutants. The objective of this program is to reduce or eliminate behaviors and practices that cause or contribute to the impacts of stormwater discharges on water bodies and the steps that the audiences can take to reduce pollutants in stormwater runoff. This program will be designed to reach three major audiences; the public, the engineering and development community, and City employees.

[See Annex 2 for Public Information and Education Plan]

6.1.1 Management Measure 1: General Public

This management measure includes:

a. General awareness of the impacts on water quality;
b. Awareness of the importance of maintenance activities for operators of permanent Best Management Practices (BMPs)/Stormwater Control Measures (SCMs);
c. Awareness of the proper storage, use and disposal of pesticides, herbicides, fertilizers oil and other automotive related fluids; and

d. Awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc.

Measurable Goals:

The City must conduct and/or sponsor one activity that address each of the issues identified under management measures every reporting year. Implementation methods include:

i. Public Event Booth with informational pamphlets and/or interactive activities
ii. Direct mailings or e-mail of information; City website
iii. Social media postings or resident newsletter articles
iv. Tennessee Stormwater Association education campaign participation

Reporting Requirement:

Total number of activities conducted including description, date, management measures addressed, specifically targeted audience, and approximate number of that audience that was reached.

Person(s) or Department Responsible:

Stormwater Coordinator

6.1.2 Management Measure 2: Engineering and Development Community

This management measure includes:

a. Awareness of the stormwater ordinances, regulations, and guidance materials related to long-term water quality impacts; and

b. Awareness of stormwater ordinances, regulations, and guidance materials related to construction phase water quality impacts.

Measurable Goals:

The City must conduct and/or sponsor two activities that address each of the issues identified under management measures during the permit term. Implementation methods include:

i. Group conference sessions hosted by Stormwater Program

Reporting Requirement:

Total number of activities conducted including description, date, management measures addressed, specifically targeted audience, and approximate number of that audience that was reached.

Person(s) or Department Responsible:

Stormwater Coordinator

6.1.3 Management Measure 3: City Employees

This management measure includes:

a. Awareness of water quality impacts from daily operations;

b. Pollution Prevention (P2) and Good Housekeeping; and

c. The awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer diversions or seepages, spills, etc.

Measurable Goals:

Educate all employees as identified by job category in the PIE plan. New employees must be trained within six months of their employment or movement into an applicable job category. All employees must receive training and/or retraining during the permit term. Implementation methods include:

i. All employees shall attend at least one in person training session during the permit term
ii. Quarterly training sessions will be conducted as needed for new employees

Reporting Requirement:

a. The total number of **new** employees or employees that are new to the job category **not** educated in accordance with the PIE plan within 6 months.
b. The total number of employees not educated in accordance with the PIE plan within the permit term.

Person(s) or Department Responsible:

Stormwater Coordinator
Public Works Director

6.2 PUBLIC INVOLVEMENT

Stormwater management programs benefit greatly by involving the community to help achieve the goals and requirements of the stormwater management plan. This stormwater management plan will attempt to address the program on a watershed basis. This may allow for the development of watershed groups to assist the City in planning, coordinating, and implementing public education and public involvement BMPs for their watershed. The objective of this program is to promote, publicize, and facilitate citizen s participation in the development and implementation of the stormwater management program to reduce the discharge of pollutants to the maximum extent practicable. This program will be designed to reach two major audiences; the general public and the commercial and industrial community.

[See Annex 2 for Public Information and Education Plan]

Table 4: Public Involvement and Participation

Management Measure	Measurable Goal	Reporting Requirement
Public access to the SWMP records	Written description of the SWMP	Web address for the SWMP
Develop and implement a formal public notice process	Complete the formal public notice process for the entire SWMP	A copy of the public notice and response to comments
Public access to information on projects	Information for 100% of all construction site projects	# of comments received from the public on construction site projects
Citizen reporting of illegal disposal of materials into the MS4	Public reporting system	The number of reports received from the public

6.2.1 Management Measure 1: General Public

This management measure includes:

a. PollutionPrevention;

b. Impacts on water quality or local stormwater management issues;

c. Storage, use, and disposal of household hazardous waste, automotive-related fluids, pesticides, herbicides, and fertilizers use; and

d. Identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc.

Measurable Goals:

The City must conduct and/or sponsor one activity that address each of the issues identified under management measures each reporting year. Implementation methods include:

i. Annual clean-up event; adopt a street program
ii. School or club events
iii. Hazardous household waste collection (sponsored event)
iv. Illicit discharge reporting through website/hotline

Reporting requirement:

Report the total number of activities conducted and details of each activity including description, date, management measures addressed, specifically targeted audience, and approximate number of that audience that was reached.

Person(s) or Department Responsible:

Stormwater Coordinator

6.2.2 Management Measure 2: Commercial and Development Community

This management measure includes:

a. PollutionPrevention; and

b. Impacts on water quality or local stormwater management issues.

Measurable Goals:

The City must conduct and/or sponsor two activities that address each of the issues identified under management measures during the permit term. Implementation methods include:

i. Personal interactions with builders throughout the construction process
ii. Pre-construction meetings for all developments that require water quality/post construction SCMs

Reporting requirement:

Report the total number of activities conducted and details of each activity including description, date, management measures addressed, specifically targeted audience, and approximate number of that audience that was reached.

Person(s) or Department Responsible:

Stormwater Coordinator

6.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION

Sources of illicit discharges typically found in urban areas may include apartments and residences, car washes,

restaurants, airports, landfills, and gas stations. The illicit discharges from these sources include sanitary wastewater, septic system effluent, vehicle wash water, wash down from grease traps, motor oil, antifreeze, gasoline and fuel spills, and illegal disposal of pesticides, herbicides, andfertilizers.

[See Annex 3 for Illicit Discharge Detection and Elimination SOP]

6.3.1 IDDE Program

An Illicit Discharge Detection and Elimination (IDDE) Program will be implemented by the Public Works Department and may include assistance from other City departments. The IDDE program will proactively seek out illicit discharges or activities that could result in illicit discharges, such as illegal connections to the storm sewer system, improper disposal of wastes, or dumping of chemicals. The program will include components for detection, investigation, and elimination of non-stormwater discharges, including illegal dumping, into the City's Stormwater system. The objective is to detect and eliminate illicit discharges to the maximum extent practicable.

The IDDE Program includes:

1. A storm sewer system map;
2. An ordinance to effectively prohibit non-stormwater discharges into the storm sewer system and implement an appropriate Enforcement Response Plan (ERP);
3. A program to detect, investigate, and address non-stormwater discharges, including illegal dumping;
4. Prohibiting non-stormwater discharges except those that are excluded;
5. Training for public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste; and
6. A mechanism for the public to report suspected illicit discharges.

6.3.2 Management Measure 1: Storm Sewer Map

A complete storm sewer system map that shows the location of all MS4 outfalls; inputs into the storm sewer collection system, including inlets, catch basins, drop structures, flow(s) from adjacent MS4s or other defined contributing points to the storm sewershed of that outfall; direction of stormwater flow through the system; and identification of the receiving streams.

The TDEC-DWR GIS layer maybe used in lieu of developing a receiving stream layer. TDEC rest services can be found at https://tdeconline.tn.gov/arcgis/rest/services/DWR_Public/MapServer

Measurable Goals:

Update mapping as new elements are identified. Implementation methods include:

i. Ongoing updates to storm sewer GIS layer
ii. Require as-builts from all new development

Reporting Requirements:

Provide location for Spatial Rest Service Outfall Map Layer, submit the geodatabase/ shapefile, or submit a copy of the system map.

Person(s) or Department Responsible:

GIS Department

6.3.3 Management Measure 2: Non-stormwater Discharges

Identify and investigate the categories of exempt non-stormwater discharges or flows only if the City identifies them as a significant contributor of pollutants to the MS4.

Measurable Goals:

a. Maintain an inventory of exempted non-stormwater discharges or flows that the City identified as a significant contributor of pollutants to the MS4.

b. Investigate as an illicit discharge all exempted non-stormwater discharges or flows that the City identified as a significant contributor of pollutants to the MS4. Implementation methods include:

i. Maintain a citizen reporting procedure through website/hotline
ii. Identify and inspect priority areas, also known as hot spots
iii. Conduct dry weather outfall screenings in conjunction with periodic visual assessments

Reporting Requirements:

a. Number of non-stormwater discharges or flows identified as a significant contributor of pollutants to the MS4.

b. Total number of non-stormwater discharges or flows investigated.

c. Were all non-stormwater discharges or flows identified as a significant contributor of pollutants to the MS4 investigated?

Person(s) or Department Responsible:

Public Works Director
Stormwater Coordinator

6.3.4 Management Measure 3: – Illicit Discharge Reporting and Investigations

Priority Areas may include areas or facilities where dumping, spills, or other illicit discharges could be a common occurrence. A list of Priority Areas will be updated annually.

Priority Area list located at Z:\Stormwater Folder\IDDE

Measurable Goals:

a. Track all potential illicit discharges reported, categorized by reporting source.

b. Initiate 100% of all potential Illicit discharge investigations within 7 days of the receipt of the complaint.

c. 100% of all Initial enforcement actions shall be taken within seven (7) calendar days of the investigation on confirmed illicit discharges.

d. 100% of all corrective action plans are reviewed in accordance with procedures.

Reporting Requirements:

a. The number of potential illicit discharges reported by the public.

b. The number of potential illicit discharges reported by internal personnel.

c. Total number of potential Illicit discharges reported that are under investigation at the time of the annual report.

d. Were all potential illicit discharges investigated within 7 days of receipt?

e. Number of identified illicit discharges

f. Were all initial enforcement actions on confirmed illicit discharges taken within seven (7) calendar days of the investigation?

g. Number of corrective actions plans received for confirmed illicit discharges.

h. Were all corrective actions plans reviewed in accordance with established procedures?

Person(s) or Department Responsible:

Public Works Director
Stormwater Coordinator

6.3.4.1 Management Measure: Employee Training

City employees will receive training applicable to their job assignments during the permit term. Training topics for City employees include general requirements of the IDDE Program, and how to identify potential illicit discharges. All new employees will receive initial training within 6 months of hire date.

Measurable Goals:

Educate all employees as identified by job category in the PIE plan. New employees must be trained within six months of their employment or movement into an applicable job category. All employees must receive training and/or retraining during the permit term. Delivery methods include videos and demonstrations.

Reporting Requirements:

a. The total number of new employees or employees that are new to the job category not educated in accordance with the PIE plan within 6 months.

b. The total number of employees not educated in accordance with the PIE plan within the permit term.

Person(s) or Department Responsible:

Public Works Director
Office Manager
Stormwater Coordinator

6.3.4.2 Management Measure: MS4 Storm System Map Requirements

A complete storm sewer system map that shows the location of all MS4 outfalls, inputs into the storm sewer collection system, including inlets, catch basins, drop structures, flow(s) from adjacent MS4s or other defined contributing points to the storm sewershed of that outfall, direction of stormwater flow through the system, and identification of the receiving streams.

The TDEC-DWR GIS layer maybe used in lieu of developing a receiving stream layer. TDEC rest services can be found at https://tdeconline.tn.gov/arcgis/rest/services/DWR_Public/MapServer

Measurable Goals:

Update maps as new elements are identified.

Reporting Requirements:

Provide location for Spatial Rest Service/Outfall Map Layer, submit the geodatabase/ shapefile, or submit a copy of the system map.

Person(s) or Department Responsible:

GIS Department

6.4 Management Measure: Construction Site Stormwater Runoff Control

The City must develop, implement, and enforce a construction site stormwater runoff pollutant control program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

The program must include the following at a minimum:

a. An ordinance or other regulatory mechanism to require erosion prevention and sediment controls (EPSC), as well as sanctions to enforce compliance.

b. Requirements for construction site operators to implement appropriate erosion prevention and sediment control best management practices (BMPs).

c. Requirements for design storm for all waters as well as special conditions for unavailable parameters waters or exceptional Tennessee waters must beconsistent with those of the current Tennessee Construction General Permit.

d. An inventory of actively permitted public and private construction sites that result ina total land disturbance as defined above.

e. Requirements for construction site operators to control wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at construction sites.

f. Specific procedures for construction site plan review and approval (or denial) which incorporate consideration of potential water quality impacts.

g. Mechanisms or plans for public access to information on new development and redevelopment projects and receiving and considering comments from the public on those new development and redevelopment projects.

h. Procedures for permittee inspectors to evaluate and document construction site compliance.

i. Requirements for inspectors who conduct inspections of construction sites to maintain certification under the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 1 (or equivalent such as Tennessee Registered Engineer, Landscape Architect, or Certified Professional in Erosion and Sediment

Control CPESC)). Construction site plan reviewers must receive a certificate of completion from the Tennessee Erosion Prevention and Sediment Control Design Course, Level 2 (or equivalent such as Tennessee Registered Engineer, Landscape Architect, or CPESC).

j. Priority construction activity shall be at a minimum, those construction activities discharging directly into, or immediately upstream of, waters the state recognized as unavailable condition for siltation or Exceptional Tennessee Waters.

All Priority Construction requires:

- Pre-construction meetings with construction-site operators;
- Inspections of priority construction sites at least once per calendar month (by City inspectors); and
- Documentation of procedures, including related meetings and inspections.

6.4.1 Management Measure: Stormwater Management Ordinance

Regulatory mechanisms are required to be consistent with the currently effective Tennessee Construction General Permit (CGP, TN R100000).

Note: This reporting element will not be seen in the annual report until after the subsequent CGP has been issued.

Measurable Goals:

NPDES general permit for construction stormwater runoff with an effective date after September 30, 2026, modifications to ordinances or other regulatory mechanisms for construction site runoff control must be effective and implemented within 18 months of the effective date of a Tennessee Construction General Permit (CGP, TN R100000).

Reporting Requirements:

Identify if the regulatory mechanisms for construction site runoff control have been updated to be consistent with the CGPand are effective and implemented within 18 months of the effective date of the subsequent CGP.

Person(s) or Department Responsible:

Stormwater Coordinator

6.4.2 Management Measure: Construction Site Inventory

Maintain an inventory of actively permitted public and private construction sites that result in a total land disturbance as defined in section 6 .4.

Measurable Goals:

Maintain an up-to-date inventory with all required information.

Reporting Requirements:

a. Total number of active construction activities,

b. Total number of active non-priority construction activities with incomplete inventory information.

Person(s) or Department Responsible:

Community Development and Planning Department
Stormwater Coordinator

6.4.3 Management Measure: Construction Site Plans Review and Approval

Establish procedures for reviewing and approving construction site plans.

Measurable Goals:

Establish policies and/or procedures for review and approval (or denial) of all plans and review 100% of all new development and redevelopment projects accordingly. Implementation methods include:

i. Tracking procedures to document review and acceptance process
ii. Checklists to document applicable standards have been adhered to

Reporting Requirements:

a. Total number of new development and redevelopment projectsreviewed in accordance with established policies and procedures; and

b. Were all new development and redevelopment projects reviewed in accordance with the established policy and procedure?

Person(s) or Department Responsible:

Community Development and Planning Department
Stormwater Coordinator
City Engineer
Public Works Director

6.4.4 Management Measure: Public Access to Information

The City must have mechanisms in place for public access to information on new development and redevelopment projects, and receiving and considering comments from the public on those new development and redevelopment projects.

Measurable Goals:

Information for 100% of all construction site projects is accessible to the public. The City has established procedures for access to Public information.

Reporting Requirements:

Is information for all construction site projects accessible to the public?

Person(s) or Department Responsible:

Community Development and Planning Department
City Clerk

6.4.5 Management Measure: Inspector Evaluation and Documentation

The City must have procedures for inspectors to evaluate and document construction site compliance.

Measurable Goals:

a. Inspect a minimum of 10% of active non-priority construction sites in accordance with Stormwater Management Program.
b. Were all non-priority active construction activities inspections conducted accordance with Stormwater Management Program? Implementation methods include:

   i. Documenting inspections on an inspection certification form
   ii. Tracking instances of inspections on a shared database

Reporting Requirement:

Total number of active non-priority construction activities.

Person(s) or Department Responsible:

Construction Inspector

6.4.5.1 Management Measure: Erosion Prevention and Sediment Control

The minimum standards for controlling erosion and sedimentation from land disturbance activities shall be set forth in the latest version of the Tennessee Erosion and Sediment Control Handbook as developed and amended from time to time by the Tennessee Department of Environment and Conservation.
Best Management Practices shall meet the requirements and standards of the latest Tennessee Construction General Permit and shall be enforced in accordance with the City's Stormwater Management Ordinance.

The City reviews development plans, holds pre-construction meetings, performs monthly site inspections, and ensures that development sites achieve stabilization before approving a Notice of Termination. This process ensures that contractors are following the TDE C approved SWPPP, EPSC plan, and City Ordinance requirements.

[See Annex 6 for development review check lists]

Persons or Department Responsible:

Construction Inspector
Stormwater Coordinator

6.4.6 Management Measure: Priority Construction Activities

Priority construction activity shall be at a minimum, those construction activities discharging directly into, or immediately upstream of, waters the state recognized as unavailable condition for siltation or Exceptional Tennessee Waters.

Measurable Goals:

a. Conduct a Pre-construction meeting at 100% of Priority Construction Activities.

b. Inspect 100% of all Priority Construction Activities at least once per calendar month.

i. Documenting inspections on an inspection certification form.
ii. Tracking instances of inspections on a shared database
iii. Document pre-construction meetings with a sign in list

Reporting Requirement:

a. Total number of Priority Construction Activities.

b. Did all Priority Construction Activities have Pre-Construction meetings?

c. Were all Priority Construction Activities inspected at least once per calendar month?

Person(s) or Department Responsible:

Stormwater Coordinator
Construction Inspector

6.4.6.1 Management Measure: Pre-Construction Review Procedures

Pre-construction meetings are held between City staff (including but not limited to: City Engineer, Stormwater Coordinator, Director of Public Works, Construction Inspector, Community Development and Planning Department Director, and representatives from other City departments as needed) and the contractors responsible for all development sites, including non-priority construction activities where SCMs are req uired. Prior to the pre-construction meeting, City staff will identify whether the construction activity is considered a priority construction activity and will discuss special requirements with the contractor. This meeting occurs on-site after the contractor has properly installed the approved erosion and sediment control BMPs to ensure conformance with erosion and sediment control plan and proper installation techniq ues. Grading permits are not issued until the temporary BMPs have been approved on-site.

Persons or Department Responsible:

City Engineer
Construction Inspector
Stormwater Coordinator
Director of Public Works

6.4.6.2 Management Measure: Inspection and Enforcement Procedures

City staff shall be provided ready access to all parts of premises with the jurisdiction for purposes of inspection, monitoring, sampling, inventory, records examination and copying, and performance of any other duties necessary to determine compliance with the City s Stormwater Ordinance. All development sites, including select non-priority construction activities, will be inspected by the City at least once per month.

The City may institute appropriate actions or proceedings at law or equity for the enforcement of the Stormwater Ordinance. Any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, and other appropriate forms of remedy or relief. Each day of noncompliance is considered a separate offense; nothing contained herein shall prevent the City from taking such other lawful action as is necessary to prevent or remedy any violation, including application for injunctive relief. Any of the following enforcement remedies and penalties shall be available to the City in response to violations of this ordinance. If the person, property, or facility has or is required to have a Stormwater discharge permit from the Tennessee Department of Environment and Conservation, the City shall alert the appropriate state authorities of the violation.

Enforcement procedures can be found in Annex 1, Stormwater Management Ordinance and Enforcement Response Plan.

Persons or Department Responsible:

Public Works Director
Stormwater Coordinator

6.5 Management Measure: Post-Construction/Permanent Stormwater Management in New Development and Redevelopment

The action of developing a site can result in replacing existing permeable areas with impervious surfaces, such as buildings, parking lots, and sidewalks. Increasing impervious surfaces have the effect of increasing Stormwater runoff and consequently can increase the potential of carrying pollutants into surface waters if no compensation or mitigation measures are implemented. Green Infrastructure is an approach to water management that protects, restores, and mimics the natural water cycle and includes techniques that can be implemented to mitigate or compensate for increased impervious surfaces. Green Infrastructure techniques include but are not limited to increasing infiltration with onsite measures, such as vegetated swales, increasing landscape to paved area ratios, stormwater planter boxes, vegetated curb extensions, and using pervious surfaces for parking lots and walk ways.

Post-construction stormwater management shall be required at all new development and redevelopment projects that disturb one acre or more of land, or less than one acre if part of a larger common plan of development.

The City shall develop and implement a permanent stormwater management program to reduce pollutants in stormwater discharges through management practices, control techniques, and systems, design, and engineering practices implemented to the maximum extent practicable (MEP).

The permanent stormwater management program shall include plans review, site inspections, and a means to ensure that permanent stormwater control measures (SCMs) are adequately operated and maintained.

The Stormwater Management Ordinance shall address permanent stormwater management at new development and redevelopment projects.

Compliance with permanent stormwater standards for new development and redevelopment projects is determined by designing and installing SCMs as established by Tennessee Rule 0400-40-10-.04 and complying with other requirements of Tennessee Rule 0400-40-10-.04. For design purposes, total suspended solids (TSS) may be used as the indicator for the reduction of pollutants.

SCMs shall be designed to provide full treatment capacity within 72 hours following the end of the preceding rain event for the life of the new development or redevelopment project.

The water quality treatment design storm is a 1-year, 24-hour storm event as defined by Precipitation-Frequency Atlas of the United States. Atlas 14. Volume 2. Version 3.0. U.S. Department of Commerce. National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Springs, Maryland or its digital product equivalent. The water quality treatment volume (WQTV) is a portion of the runoff generated from impervious surfaces at a new development or redevelopment project by the design storm, as set forth below. Uncontaminated roof runoff may be excluded from the WQTV.5 SCMs must be designed, at a minimum, to achieve an overall treatment efficiency of 80% TSS removal from the WQTV. The quantity of the WQTV depends on the type of treatment provided, as established in the following table.

Table 5. Water Quality Treatment Volume

Water Quality Treatment Volume and the Corresponding SCM Treatment Type for the 1-year, 24-hour design storm		
SCM Treatment Type	WQTV	Notes
Infiltration, evaporation, transpiration, and/or reuse	Runoff generated from the first 1 inch of the design storm	Examples include, but are not limited to, bioretention, stormwater wetlands, and infiltration systems.
Biologically active filtration, with an underdrain	Runoff generated from the first 1.25 inches of the design storm	To achieve biologically active filtration, SCMs must provide minimum of 12 inches of internal water storage.
Sand or gravel filtration, settling ponds, extended detention ponds, and wet ponds	Runoff generated from the first 2.5 inches of the design storm or the first 75% of the design storm, whichever is less	Examples include, but are not limited to, sand filters, permeable pavers, and underground gravel detention systems. Ponds must provide forebays comprising a minimum of 10% of the total design volume. Existing regional detention ponds are not subject to the forebay requirement.
Hydrodynamic separation, baffle box settling, other flow-through manufactured treatment devices (MTDs), and treatment trains using MTDs	Maximum runoff generated from the entire design storm	Flow-through MTDs must provide an overall treatment efficiency of at least 80% TSS reduction.

Treatment Train Calculations

1. Treatment trains using MTDs.

Treatment trains using MTDs must provide an overall treatment efficiency of at least 80% TSS reduction utilizing the following formula:

The calculation:

$R = A + B – (A \times B) / 100$

Where:

R = total TSS percent removal from application of both SCMs,
A = the TSS percent removal rate applicable to the first SCM, and
B = the TSS percent removal rate applicable to the second SCM.

TSS removal rates for MTD must be evaluated using industry-wide standards.
TSS removal rates for other SCMs must be from published reference literature.

2. Treatment trains not using MTDs.

Treatment trains using infiltration, evaporation, transpiration, reuse, or biologically active filtration followed by sand or gravel filtration, settling ponds, extended detention ponds or wet ponds may subtract the treated WQTV of the upstream SCMs from the WQTV of the downstream SCMs.

The City may allow for a reduction of the WQTV for a new development or redevelopment project up to 20% for any one of the following conditions, and up to a total maximum of 40% for a combination of the following conditions:

1. Redevelopment projects (including, but not limited to, brownfield redevelopment);

2. Vertical density (floor to area ratio of at least 2, or at least 18 units per acre).

6.5.1 Management Measure: Water Quality Riparian Buffers

The City shall protect and maintain permanent water quality riparian buffers to provide additional water quality treatment in riparian areas of new development and redevelopment projects that contain streams, including wetlands, ponds, and lakes.

Riparian buffers shall meet the following minimum standards:

	Average Buffer Width (feet)	Minimum Buffer Width (feet)	Note:
Waters with **available** parameters for siltation or habitat alteration or unassessed waters	30	15	The criteria for the width of the buffer zone can be established on an average width basis at a project, if the minimum width of the buffer zone is more than the required minimum width at any measured location.
Exceptional Tennessee Waters or waters with **unavailable** parameters for siltation or habitat alteration	60	30	If the new development or redevelopment site encompasses both sides of a stream, buffer averaging can be applied to both sides, but must be applied independently.

Table 6. Water Quality Riparian Buffers

The predominant vegetation within the minimum buffer width area should be trees. The remaining riparian buffers may be composed of herbaceous cover or infiltration-based SCMs.

Measurable Goals:

a. 100% of projects must have the required buffer.

b. 100% of projects with permanent alternative buffer widths must be in accordance with the procedures and criteria approved by the Division as applicable. Implementation methods include:

i. Plan review process

Reporting Requirement:

a. Yes/No Did all the projects approved meet the buffer requirements.
b. Number of projects approved with alternative width buffer width.
c. Date of alternative buffer width procedures and criteria most recently approved by TDEC.

Person(s) or Department Responsible:

Stormwater Coordinator
Public Works Director

6.5.2 Management Measure: Project Plan Review, Approval, and Enforcement

The City shall develop and implement project plan review, approval, and Enforcement procedures applicable, at a minimum, to all new development and redevelopment projects, which shall include:

a. Procedures for review and approval of site plans, including inter-departmental consultations and a re-submittal process when modifications to the project require changes to an approved site design plan;

b. A plan review process that requires SCMs to be properly designed, installed, and maintained to meet the performance standards established in Tennessee Rule 0400-40-10-.04. The process must also include any incentives adopted, along with water quality buffers; and

c. A verification process to document that SCMs have been installed per design specifications within 90 days of installation. Verification shall include submission of as-built plans to the permittee, permittee inspection, or inspection by a qualified design professional. The verification process shall include enforcement procedures to bring noncompliant projects into compliance, which shall be detailed in the enforcement response plan.

Final site inspections are carried out when all work, including installation of permanent stormwater management facilities, has been completed and the site has been stabilized. The grading permit for a given site is not closed out until a final punch list inspection has been performed and deficiencies have been corrected by the contractor. Once the site is approved, the Engineer of Record certifies the as-built survey and issues the certification to the City. Performance bonds are not released until the as-built certification is received and approved by the City.

Measurable Goals:

Establish policies and/or procedures for review and approval (or denial) of all plans and review all new development and redevelopment projects accordingly. The City has an established plan review process. Grading and drainage plans are reviewed by Public Works and the City Engineer.

Reporting Requirements:

a. Total number of all new development and redevelopment projects reviewed.

b. Number of new development and redevelopment projects reviewed in accordance with the established policy and procedure

Person(s) or Department Responsible:

Public Works Director
Community Development and Planning Department
City Engineer
Stormwater Coordinator

6.5.2.1 Management Measure: Stormwater Control Measures

The City shall develop, implement, and enforce policies and procedures for SCM installation verification

The City requires the use of Low Impact Development (LID) and Green Infrastructure Practices (GIP) for site developments to meet the requirements of the Stormwater Management Ordinance.

Measurable Goals:

Verify that 100% of SCMs are installed per design specifications in accordance with approved plan within 90 days of installation. Implementation methods include:

i. Requirement for as-built certification of all projects with post construction SCM's

Reporting Requirement:

a. Total number of sites verified.

b. Yes/No Were all SCMs are installed per design specifications in accordance with approved plan within 90 days of installation.

Person(s) or Department Responsible:

Public Works Director
City Engineer
Stormwater Coordinator

6.5.3 Management Measure: Maintenance of Permanent Stormwater Control Measure Assets

The City must establish and maintain adequate legal authority assigning SCM maintenance responsibility and personnel access to the SCM and provide for enforcement action.

All procedures, reports, and documentation are maintained as part of the stormwater management program.

The Program includes:

a. Maintenance and inspection procedures and frequencies for approved SCMs, which shall require all SCMs to be inspected at least once every five years by a licensed professional engineer, a licensed landscape architect, or other qualified professional familiar with applicable SCM design and maintenance requirements;

b. Documentation of the procedure the permittee will use to verify that SCMs are being inspected and maintained including any written reports from the responsible party;

c. A clear, documented, legally binding agreement assigning SCM maintenance responsibility to the owner/operator, a third party, or the permittee as appropriate. For SCMs designed to manage stormwater from multiple properties, appropriate deed restrictions shall be recorded;

d. An allowance or agreement for permittee personnel to access the SCMs for inspections and provide for enforcement action for failure to maintain SCMs according to agreement.

Measurable Goals:

a. The City must have the legal authority to access SCMs and assigned maintenance responsibility for 100% of all SCMs'

b. Enforce as directed in the appropriate legal authority, for 100% of all SCMs that have not been properly maintained. Implementation methods include:

i. Require a SCM agreement for all new projects
ii. Annual inspection requirements for existing SCM's

Reporting Requirements:

a. Yes/No Does the permittee have adequate legal authority as required?

b. Number of SCMs that have not been properly operated or maintained.

c. Yes/No Have enforcement actions been taken in accordance with the appropriate legal authority or ERP?

Person(s) or Department Responsible:

Public Works Director
City Attorney
Stormwater Coordinator

6.5.4 Management Measure: Inventory and Tracking of Permanent Stormwater Control Measures

The inventory and tracking system must be a searchable database, either paper or electronic, that retrieves SCM information by location or other similar identification. The system must be made available to the Division or to members of the public upon request. The system should include information and records the permittee will use to demonstrate that SCMs are properly maintained, including but not limited to:

a. A brief description of the type of SCM and basic design characteristics;

b. The responsible party contact information;

c. Inspection schedules;

d. A brief description of or reference to maintenance procedures and frequency;

e. Photographs of the installed SCMs; and

f. Maintenance and inspection records.

Measurable Goals:

a. The system must be made available to the Division or members of the public upon request.

b. 100% of all SCMs must be included in the inventory tracking system with complete information.

Reporting Requirement:

a. Total number of requests for inventory.

b. Yes/No Are all SCMs in the inventory tracking system?

c. Yes/No Do all SCMs in the inventory tracking system have complete information?

Person(s) or Department Responsible:

Stormwater Coordinator
Construction Inspector

6.6 POLLUTION PREVENTION AND GOOD HOUSEKEEPING

The goal of this control measure is to develop and implement an operation and maintenance program with a training component that has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

This program will inventory all sites currently owned and/or operated by the city, review the runoff control plan for those locations, and emphasize proper training and education of employees.

6.6.1 Management Measure: Employee Training

This program includes an employee training program for employees responsible for municipal operations at facilities within the jurisdiction that handle, generate, and/or store materials which constitute a potential pollutant of concern for MS4s. The goal of the training program is to identify pollutants and prevent and/or reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance. The program must Identify all applicable job categories for training and include these job categories and associated training management measures in the PIE plan. New employees shall be trained within six months of their employment or movement into an applicable job category. All responsible employees must receive training and/or retraining within the permit term.

Measurable Goals:

Educate all employees as identified by job category in the PIE plan. New employees must be trained within six months of their employment or movement into an applicable job category. All responsible employees must receive training and/or retraining within the permit term.

Reporting Requirements:

a. For employees that are new to the MS4 or new to the job category: provide the total number of employees NOT educated in accordance with the PIE plan within 6 months.

b. For existing employees provide the total number of employees NOT educated in accordance with the PIE plan within the permit term.

Person(s) or Department Responsible:

Public Works Director
Office Manager
Stormwater Coordinator

6.6.2 Management Measure: Operation and Maintenance (O & M) Program

Develop an operation and maintenance (O&M) program detailing the activities and procedures the permittee will

implement so that the MS4 infrastructure is maintained to reduce the discharge of pollutants from the MS4 for each of the following municipal operations as applicable:

a. streets, roads, highways;

b. municipal parking lots;

c. maintenance and storage yards;

d. fleet or maintenance shops with outdoor storage areas;

e. salt/sand storage locations;

f. snow disposal areas operated by the permittee; and

g. waste disposal, storage, and transfer stations.

The O&M program must include the following management practices at a minimum:

a. Minimize or Prevent Exposures of Materials to Precipitation;

b. Good Housekeeping;

c. Preventative Maintenance;

d. Spill Prevention and Response;

e. Erosion and Sediment Control;

f. Management of Runoff;

g. Control Measure Maintenance; and

h. Facility Site Inspections.

An O&M Facility Plan for each applicable municipal facility shall be developed and implement and must include the following at a minimum:

a. Inventory of management practices on site;

b. Procedures and documentation for the implementation of the management practices on site; and

c. Maintenance Procedures and Frequencies for each Stormwater Control Measure.

Measurable Goals:

a. All applicable Municipal operations must have an O&M Facility Plan.

b. Conduct a facility site inspection in accordance with the Stormwater Management Program at all municipal operation facilities at least once every 12 months.

Reporting Requirements:

a. Number of Municipal Operations Facilities.

b. Yes/No Do all Municipal Operations Facilities have a O&M Facility Plan?

c. Number of Municipal Operations Facilities NOT inspected in accordance with the Stormwater Management Program in the previous 12 months.

Person(s) or Department Responsible:

Public Works Director
Stormwater Coordinator

7 PROGRAM EVALUATION

An annual evaluation of the Stormwater Management Program is required to evaluate compliance with the terms and conditions of the permit, including the effectiveness of the BMPs, components, or controls of its stormwater management program, and the status of achieving the measurable requirements in the permit.

7.1 Management Measure: Annual Evaluation

Conduct an annual evaluation of the current Stormwater Management Program.

Measurable Goals:

a. Summarize evaluation results.

b. Identify modifications or replacement of an ineffective activity/control measure/component/BMP.

c. Summarize the assessment results, and any modifications and improvements scheduled to be implemented in the next reporting period to improve the program or remedy deficiencies or weaknesses.

Reporting Requirements:

The results shall be summarized and documented in a narrative format.

Person(s) or Department Responsible:

Public Works Director
Stormwater Coordinator

7.2 Management Measure: Minimum Control Measure (MCM) Status Determination

Measurable Goals:

Indicate compliance status for each of the six MCMs and the Monitoring Program.

Reporting Requirements:

Yes/No? Compliant with Permit Requirements?

If no provide more details.

Person(s) or Department Responsible:

Public Works Director
Stormwater Coordinator

8 STORMWATER MONITORING

8.1 Management Measure: Stormwater Monitoring

Develop and implement a monitoring and assessment program that provides data and information to identify pollutant sources and aids in determining the effectiveness of the stormwater management program.

Measurable Goals:

Perform specified monitoring for the stream segments that were designated as unavailable conditions for nutrients, pathogens, and siltation by TDEC upon the effective date of the current permit.

a. Visual Stream Assessment

Visual Stream Surveys and Unavailable Parameter Inventories must be performed on each stream segment within the MS4 jurisdiction with unavailable parameters for siltation, pathogens, and nutrients to identify and prioritize sources of these pollutants of concern. At a minimum, a visual stream survey must be performed immediately upstream and downstream of each MS4 outfall that discharges into that stream segment. All stream segments with unavailable parameters in the permitted jurisdiction must be surveyed once every five-year period.

b. E. coli Sampling

For stream segments identified by the Division as waters with unavailable parameters for pathogens, bacteriological stream sampling must be performed utilizing methods identified in the Division's most current version of the Quality System Standard Operating Procedure for Chemical and Bacteriological Sampling of Surface Water. Monitoring shall include the collection of five samples within a thirty-day period (to establish a geometric mean) and be performed during the summer (March through November). Corresponding flow measurement is recommended but not required. At least one series of five samples per stream segment must be collected, with all segments within the MS4 jurisdiction sampled in a five-year period.

c. Benthic Macroinvertebrate Sampling

For stream segments identified by the Division as waters with unavailable parameters for siltation and/or nutrients, biological stream sampling and habitat assessment must be performed utilizing the Semi-Quantitative Single Habitat (SQSH) Method as identified in TDECs most current version of the Quality System Standard Operating Procedure for Macroinvertebrate Stream Survey. At least one sample per stream segment must be collected, with all segments within the MS4 jurisdiction sampled in a five-year period i.e. no more than 5 years between samples in a segment.

Reporting Requirements:

a. Yes / No. Monitoring for the reporting year has been performed.

b. Provide a summary of monitoring results with the annual report.

c. Upload a copy of all monitoring data with the annual report.

Person(s) or Department Responsible:

Public Works Director
Stormwater Coordinator

See Annex 4 for Water Quality Monitoring Plan

Annex List

Annex 1 – City of Springfield Stormwater Management Ordinance & MS4 Enforcement Response Plan

Annex 2 - City of Springfield Public Information and Education Plan

Annex 3 - Illicit Discharge Detection and Elimination SOP

Annex 4 - City of Springfield Water Quality Monitoring Plan

Annex 5 - City of Springfield Public Works SOP

Annex 6 – Public Works Stormwater Plan Review Documents

ANNEX 1

ORDINANCE xx-xx

STORMWATER MANAGEMENT ORDINANCE

City of Springfield, Tennessee

December 2023

STORMWATER MANAGEMENT

SECTION

SECTION 1 <u>General provisions</u>

(1) <u>Purpose.</u> It is the purpose of this chapter to:

a. Protect, maintain, and enhance the environment of the City of Springfield (City) and the public health, safety, and the general welfare of the citizens of the City, by controlling discharges of pollutants to the City's stormwater system and to maintain and improve the quality of the receiving waters into which the stormwater outfalls flow, including, without limitation, lakes, rivers, streams, ponds, wetlands, and groundwater of the City;

b. Enable the City to comply with the National Pollution Discharge Elimination System permit (NPDES) and applicable regulations, 40 CFR § 122 as applicable for stormwater discharges;

c. Allow the City to exercise the powers granted in Tennessee Code Annotated § 68-221-1105, which provides that, among other powers cities have with respect to stormwater facilities, is the power by ordinance or resolution to:

i. Exercise general regulation over the planning, location, construction, and operation and maintenance of stormwater facilities in the City, whether or not owned and operated by the City;

ii. Adopt any rules and regulations deemed necessary to accomplish the purposes of this statute, including the adoption of a system of fees for services and permits;

iii. Establish standards to regulate the quantity of stormwater discharged and to regulate stormwater contaminants as may be necessary to protect water quality;

iv. Review and approve plans and plats for stormwater management in proposed subdivisions or commercial developments;

v. Issue permits for stormwater discharges, or for the construction, alteration, extension, or repair of stormwater facilities;

vi. Suspend or revoke permits when it is determined that the permittee has violated any applicable ordinance, resolution, or condition of the permit;

vii. Regulate and prohibit discharges into stormwater facilities of sanitary, industrial, or commercial sewage or waters that have otherwise been contaminated; and

viii. Expend funds to remediate or mitigate the detrimental effects of contaminated land or other sources of stormwater contamination, whether public or private.

(2) Administering entity. The Director of Public Works or his/her designee shall administer the provisions of this ordinance.

(3) Stormwater management ordinance. The intended purpose of this ordinance is to safeguard property and public welfare by regulating stormwater drainage and requiring temporary and permanent provisions for its control. It should be used as a planning and engineering tool for permit compliance and to facilitate the necessary control of stormwater.

SECTION 2. Definitions. For the purpose of this chapter, the following definitions shall apply:

Words used in the singular shall include the plural, and the plural shall include the singular; words used in the present tense shall include the future tense. The word “shall” is mandatory and not discretionary. The word “may” is permissive. Words not defined in this section shall be construed to have the meaning given by common and ordinary use as defined in the latest edition of Webster’s Dictionary.

1. **Administrative or Civil Penalties** - Under the authority provided in Tennessee Code Annotated § 68-221-1106, the City declares that any person violating the provisions of this chapter may be assessed a civil penalty by the City of not less than fifty dollars ($50.00) and not more than five thousand dollars ($5,000.00) per day for each day of violation. Each day of violation shall constitute a separate violation.

2. **Analytical monitoring -** Test Procedures for the Analysis of Pollutants - Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304 (h) of the Clean Water Act (the "Act"), as amended, under which such procedures may be required. Pollutant parameters shall be determined using sufficiently sensitive methods in Title 40 C.F.R. §

136, as amended, and promulgated pursuant to Section 304 (h) of the Act. The chosen methods must be sufficiently sensitive as required in state rule 0400-40-03-.05(8).

3. **Aquatic Resource Alteration Permit (ARAP)** physical alterations to properties of the waters of the state require an ARAP or a §401 Water Quality Certification (§401 certification). ARAP means a permit issued pursuant to T.C.A. § 69-3-108 of the Act, which authorizes the alteration of properties of waters of the state that result from activities other than discharges of wastewater through a pipe, ditch, or other conveyance.

4. **As-built plans (record drawings)** mean drawings depicting conditions as they were actually constructed.

5. **Best Management Practices ("BMPs")** means schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the discharge of pollutants to waters of the state. BMPs also include treatment requirements, operating procedures; and practices to control plant site runoff, spillage, leaks, sludge or waste disposal, or drainage from raw material storage. BMPs include source control practices (non-structural BMPs) and engineered structures designed to treat runoff.

    - Structural BMPs are facilities that help prevent pollutants in stormwater runoff from leaving the site.

    - Non-structural BMPs are techniques, activities and processes that reduce pollutants at the source.

6. **BMP Manual** provides technical guidance including additional policies, criteria, standards, specifications, constants, and information for the proper implementation of the requirements of the National Pollution Discharge Elimination System permit (NPDES) and applicable regulations, 40 CFR § 122 as applicable for stormwater discharges.

7. A **Bond** is an instrument with a clause or irrevocable letter of credit, with a sum of money fixed as a penalty, binding the parties to pay the same: conditioned, however, that the payment of the penalty may be avoided by the performance by some one or more parties of certain acts.

8. **Borrow Pit** is an excavation from which erodible material (typically soil) is removed to be fill for another site. There is no processing or separation of erodible material conducted at the site. Given the nature of activity and pollutants present at such excavation, a borrow pit is considered a construction activity.

9. **Buffer Zone or Water Quality Riparian Buffer** is a permanent strip of natural perennial vegetation, adjacent to a stream, river, wetland, pond, or lake that contains dense vegetation made up of grass, shrubs, and/or trees. The purpose of a water quality riparian buffer is to maintain existing water quality by minimizing risk of any potential sediments, nutrients or other pollutants reaching adjacent surface waters and to further prevent negative water quality impacts by providing canopy over adjacent waters.

10. **Channel** means a natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

11. **Clearing** refers to removal of vegetation and disturbance of soil prior to grading or excavation in anticipation of construction activities. Clearing may also refer to wide area land disturbance in anticipation of non-construction activities. Clearing, grading, and excavation do not refer to clearing of vegetation along existing or new roadways, highways, dams, or power lines for sight distance or other maintenance and/or safety concerns, or cold planing, milling, and/or removal of concrete and/or bituminous asphalt roadway pavement surfaces. The clearing of land for agricultural purposes is exempt from federal stormwater NPDES permitting in accordance with Section 401(1)(1) of the 1987 Water Quality Act and state stormwater NPDES permitting in accordance with the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.).

12. **Commencement of construction:** the initial disturbance of soils associated with clearing, grading, excavating or other construction activities.

13. **Common plan of development or sale** is broadly defined as any announcement or documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating construction activities may occur on a specific plot. A common plan of development or sale identifies a situation in which multiple areas of disturbance are occurring on contiguous areas. This applies because the activities may take place at different times, on different schedules, by different operators.

14. **Control measure** refers to any Best Management Practice (BMP) or other method used to prevent or reduce the discharge of pollutants to waters of the state.

15. **CWA** means the Clean Water Act of 1977 or the Federal Water Pollution Control Act (33 U.S.C. 1251, et seq.)

16. **Design storm** is a storm event as defined by Precipitation-Frequency Atlas of the United States. Atlas 14. Volume 2. Version 3.0. U.S. Department of Commerce. National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Springs, Maryland or its digital product equivalent. The estimated design rainfall amounts, for any return period interval (i.e., 1,-yr, 2-yr, 5-yr, 25-yr, etc.,) in terms of either depths or intensities for any duration, can be found by accessing the data available at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html. The design is required to control peak flow at the outlet of a site such that post-development peak flows are equal to or less than pre-development peak flows for the 2- year, 5-year, 10-year, 25-year, 50-year, and 100-year design storms.

17. **Director of Public Works** refers to the City of Springfield, Tennessee Department of Public Works Director, and designated staff.

18. **Discharge or discharge of a pollutant** refers to the addition of pollutants to waters from a source.

19. An **ecoregion** is a relatively homogeneous area defined by similarity of climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables. Ecoregions can be determined for specific stream segments by using Tennessee's Online Water Quality Assessment Data viewer http://tdeconline.tn.gov/dwr.

20. **Exceptional Tennessee Waters** are surface waters designated by the Tennessee Department of Environment and Conservation as having the characteristics set forth at Tennessee Rules, Chapter 0400-40-03-.06(4). Characteristics include waters within parks or refuges; scenic rivers; waters with threatened or endangered species; waters that provide specialized recreational opportunities; waters within areas designated as lands unsuitable for mining; waters with naturally reproducing trout; waters with exceptional biological diversity and other waters with outstanding ecological or recreational value **Hot spot** means an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater. Examples may include operations producing concrete or asphalt, auto repair shops, auto supply shops, large commercial parking areas and restaurants.

21. **Grading (land disturbance)** is any operation or occurrence by which the existing site elevations are changed; or where any ground cover, natural, or man-made, is removed; or any watercourse or body of water, either natural or man-made, is relocated on any site, thereby creating an unprotected area (soil particles directly exposed to precipitation and stormwater runoff). This includes stripping, grubbing, cutting, filling, stockpiling, or any combination thereof, and shall apply to the land in its cut or filled condition. Grading activities may only be performed with a Land Disturbance Permit.

22. **Improved sinkhole** is a natural surface depression that has been altered in order to direct fluids into the hole opening. Improved sinkhole is a type of injection well regulated under the Underground Injection Control (UIC) program of the Tennessee Department of Environment and Conservation. Underground injection constitutes an intentional disposal of waste waters in natural depressions, open fractures and crevices, such as those commonly associated with weathering of limestone.

23. **Level 1** - Fundamentals of Erosion Prevention and Sediment Control training and certification program administered by University of Tennessee Water Resources Research Center (https://tnepsc.org/index.asp).

24. **Level 2** - Design Principles for Erosion Prevention and Sediment Control for Construction Sites training and certification program administered by University of Tennessee Water Resources Research Center (https://tnepsc.org/index.asp).

25. **Linear Project** is a land disturbing activity as conducted by an underground/overhead utility or highway department, including, but not limited to, any cable line or wire for the transmission of electrical energy; any conveyance pipeline for transportation of gaseous or liquid substance; any cable line or wire for communications; or any other energy resource transmission ROW or utility infrastructure, e.g., roads and highways. Activities include the construction and installation of these utilities within a corridor. Linear project activities also include the construction of access roads, staging areas and borrow/spoil sites associated with the linear project. Land disturbance specific to the development of residential and commercial subdivisions or high-rise structures is not considered a linear project.

26. **Monitoring** refers to tracking or measuring activities, progress, results, etc., and can refer to non-analytical monitoring for pollutants by means other than 40 C.F.R. § 136 (and other than

state- or federally established protocols in the case of biological monitoring and assessments), such as visually or by qualitative tools that provide comparative values or rough estimates.

27. **Municipality** means any incorporated city or town, county, metropolitan or consolidated government, or special district of Tennessee empowered to provide stormwater facilities.

28. **Operator** means any person who owns, leases, operates, controls, or supervises a source. Including, but not limited to, an owner or operator of any "facility or activity" subject to regulation under the NPDES program.

29. **Permanent Stabilization** means that all soil disturbing activities at the site have been completed and one of the three following criteria is met:

    - A perennial, preferably native, vegetative cover with a uniform (i.e., evenly distributed, without large bare areas) density of at least 70 percent has been established on all unpaved areas and areas not covered by permanent structures, and all slopes and channels have been permanently stabilized against erosion.

    - Equivalent permanent stabilization measures such as the use of riprap; permanent geotextiles; hardened surface materials including concrete, asphalt, gabion baskets or Reno mattresses have been employed.

    - For construction projects on land used for agricultural or silvicultural purposes, permanent stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural or silvicultural use.

30. **Point source** (or Outfall) means 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 introduction of pollutants from non-point source agricultural and silvicultural activities, including stormwater runoff from orchards, cultivated crops, pastures, range lands, forest lands or return flows from irrigated agriculture or agricultural stormwater runoff. In short, outfall is a point where runoff leaves the site as a concentrated flow in a discrete conveyance.

31. **Pollutant** means sewage, industrial wastes, or other wastes.

32. **Priority construction** means those construction activities discharging directly into, or immediately upstream of, waters the state recognized as unavailable condition for siltation or Exceptional Tennessee Waters.

33. A **rainfall event** is defined as any occurrence of rain preceded by 10 hours without precipitation that results in an accumulation of 0.01 inches or more. Instances of rainfall occurring within 10 hours of each other will be considered a single rainfall event.

34. **Redevelopment** refers to development improvements that have a value less than 50% of the current assessed value and/or increases the floor area by less than 25%. Demolition and reconstruction are considered development and not redevelopment. Note: this is different than significant redevelopment.

35. **Registered Engineer and Registered Landscape Architect** An engineer or landscape architect certified and registered by the State Board of Architectural and Engineer Examiners pursuant to Section 62-202, Tennessee Code Annotated, to practice in Tennessee.

36. **Runoff coefficient** means the fraction of total rainfall that will appear at the conveyance as runoff. Runoff coefficient is also defined as the ratio of the amount of water that is not absorbed by the surface to the total amount of water that falls during a rainstorm.

37. **Sediment** means solid material, both inorganic (mineral) and organic, that is in suspension, is being transported; or has been moved from the site of origin by wind, water, gravity or ice as a product of erosion.

38. **Sediment basin** A temporary basin consisting of an embankment constructed across a wet weather conveyance, an excavation that creates a basin or by a combination of both. A sediment basin typically consists of a forebay cell, impoundment, permanent pool, primary spillway, secondary or emergency spillway and surface dewatering device. The size and shape of the basin depends on the location, size of drainage area, incoming runoff volume and peak flow, soil type and particle size, land cover, and receiving stream classification (i.e., waters with unavailable parameters, Exceptional TN Waters, or waters with available parameters).

39. **Sedimentation** means the action or process of forming or depositing sediment.

40. **Significant Contributor** is defined as a source of pollutants where the volume, concentration, or mass of a pollutant in a stormwater discharge can cause or threaten to cause pollution, contamination, or nuisance that adversely impact human health or the environment and cause or contribute to a violation of any applicable water quality standards for receiving water.

41. **Significant Redevelopment** refers to development improvements that have a value greater than 50% of the current assessed value, increases the floor area 25% or more, any change in the impervious surface area, redirects the flow of stormwater runoff in any way, modifies the storm sewer system, or changes stormwater characteristics. Demolition and reconstruction is considered development and not redevelopment. Note: this is different than redevelopment.

42. **Soil or Topsoil** means the unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of plants.

43. **Steep Slope or Steep Grade** means a natural or created slope of 35% grade or greater.

44. **Stormwater** means rainfall runoff, snow melt runoff, and surface runoff and drainage.

45. **Stormwater control measure or SCM** means permanent practices and measures designed to reduce the discharge of pollutants from new development projects or redevelopment projects.

46. **Stormwater Coordinator** refers to an employee reporting directly to the Director of Public Works. Serves as the designee to implement this ordinance.

47. **Stream** as defined by TCA 69-3-103(38) “stream” means a surface water that is not a wet weather conveyance.

48. **Stormwater associated with industrial activity** is defined in 40 C.F.R. 122.26(b)(14) and incorporated here by reference. Most relevant to the City is 40 C.F.R. 122.26(b)(14)(x), which relates to construction activity including clearing, grading, filling and excavation activities, including borrow pits containing erodible material. Disturbance of soil for the purpose of crop production is exempt from NPDES permit requirements, but stormwater discharges from agriculture-related activities that involve construction of structures (e.g., barn construction, road construction, pond construction) are considered associated with industrial (construction) activity. Maintenance to the original line and grade, hydraulic capacity; or to the original purpose of the facility (e.g., re-clearing, minor excavation performed around an existing structure necessary for maintenance or repair and repaving of an existing road) is not considered a construction activity.

49. **Construction stormwater discharge-related activities** means activities that1 cause, contribute to or result in point source stormwater pollutant discharges. These activities may include excavation, site development, grading and other surface disturbance activities; and activities to control stormwater including the siting, construction and operation of best management practices (BMPs).

50. **Stormwater Pollution Prevention Plan (SWPPP)** is a written site-specific plan required by the Tennessee Construction General Permit (CGP) that includes a narrative pollution prevention plan and graphical erosion and sediment control plan. In its basic form, the plan contains a site map, a description of construction activities that could introduce pollutants to stormwater runoff, a description of measures or practices to control these pollutants, and erosion and sediment control plans and specifications. The SWPPP should be prepared in accordance with the Tennessee Erosion and Sediment Control Handbook (latest edition).

51. **Take of an endangered species** means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct.

52. **Tennessee Erosion and Sediment Control (TDESC) Handbook** is a guidance issued by the Division of Water Resources for the purpose of developing Stormwater Pollution Prevention Plans and Erosion and Sediment Control Plans required by the Construction General Permit CGP.

53. **Temporary stabilization** is achieved when vegetation or non-erodible surface has been established on the area of disturbance and construction activity has temporarily ceased. Under certain conditions, temporary stabilization is required when construction activities temporarily cease.

54. **Treatment chemicals** are polymers, flocculants or other chemicals used to reduce turbidity in stormwater discharges by chemically bonding to suspended silts and other soil materials and causing them to bind together and settle out. Common examples of anionic treatment chemicals are **polyacrylamide-chitosan** (**PAM–CS**).

55. **Turbidity** is the cloudiness or haziness of a fluid caused by individual particles (suspended solids) that are generally invisible to the naked eye, similar to smoke in air.

56. **Waste site** is an area where material from a construction site is disposed of. When the material is erodible, such as soil, the site must be treated as a construction site.

57. **Waters (or waters of the state)** means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof, except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.

58. **Waters with unavailable parameters** means any segment of surface waters that has been identified by the TDEC as failing to support one or more classified uses. Unavailable parameters exist where water quality is at, or fails to meet, the levels specified in water quality criteria in Rule 0400-40-03-.03, even if caused by natural conditions. In the case of a criterion that is a single response variable or is derived from measurement of multiple response variables, the unavailable parameters shall be the agents causing water quality to be at or failing to meet the levels specified in criteria. Resources to be used in making this determination include biennial compilations of impaired waters, databases of assessment information, updated GIS coverages (https://tdeconline.tn.gov/dwr/), and the results of recent field surveys. GIS coverages of the streams and lakes not meeting water quality standards, plus the biennial list of waters with unavailable parameters, can be found at https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/water-quality-reports---publications.html.

59. **Water quality riparian buffer** means a permanent strip of natural perennial vegetation adjacent to a stream, river, wetland, pond, or lake that contains dense vegetation made up of grass, shrubs, and/or trees. The purpose of a water quality riparian buffer is to maintain existing water quality by minimizing the risk of any potential sediments, nutrients, or other pollutants reaching adjacent surface waters and to further prevent negative water quality impacts by providing canopy over adjacent waters.

60. A **one-week period** is a synonym of a calendar-week; typically, a period from Sunday through Saturday

61. **Water quality treatment volume (WQTV)** is a portion of the runoff generated from impervious surfaces at a new development or redevelopment project by the 1-year 24-hour design storm. The WQTV is further determined by the type of treatment provided.

62. **Wet weather conveyances** are man-made or natural watercourses, including natural watercourses that have been modified by channelization, that meet the following:

    - The conveyance carries flow only in direct response to precipitation runoff in its immediate locality.
    - The conveyance's channels are at all times above the groundwater table.
    - The flow carried by the conveyance is not suitable for drinking water supplies.
    - Hydrological and biological analyses indicate that, due to naturally occurring ephemeral or low flow under normal weather conditions, there is not sufficient water to support fish or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two months. (Tennessee Rules, Chapter 0400-40-3-.04(3)).

SECTION 3. <u>Construction Stormwater Management</u>

1. MS4 Stormwater Construction BMP Manual.

    a. Adoption. The City adopts as its MS4 stormwater construction BMP manual(s) the following publications, which is incorporated by reference in this ordinance as if fully set out herein:

        i. *Tennessee Permanent Stormwater Management and Design Guidance Manual* (most current edition)

        ii. *TDEC Erosion and Sediment Control Handbook* (most current edition)

    b. The City has adopted, for use in designing Stormwater Control Measures, construction design storm events. The construction design storm events adopted by the City are as follows: Control the peak flow at the outlet of a site such that post-development peak flows are equal to or less than pre-development peak flows for the 2- year, 5-year, 10-year, 25-year, 50-year, and 100-year design storms.

    c. Requirements for design storm for all waters as well as special conditions for unavailable parameters waters or exceptional Tennessee waters must be consistent with those of the current Tennessee Construction General Permit (TNR100000).

2. The municipality has adopted, for use in designing EPSC measures, the design storm requirements from the current Tennessee Construction General Permit for all waters as well as special conditions for unavailable parameters or Exceptional Tennessee Waters.

3. Waste Control. Construction site operators are required to 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.

4. Priority Construction

    a. Priority in construction shall be, at a minimum, those construction activities discharging directly into, or immediately upstream of, waters the state recognized as unavailable condition for siltation or Exceptional Tennessee Waters.

    b. Requirements for all priority construction activities include preconstruction meetings with construction site operators for priority construction activities.

5. Land disturbance permit. The Department of Community Development and Planning shall issue a Land Disturbance Permit for plans that meet the guidelines of this ordinance. A fee in accordance with the current Fee Schedule shall accompany the application for a permit.

    a. One (1) acre or more;

        i. This section shall be applicable to all land development, including, but not limited to, site plan applications, subdivision applications, land disturbance applications and grading applications. These standards apply to qualifying new

development or redevelopment site(s), when required. Every operator will be required to obtain a land disturbance permit from the City in the following cases-

ii. New development that involves land development activities of one (1) acre or more;

iii. Redevelopment that involves other land development activity of one (1) acre or more;

b. Projects of less than one acre of total land disturbance may also be required to obtain authorization under this ordinance if:

i. Developments that disturb 10,000 square feet or more of land or results in excavation or fill of more than 500 cubic yards of material,

ii. contiguous properties that have been subdivided and/or are attributed to multiple separate owners may require a permit if the development is part of a larger common plan of development that disturbs one acre or more,

iii. additions or modifications to existing detached single-dwellings that result in a total impervious area for the modified detached single-dwellings of more than 10,000 square feet,

iv. the City has determined that the stormwater discharge from a site is causing, contributing to, or is likely to contribute to a violation of a state water quality standard; or is likely to be a significant contributor of pollutants to water of the state,

v. changes in state or federal rules require sites of less than one acre that are not part of a larger common plan of development or sale to obtain a stormwater permit;

vi. any new development or redevelopment, regardless of size, that is defined by the City to be a hot spot land use; or

vii. the minimum applicability criteria set forth in item (a) above if such activities are part of a larger common plan of development, (see “common plan of development” definition).

viii. The creation and use of borrow pits, that are not permitted under the Tennessee Multi Sector Permit (TMSP), where material is excavated and relocated offsite, and fill sites where materials or earth is deposited by mechanized methods resulting in an increased elevation or grade.

ix. As determined by the City for single or duplex residential lots of any size, lots that have karst features, adjoining lakes or streams, slopes exceeding fifteen percent (15%), floodplains or streams to cross are required to submit an erosion control and stormwater management plan. Depending on site specific

conditions the requirement that the plan be developed by a qualified licensed professional engineer or landscape architect may be waived by the City.

x. Minimal plan requirements shall include pre- and post-stormwater runoff directions, construction access, erosion/sediment control measures, roof downspout direction and termination, swales and temporary and/or permanent soil stabilization.

xi. Land disturbance activities in a floodplain requires a permit and shall provide evidence of obtaining appropriate licenses/permits that may be required by federal or state laws and regulations or written wavier from such permits and licenses prior to the issuance of a land disturbance permit by the City.

xii. If unpermitted construction activity is on-going, the City will issue and immediate stop-work order. If, in addition to the City's permit, a TDEC permit was required but was not obtained, the violator will also be reported to TDEC.

6. Any discharge of stormwater or other fluid to an improved sinkhole or other injection well, as defined, must be authorized by permit or rule as a Class V underground injection well under the provisions of Tennessee Department of Environment and Conservation (TDEC) Rules, Chapter 0400-45-06)

7. Grading and Erosion Control Permit- Persons seeking the issuance of any permit for land disturbance must provide Notice of Coverage under the Tennessee Construction General Permit (CGP) (if applicable) and a copy of the Stormwater Pollution Prevention Plan (SWPPP) to the City on request.

    a. Copies of additional applicable local, state, or federal permits (i.e.: ARAP, approved hydrologic determination, etc.) must also be provided to the City.

    b. The City has the authority to withhold local permits prior to receiving copies of the aforementioned permits.

    c. In circumstances where no such permits have been required, the City may still require a SWPPP as part of the Grading and Erosion Control Permit application.

8. Permitting of stormwater runoff from construction sites from federal or state agencies (e.g., Tennessee Department of Transportation and Tennessee Valley Authority) and the City itself will remain solely under the authority of TDEC.

9. Building permits shall be issued at the discretion of the Codes Administrator, however no earth disturbing activity shall be authorized until the applicant has first obtained a Grading and Erosion Control Permit where required by this ordinance.

10. Construction site operators are required to implement appropriate erosion prevention and sediment control measures and best management practices. EPSC requirements shall meet the Tennessee's CGP design storm(s), be consistent with the TDEC EPSC Handbook best management practices and with the requirements of this ordinance.

11. Where site assessments are required by the CGP, the operator shall provide a copy of the assessment to the City.

12. Twice-Weekly inspections of the site and the BMP's/SCM's must be performed by an individual who has either received certification under the Level I Fundamentals of Erosion Prevention and Sediment Control course or has other credentials identified as equivalent by the State of Tennessee.

13. Landscaping and stabilization requirements.

    a. Any area of land from which the natural vegetative cover has been either partially or wholly cleared by development activities shall be stabilized. Stabilization measures shall be initiated as soon as possible in portions of the site where construction activities have temporarily or permanently ceased. Temporary or permanent soil stabilization at the construction site (or a phase of the project) must be completed not later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. In the following situations, temporary stabilization measures are not required:

        i. where the initiation of stabilization measures is precluded by snow cover or frozen ground conditions or adverse soggy ground conditions, stabilization measures shall be initiated as soon as practicable; or

        ii. where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 14 days.

    b. For steep slopes of 35% or more, stabilization measures shall be initiated within 7 days.

    c. Construction buffer zones shall be those water quality buffers and buffer zones as defined in 14-502 above and shall meet the requirements in this ordinance and, where appropriate in the CGP. The criteria for the width of the construction buffer zone can be established on an average width basis at a project, as long as the minimum width of the buffer zone is more than the required minimum width at any measured location. If the new development or redevelopment site encompasses both sides of a stream, buffer averaging can be applied to both sides, but must be applied independently. Water quality riparian buffer widths are measured from the top of bank also referred to as the "ordinary high-water mark." Construction buffers are not primary sediment control measures and shall not be relied on as such. Stormwater discharges must enter the water quality riparian buffer zone as sheet flow, not as concentrated flow, where site conditions allow. The designer/operator must comply with the vegetation requirements and the permissible land uses set forth for buffers in the TN CGP. Where it is not practicable to maintain a construction water quality riparian buffer, BMPs providing equivalent protection to a receiving stream as a natural water quality riparian buffer must be used.

    d. In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures such as properly anchored mulch, soil binders or matting must be employed.

14. Notice of Termination (NOT). The operator shall provide the City with a copy of the NOT when it is issued by TDEC.

15. As-built plans (record drawings). All applicants are required to submit actual as-built plans certified by the design engineer for any structures located on-site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and must be sealed by a registered professional engineer licensed to practice in Tennessee. A certification by the design engineer certifying that SCM's will function within original design parameters as constructed shall be included. A final inspection by the City is required before any performance security or performance bond will be released. The City shall have the discretion to adopt provisions for a partial pro-rata release of the performance security or performance bond on the completion of various stages of development. In addition, occupation permits shall not be granted until corrections to all BMP's/SCM's have been made and accepted by the City. No bonds or securities shall be released by the City until the as-built plans have been accepted. The warranty period for any infrastructure to be accepted by the City for maintenance shall not commence until the City has accepted the as-built plans.

16. Equipment manufacturer startups. No bonds or securities shall be released until any equipment to be maintained by the City passes any specified manufacturer startup procedure. The warranty period shall not commence prior to the equipment passing any specified manufacturer startup procedure.

SECTION 4. <u>Permanent stormwater management</u>: design and construction inspection.

(1) In order to comply with the City's permanent stormwater standards for new development and redevelopment projects, developers must design and install SCMs as established by Tennessee Rule 0400-40-10-.04 and comply with other requirements of Tennessee Rule 0400-40-10-.04. Note that for design purposes, total suspended solids (TSS) may be used as the indicator for the reduction of pollutants.

(2) SCMs must be designed to provide full treatment capacity within 72 hours following the end of the preceding rain event for the life of the new development or redevelopment project. The designer may select from the most appropriate alternatives listed in the City's BMP Manual.

(3) The water quality design storm shall be based on the 1-year 24-hour storm event:

The City has adopted, for use in designing water quality SCMs, the design storm requirements as established in Tennessee Rule 0400-40-10-.04. The water quality treatment volume (WQTV) is a portion of the runoff generated from impervious surfaces at a new development or redevelopment project by the design storm. SCMs must be designed, at a minimum, to achieve an overall treatment efficiency of 80% TSS removal from the WQTV. The quantity of the WQTV depends on the type of treatment provided, see Appendix B.

(4) Water Quality Riparian Buffers. Post Construction/Permanent water quality riparian buffers shall be those buffers defined in 14-502 above and shall meet the requirements described in this ordinance. The criteria for the width of the post construction/permanent buffer zone can be

established on an average width basis at a project, as long as the minimum width of the buffer zone is more than the required minimum width at any measured location. If the new development or redevelopment site encompasses both sides of a stream, buffer averaging can be applied to both sides, but must be applied independently. Water quality riparian buffer widths are measured from the top of bank also referred to as the "ordinary high-water mark." Stormwater discharges should enter the post construction/permanent water quality riparian buffer as sheet flow, not as concentrated flow, where site conditions allow.

Post Construction/Permanent buffers for waters with available parameters for siltation or habitat alteration or unassessed waters:

a. Average buffer width: 30 feet.

b. Minimum buffer width: 15 feet

Post Construction/Permanent buffers for Exceptional Tennessee Waters or waters with unavailable parameters for siltation or habitat alteration:

a. Average buffer width: 60 feet.

b. Minimum buffer width: 30 feet

The designer/operator must comply with the vegetation requirements and the permissible land uses set forth for buffers in the MS4 permit.

SECTION 5. Permanent SCM maintenance and inspection.

(1) As-built plans. All applicants are required to submit actual as-built plans for any structures located on-site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and must be sealed by either a registered professional engineer or landscape architect licensed to practice in Tennessee. A sealed certification by the design engineer that all SCM's will function within design parameters as constructed shall accompany the as-built plans. A final inspection by the City is required before any performance security or performance bond will be released. The City shall have the discretion to adopt provisions for a partial pro-rata release of the performance security or performance bond on the completion of various stages of development. In addition, occupation permits shall not be granted until corrections to all stormwater management facilities have been made and accepted by the City.

(2) In addition to the certified as-built drawings, the City shall be provided with a permanent stormwater management plan for the site and all stormwater management facilities (e.g., SCM's). Occupation permits shall not be granted until the permanent stormwater management plan has been approved and accepted by the City.

(3) Inspection of stormwater management facilities. Periodic inspections of facilities shall be performed, documented, and reported in accordance with this chapter, as detailed in 14-506.

(4) Records of installation and maintenance activities. Parties responsible for the operation and maintenance of a stormwater management facility shall make records of the installation of the stormwater facility, and of all maintenance and repairs to the facility, and shall retain the records for at least three (3) years. These records shall be made available to the City during inspection of the facility and at other reasonable times upon request.

(5) Failure to meet or maintain design or maintenance standards. If a responsible party fails or refuses to meet the design or maintenance standards required for stormwater facilities under this chapter, the City, after notice as specified in the Enforcement Response Plan, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the facility in proper working condition. In the event that the stormwater management facility becomes a danger to public safety or public health, the City shall notify in writing the party responsible for maintenance of the stormwater management facility. Upon receipt of that notice, the responsible person shall have thirty (30) days to effect maintenance and repair of the facility in an approved manner. In the event that corrective action is not undertaken within that time, the City may take necessary corrective action. The cost of any action by the City under this section shall be charged to the responsible party.

(6) In the event that the stormwater management facility becomes a danger to public health/public safety the City may take such immediate corrective action as deemed necessary.

SECTION 6. Permanent SCM's: new development, existing locations, and ongoing developments.

(1) On-site stormwater management facilities inspection and maintenance agreement

a. Where the stormwater facility is located on property that is subject to a development agreement, and the development agreement provides for a permanent stormwater maintenance agreement that runs with the land, the owners of property must execute an inspection and maintenance agreement that shall operate as a deed restriction binding on the current property owners and all subsequent property owners and their lessees and assigns, including but not limited to, homeowner associations or other groups or entities.

b. The maintenance agreement shall:

i. Assign responsibility for the maintenance and repair of the stormwater facility to the owners of the property upon which the facility is located and be recorded as such on the plat for the property by appropriate notation.

ii. Provide for a periodic inspection by the property owners in accordance with the requirements of subsections (3 - 5) below for the purpose of documenting maintenance and repair needs and to ensure compliance with the requirements of this ordinance. The property owners will arrange for this inspection to be conducted by individual(s) approved by the City who will submit a signed written report of the inspection to the City. It shall also grant permission to the City to

enter the property at reasonable times and to inspect the stormwater facility to ensure that it is being properly maintained.

iii. Provide that the minimum maintenance and repair needs include but are not limited to: the removal of silt, litter and other debris, the cutting of grass, cutting and vegetation removal, and the replacement of landscape vegetation, in detention and retention basins, and inlets and drainage pipes and any other stormwater facilities. It shall also provide that the property owners shall be responsible for additional maintenance and repair needed to meet the intended design specification of the stormwater facility.

iv. Provide that maintenance needs must be addressed in a timely manner, on a schedule to be determined by the City.

v. Provide that if the property is not maintained or repaired within the prescribed schedule, the City shall perform the maintenance and repair at its expense and bill the same to the property owner. The maintenance agreement shall also provide that the City's cost of performing the maintenance shall be a lien against the property.

(2) Existing problem locations – no maintenance agreement

a. The City shall in writing notify the owners of existing locations and developments of specific drainage, erosion or sediment problems affecting or caused by such locations and developments, and the specific actions required to correct those problems. The notice shall also specify a reasonable time for compliance. Discharges from existing SCM's that have not been maintained and/or inspected in accordance with this ordinance shall be regarded as non-compliant discharges.

b. Inspection of existing facilities. The City may, to the extent authorized by state and federal law, enter and inspect private property for the purpose of determining if there are illicit non-stormwater discharges, and to establish inspection programs to verify that all stormwater management facilities are functioning within design limits. These inspection programs may be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of the City's NPDES MS4 stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other SCM's.

(3) Owner/Operator Inspections. The owners and/or operators of the SCMs shall:

a. Perform routine inspections to ensure that all SCM's are properly functioning. These inspections shall be conducted on an annual basis, at a minimum. These inspections shall be conducted by a person familiar with control measures implemented at a site. Owners or operators shall maintain documentation of these inspections. The City requires submittal of this documentation.

b. Perform comprehensive inspection of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. Such inspections must be conducted by a licensed professional engineer, a licensed landscape architect, or other qualified professional familiar with applicable SCM design and maintenance requirements. Complete inspection reports for these five-year inspections shall include at a minimum:

    i. Facility type,

    ii. Inspection date,

    iii. Latitude and longitude and nearest street address,

    iv. BMP owner information (e.g. name, address, phone number, fax, and email),

    v. A description of BMP condition including: vegetation and soils; inlet and outlet channels and structures; embankments, slopes, and safety benches; spillways, weirs, and other control structures; and any sediment and debris accumulation,

    vi. Photographic documentation of BMP's, and

    vii. Specific maintenance items or violations that need to be corrected by the BMP owner along with deadlines and reinspection dates.

c. Owners or operators shall maintain documentation of these inspections. The City requires submittal of this documentation.

(4) Requirements for all existing locations and ongoing developments. The following requirements shall apply to all locations and developments at which land disturbing activities have occurred previous to the enactment of this ordinance:

a. Denuded areas must be vegetated or covered under the standards and guidelines specified in the BMP Manual and on a schedule acceptable to the City.

b. Cuts and slopes must be properly covered with appropriate vegetation and/or retaining walls constructed.

c. Drainage ways shall be appropriately stabilized.

d. Trash, junk, rubbish, etc. shall be cleared from drainage ways.

e. Stormwater runoff shall, at the discretion of the City be treated to the maximum extent practicable to prevent its pollution. Such control measures may include, but are not limited to, the following:

i. Ponds

1. Detention pond
2. Extended detention pond
3. Wet pond
4. Alternative storage measures

ii. Constructed wetlands

iii. Infiltration systems

1. Infiltration/percolation trench
2. Infiltration basin
3. Drainage/recharge well
4. Porous pavement

iv. Filtering systems

1. Catch basin inserts/media filler
2. Sand filter
3. Filter/absorption bed
4. Filter and buffer strips

v. Open channel

1. Swale

(5) Corrections of problems subject to appeal. Corrective measures imposed by the City under this section are subject to appeal under section 14-510 of this chapter.

SECTION 7. <u>Illicit discharges</u>.

This section shall apply to all water generated on developed or undeveloped land entering the City's municipal separate storm sewer system.

(1) <u>Prohibition of illicit discharges.</u> No person shall introduce or cause to be introduced into the municipal separate storm sewer system any discharge that is not composed entirely of stormwater. No person shall allow discharges that flow from a stormwater facility that is not

inspected in accordance with section 6. Non-stormwater discharges shall include, but shall not be limited to, sanitary wastewater, car wash wastewater, radiator flushing disposal, spills from roadway accidents, carpet cleaning wastewater, effluent from septic tanks, improper oil disposal, laundry wastewater/gray water, improper disposal of auto and household toxics. The commencement, conduct or continuance of any non-stormwater discharge to the municipal separate storm sewer system is prohibited except as described as follows:

a. Water line flushing

b. Landscape irrigation

c. Diverted stream flows

d. Rising ground waters

e. Uncontaminated ground water infiltration (Infiltration is defined as water other than wastewater that enters a sewer system, including sewer service connections and foundation drains, from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.)

f. Uncontaminated pumped ground water

g. Discharges from potable water sources

h. Air conditioning condensation

i. Irrigation water

j. Springs

k. Water from crawl space pumps

l. Footing (foundation)drains

m. Lawn watering

n. Individual residential car washing

o. Flows from riparian habitats and wetlands

p. Dechlorinated swimming pool discharges

q. Street wash water with no soaps or solvents

r. Discharges or flows from firefighting activities

s. Discharges approved at the discretion of the Director of Public Works or his designee as being necessary to protect public health and safety; and

t. Dye testing if approved by the Director of Public Works.

u. Any exempted discharge above may be prohibited if the City determines they are significant contributors of pollutants to the MS4.

(2) Prohibition of illicit connections. The construction, use, maintenance or continued existence of illicit connections to the municipal separate storm sewer system is prohibited. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection. This prohibition expressly includes SCM's connected to the system not properly inspected and maintained in accordance with this ordinance.

a. Any person responsible for a property or premises, which is, or may be, the source of an illicit discharge, may be required to implement, at the person's expense, the BMP's necessary to prevent the further discharge of pollutants to the municipal separate storm sewer system. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed in compliance with the provisions of this section. Discharges from existing SCM's that have not been maintained and/or inspected in accordance with this ordinance shall be prohibited.

(3) Notification of spills. Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting in, or may result in, illicit discharges or pollutants discharging into, the municipal separate storm sewer system, the person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials the person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, the person shall notify the City in person or by telephone, fax, or email, no later than the next business day. Notifications in person or by telephone shall be confirmed by written notice addressed and mailed to the City within three (3) business days of the telephone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three (3) years.

(4) No illegal dumping allowed. No person shall dump or otherwise deposit outside an authorized landfill, convenience center or other authorized garbage or trash collection point, any trash or garbage of any kind or description on any private or public property, occupied or unoccupied, inside the City. Such illegal activity exposes runoff to contamination, generating an illicit discharge. Therefore, any individual or corporation guilty of illegal dumping may have committed a violation of this ordinance.

SECTION 8. Enforcement.

(1) Enforcement authority. The City shall have the authority to issue notices of violation and citations, and to impose civil penalties to anyone that violates this chapter, who violates the provisions of any permit issued pursuant to this chapter, or who fails or refuses to comply with any lawful communication

or notice to abate or take corrective action by the City. The City's enforcement authority includes (as set forth in the City's Enforcement Response Plan (ERP). See Appendix A):

(a) Verbal Warnings – At a minimum, verbal warnings must specify the nature of the violation and required corrective action.

(b) Written Notices – Written notices must stipulate the nature of the violation and the required corrective action, with deadlines for taking such action.

(c) Citations with Administrative Penalties – The City has the authority to assess monetary penalties, which may include civil and administrative penalties.

(d) Stop Work Orders – Stop work orders that require construction activities to be halted, except for those activities directed at cleaning up, abating discharge, and installing appropriate control measures.

(e) Withholding of Plan Approvals or Other Authorizations – Where a facility is in noncompliance, the City's own approval process affecting the facility's ability to discharge to the MS4 can be used to abate the violation.

(f) Additional Measures – The City may also use other escalated measures provided under local legal authorities. The City may perform work necessary to improve erosion control measures and collect the funds from the responsible party in an appropriate manner, such as collecting against the project's bond or directly billing the responsible party to pay for work and materials.

(2) Notification of violation:

(a) Verbal warning. Verbal warning may be given at the discretion of the inspector when it appears the condition can be corrected by the violator within a reasonable time, which time shall be approved by the inspector.

(b) Written notice. Whenever the City finds that any permittee or any other person discharging stormwater has violated or is violating this ordinance or a permit or order issued hereunder, the City may serve upon such person written notice of the violation. Within ten (10) days of this notice, an explanation of the violation and a plan for the satisfactory correction and prevention thereof, to include specific required actions, shall be submitted to the City. Submission of this plan in no way relieves the discharger of liability for any violations occurring before or after receipt of the notice of violation.

(c) Consent orders. The City is empowered to enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with the person responsible for the noncompliance. Such orders will include specific action to be taken by the person to correct the noncompliance within a time period also specified by the order. Consent orders shall have the same force and effect as administrative orders issued pursuant to paragraphs (d) and (e) below.

(d) Show cause hearing. The City may order any person who violates this chapter or permit, or order issued hereunder, to show cause why a proposed enforcement action should not be taken.

Notice shall be served on the person specifying the time and place for the meeting, the proposed enforcement action and the reasons for such action, and a request that the violator show cause why this proposed enforcement action should not be taken. The notice of the meeting shall be served personally or by registered or certified mail (return receipt requested) at least ten (10) days prior to the hearing.

(e) Compliance order. When the City finds that any person has violated or continues to violate this chapter or a permit or order issued thereunder, he may issue an order to the violator directing that, following a specific time period, adequate structures or devices be installed and/or procedures implemented and properly operated. Orders may also contain such other requirements as might be reasonably necessary and appropriate to address the noncompliance, including the construction of appropriate structures, installation of devices, self-monitoring, and management practices.

(f) Cease and desist and stop work orders. When the City finds that any person has violated or continues to violate this chapter or any permit or order issued hereunder, the City may issue a stop work order or an order to cease and desist all such violations and direct those persons in noncompliance to:

(i) Comply forthwith; or

(ii) Take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation; including halting operations except for terminating the discharge and installing appropriate control measures.

(g) Suspension, revocation, or modification of permit. The City may suspend, revoke, or modify the permit authorizing the land development project or any other project of the applicant or other responsible person within the City. A suspended, revoked, or modified permit may be reinstated after the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein, provided such permit may be reinstated upon such conditions as the City may deem necessary to enable the applicant or other responsible person to take the necessary remedial measures to cure such violations.

(h) Conflicting standards. Whenever there is a conflict between any standard contained in this chapter and in the BMP manual(s) adopted by the City under this ordinance, the strictest standard shall prevail.

SECTION 9. Penalties. Violations. Any person who shall commit any act declared unlawful under this chapter, who violates any provision of this chapter, who violates the provisions of any permit issued pursuant to this chapter, or who fails or refuses to comply with any lawful communication or notice to abate or take corrective action by the City, shall be guilty of a civil offense.

(1) Penalties. Under the authority provided in Tennessee Code Annotated § 68-221-1106, the City declares that any person violating the provisions of this chapter may be assessed a civil penalty by

the City of not less than fifty dollars ($50.00) and not more than five thousand dollars ($5,000.00) per day for each day of violation. Each day of violation shall constitute a separate violation.

(2) Measuring civil penalties. In assessing a civil penalty, the City shall consider:

(a) The harm done to the public health or the environment;

(b) Whether the civil penalty imposed will be a substantial economic deterrent to the illegal activity;

(c) The economic benefit gained by the violator;

(d) The amount of effort put forth by the violator to remedy this violation;

(e) Any unusual or extraordinary enforcement costs incurred by the City; The amount of penalty established by ordinance or resolution for specific categories of violations; and

(f) Any equities of the situation which outweigh the benefit of imposing any penalty or damage assessment.

(3) Recovery of damages and costs. In addition to the civil penalty in subsection (2) above, the City may recover:

(a) All damages proximately caused by the violator to the City, which may include any reasonable expenses incurred in investigating violations of, and enforcing compliance with, this chapter, or any other actual damages caused by the violation.

(b) The costs of the City's maintenance of stormwater facilities when the user of such facilities fails to maintain them as required by this chapter.

(4) Referral to TDEC. In accordance with the City's Enforcement Response Plan and the NPDES Permit requirements, the City may also notify TDEC of violations.

(5) Other remedies. The City may bring legal action to enjoin the continuing violation of this chapter, and the existence of any other remedy, at law or equity, shall be no defense to any such actions.

(6) Remedies cumulative. The remedies set forth in this section shall be cumulative, not exclusive, and it shall not be a defense to any action, civil or criminal, that one (1) or more of the remedies set forth herein has been sought or granted.

SECTION 10. Appeals. Pursuant to Tennessee Code Annotated § 68-221-1106(d), any person aggrieved by the imposition of a civil penalty or damage assessment as provided by this chapter may appeal said penalty or damage assessment to the City's governing body.

(1) Appeals to be in writing. The appeal shall be in writing and filed with the municipal recorder or clerk within fifteen (15) days after the civil penalty and/or damage assessment is served in any manner authorized by law.

(2) Public hearing. Upon receipt of an appeal, the City's governing body, or other appeals board established by the City's governing body shall hold a public hearing within thirty (30) days. Ten (10) days prior notice of the time, date, and location of said hearing shall be published in a daily

newspaper of general circulation. Ten (10) days' notice by registered mail shall also be provided to the aggrieved party, such notice to be sent to the address provided by the aggrieved party at the time of appeal. The decision of the governing body of the City shall be final.

(3) Appealing decisions of the City's governing body. Any alleged violator may appeal a decision of the City's governing body pursuant to the provisions of *Tennessee Code Annotated*, *title 27, chapter 8*.

Appendix A

ENFORCEMENT RESPONSE PLAN (ERP)

Background

The City of Springfield is mandated by the Tennessee Department of Environment and Conservation (TDEC), Division of Water Resources (WR) to develop a Stormwater Management Program. Tennessee Code Annotated Section 68-221-1106 states that a municipality may establish by Ordinance that any person who violates the provisions of any ordinance regulating stormwater discharges or facilities shall be subject to a civil penalty of not less than fifty dollars ($50.00) or more than five thousand dollars ($5,000.00) per day for each day of violation.

A. 1 Introduction

The City of Springfield has adopted an Ordinance to comply with the requirements of its Municipal Separate Storm Sewer System (MS4) permit. This appendix shall contain detailed procedures indicating how the City will fairly and consistently enforce violations of the stormwater ordinance. This appendix shall, at a minimum:

1. Describe what factors influences the City to investigate instances of noncompliance.

2. Describe the types of escalating enforcement responses the City may take in response to anticipated types of violations and the time periods within which responses will take place.

3. Identify (by title) the official(s) responsible for each type of response.

4. Adequately reflect the City's primary responsibility to enforce all applicable stormwater requirements and standards, as detailed in TCA 68-221-1106. The ERP outlines the procedures that will be used to identify, document, track, and respond to noncompliance. The ERP also provides guidance for selecting the enforcement action most appropriate for a given violation.

A. 2 Purpose

The purpose of an ERP is to provide consistent enforcement responses for similar violations and circumstances. The plan describes violations, defines a range of appropriate enforcement actions based on the nature and severity of the violation and other relevant factors, and identifies personnel responsible for finalizing enforcement responses.

A. 3 Jurisdiction.

All entities within the Springfield City Limits discharging stormwater to the MS4 are subject to the provisions of the Stormwater Ordinance. All entities discharging anything into stormwater or otherwise impacting stormwater discharges are also subject to the provisions of the Stormwater Ordinance. The City will consistently administer and implement all elements of the ERP in accordance with this appendix. The ERP does not preclude the City from taking any, all, or any combination of actions against a noncompliant entity.

A. 4 Abbreviations Used.

ERP: Enforcement Response Plan

MS4: Municipal Separate Storm Sewer System

NOC: Notice of Coverage

NOV: Notice of Violation

SWPPP: Stormwater Pollution Prevention Plan

TDEC: Tennessee Department of Environment and Conservation

A. 5 Enforcement.

The ERP designates several enforcement options for each type (or pattern) of noncompliance. The intent of the plan is to provide direction for appropriate enforcement response and to ensure consistent enforcement for similar violations and circumstances. Factors that will be evaluated when determining the appropriate response are as follows:

1. The harm done to public health or the environment;
2. Whether the civil penalty imposed will be substantial economic deterrent to the illegal activity;
3. The economic benefit gained by the violator;
4. The amount of effort put forth by the violator to remedy the violation;
5. Any unusual or extraordinary enforcement costs incurred by the municipality;
6. The amount of penalty established by ordinance or resolution for specific categories of violations; and
7. Any equities of the situation which outweigh the benefit of imposing any penalty or damage assessment;
8. Costs of enforcement to the City.

A. 5.1 Escalating Enforcement Response

Escalating enforcement response will be used for recurring violations and failure to achieve compliance subsequent to informal or formal enforcement. A recurring violation is one in which the same type of violation occurs on a project or on multiple projects by the same operator, or any other pattern of noncompliance is shown.

A. 5.2 Violations Falling Under more than one Category

Violations that fall under more than one category will be addressed through more severe enforcement response. All alleged violations will be included in the more severe response.

A. 5.3 Timeframes for Enforcement Responses

1. All violations will be investigated and documented within seven (7) days of receiving compliance information.
2. Initial enforcement responses (informal or formal) will occur within seven (7) calendar days of identifying a violation.
3. Follow up actions for violations will be taken within fourteen (14) calendar days of the initial enforcement response or within fourteen (14) calendar days of determining that the violation is continuing or recurring. If the elimination of the confirmed illicit discharge will take more than fourteen (14) calendar days (from owner/operator's notification of confirmed illicit discharge) a corrective action plan to eliminate identified illicit discharges shall be developed by the owner/operator of the source of the illicit discharge in concurrence with the MS4.
4. Violations which threaten health, property, or environmental quality are considered emergencies and will receive immediate response such as the issuance of a stop work order.

A. 5.4 Chronic Violators

Chronic violators shall be defined as any person that repeats violations of the Stormwater Ordinance at least three times in a one-year period. The violations are tied to the person rather than a particular project or site, meaning that the violations do not have to occur on the same project. The violations do, however, need to be of a similar nature, such as violations of the construction standards or violations involving illicit discharges. Once an operator has been labeled as a chronic violator, they will remain as such until they have operated for a one-year period with no documented violations of the Stormwater Ordinance. Chronic violators will be treated differently than other operators. The Public Works Department, hereafter referred to as Department, will inspect all projects on which chronic violators are involved at a higher frequency than other projects. The Department will also double the civil penalties

issued to chronic violators, if it can do so and stay within the maximum penalty allowed by the Stormwater Ordinance and TCA 68-221-1106. The Department will also escalate enforcement responses for chronic violators. This means that for a given violation that would normally result in a Notice of Violation without penalties, the chronic violator will likely receive a civil penalty or at least be called in for a Show Cause Hearing. A violator that meets the criteria of this section will be notified of such in the Notice of Violation or other enforcement documentation that is sent to the violator for the third and qualifying violation.

A. 6 Personnel Responsibilities

***Construction Inspector*:** The Construction Inspector is responsible for the day-to-day implementation and enforcement of the construction stormwater oversight program. The enforcement responses carried out by the Construction Inspector may include:

1. informal notices (verbal and written)
2. notices of violation
3. informal meetings
4. stop work orders

***Stormwater Coordinator*:** The Stormwater Coordinator implements the City's stormwater management program. The stormwater coordinator conducts compliance inspections and documents violations. The stormwater coordinator selects the appropriate enforcement responses and conducts enforcement related meetings such as show cause hearings, referrals to the city attorney for civil litigation, or referrals to TDEC or the EPA for criminal action.

Director of Public Works: The Director of Public Works is overall responsible for the implementation of the City's stormwater program and for MS4 permit compliance. The Director of Public Works delegates authority to the Stormwater Coordinator as his designee to enforce the Stormwater Ordinance and Enforcement Response Plan.

***City Attorney*:** The City Attorney will provide legal consultation as requested by the Stormwater Coordinator on consent agreements and on all referrals for civil litigation and City initiated criminal investigations. The City Attorney may provide guidance to the City's governing body for appeals, as necessary.

A. 7 Identifying and Investigating Instances of Noncompliance

There are many activities associated with the identification and investigation of noncompliance. A brief description of these activities is provided in this policy. Activities that facilitate the identification and investigation of noncompliance are as follows:

Routine Permit Inspections - The City issues grading permits for certain construction activities taking place within the city limits of Springfield. Once a permit is issued for a project, routine compliance inspections are conducted of the project to assure that the provisions of the permit, the ordinance, and

the stormwater pollution prevention plan (SWPPP), if applicable, are being met. Violations documented during routine inspections may initiate enforcement activities.

Complaint Investigation - The City investigates all stormwater related complaints. Complaints are received in several ways. Complaints are received on the City's stormwater line, via the City's stormwater web page, or may called in by other city departments such as Codes Enforcement. Violations documented as a result of complaint investigations may initiate appropriate enforcement activities.

Industrial Inspections - Many industrial facilities in the City of Springfield are subject to the requirements of a Tennessee Multi-Sector General Permit (TMSP) for compliance with state and federal stormwater regulations. Generally, the City will not conduct routine inspections of these facilities unless an illicit discharge is reported or observed as these facilities are subject to inspection by TDEC. Violations documented at a TMSP permitted facility inspections will be referred to TDEC for enforcement and may result in enforcement activities by the City if appropriate. All violations are clearly documented and addressed in accordance with this ERP.

A. 8 Description of Possible Enforcement Actions

1. **Verbal Notification:** Verbal notifications by telephone or in person provide an immediate notification of violations. In general, verbal notifications are used for minor isolated violations or as an initial step leading to an escalated enforcement response. All verbal notifications related to enforcement or the investigation of suspected violations are documented on an inspection report and placed in the respective project file.

2. **Written Notification:** Written notification may include the copying of an inspection report to a site operator. This could be accomplished by simply leaving a copy of the inspection report at the site (within a safe location) for the operator to find, handing a copy of the report to the operator or a representative that is present at the site, or forwarding a copy of the report to the operator by e-mail. The inspection report will clearly document any compliance issues that need to be addressed at the site. This written notification may or may not be followed up with a more formal means of notification, such as a Notice of Violation.

3. **Notice of Violation:** A Notice of Violation (NOV) is a written notice to the noncompliant operator that a stormwater violation has occurred. A NOV includes a statement detailing the legal authority under which the City issued the NOV, a description of the violation(s), and the date(s) the violation(s) occurred. The NOV may require a response from the Operator that details the causes of the violation(s), and the corrective actions taken to correct the violation and to prevent similar violations from occurring. A NOV is used to notify the Operator and document the violation. The NOV may assess civil penalties or a damage assessment and may require a specific remedial action of the user. The NOV will be sent via certified mail so that a record of the Notice's receipt is documented.

4. **Show Cause Hearing:** A Show Cause Hearing is a formal meeting requiring the Operator to appear, explain its noncompliance, and show cause as to why more severe enforcement actions against the user should not go forward. The meeting may also serve as a forum to discuss corrective actions and compliance schedules. An example of when a Show Cause Hearing may

be utilized would be when a requirement is not completed on time and a civil penalty is being considered. The City is not, however, required to hold a Show Cause Hearing prior to assessing a civil penalty.

5. **Stop Work Order:** A Stop Work Order is an order issued to the Operator by the City requiring that all work at the site cease until such time as the violation is corrected. The stop work order can be posted at the site or can be sent as part of a Notice of Violation. A stop work order will generally be utilized when the nature of the violation is such that it is imperative that the correction of the violation take place prior to any further work being conducted on the site other than what is required to correct the violation.

6. **Civil Penalties:** A civil penalty is a punitive monetary charge assessed by the City rather than a court. The penalty amount must be authorized in the stormwater ordinance. The purpose of the penalty is to recover the economic benefit of noncompliance and to deter future violations. The range of penalties allowed by the City of Springfield's Stormwater Management Ordinance and by TCA Section 68-221-1106 is a minimum of fifty dollars ($50.00) to a maximum of five thousand dollars ($5,000) per day, per violation. Each day that a violation remains uncorrected is a separate offence for the purpose of assessing a penalty.
   Note: See Annex 1 for penalty calculations.

7. **Civil Litigation:** Civil Litigation is the formal process whereby the City files a lawsuit against the Operator to secure court ordered action to correct violations and to secure penalties for the violations including recovery of costs to the City for the noncompliance. Civil litigation also includes enforcement measures which require involvement or approval of the court, such as injunctive relief.

8. **Revocation of Permit:** The Director of Public Works or his designee may revoke and require the return of a permit by notifying the permit holder in writing, stating the reason for the revocation. Permits may be revoked for any substantial departure from the approved application, plans, or specifications; refusal or failure to comply with the requirements of state or local law; or for false statements or misrepresentations made in securing the permit or certificate. Any permit mistakenly issued in violation of any applicable state or local law may also be revoked.

9. **Withholding of Plan Approvals or Other Authorizations:** Where a facility or project is in non-compliance, the City's own approval process affecting the facility's ability to discharge to the MS4 can be used to abate the violation.

10. **Additional Measures:** The City may also use other escalated measures provided under the City's legal authorities. The City may perform work necessary to improve erosion control measures and collect funds from the responsible party in an appropriate manner, such as collecting against the project's bond or directly billing the responsible party to pay for work and materials.

A. 9 Enforcement Response Guide Table

The following table provides examples of common types of stormwater violations and a range of appropriate responses. The table is in no way meant to be all inclusive in either violation types or possible responses. It is intended to be used as guidance when choosing an appropriate enforcement action.

Category of Violation	Type of Violation	Circumstances	Possible Enforcement Response
Permit Violation	Stormwater Discharge or Land Disturbance without Permit	Operator unaware of Permit Requirements; no harm to environment	Informal Notice; Notice of Violation
		Operator aware of Permit Requirements, sediment or other pollutant discharge to Waters of the State	Notice of Violation; Show Cause Hearing; Stop Work Order; Civil Penalty; Civil Litigation
	Noncompliance with Permit Requirements	Operator attempts to comply with requirements but overlooks certain provisions	Informal Notice; Notice of Violation
		Operator makes no attempt to comply with permit requirements	Notice of Violation; Stop Work Order; Civil Penalty; Civil Litigation
Sediment Control Violation	Sediment Controls not installed in accordance with SWPPP/Permit	Sediment controls installed improperly; no harm to environment	Informal Notice; Notice of Violation
		Sediment controls installed improperly; sediment discharge to MS4	Notice of Violation; Stop Work Order; Civil Penalty;
		No attempt to install sediment controls; no harm to environment	Notice of Violation; Stop Work Order; Civil Penalty;
		No attempt to install sediment controls; sediment discharge to MS4	Notice of Violation; Stop Work Order; Civil Penalty; Civil Litigation
	Sediment Controls installed but not maintained	Minor sediment discharge, controls in need of repair	Informal Notice; Notice of Violation
		Excessive sediment discharge, majority of controls failed	Notice of Violation; Stop Work Order; Civil Penalty;

Category of Violation	Type of Violation	Circumstances	Possible Enforcement Response
Administrative Violation	SWPPP or Permit Requirements not being met	Inspections not performed; not signed by operator	Informal Notice; Notice of Violation
		SWPPP or NOC not maintained at site	Informal Notice; Notice of Violation
Illicit Discharge	Unpermitted Discharge of Stormwater or Pollutants	Isolated incident, operator immediately corrects the discharge	Informal Notice; Notice of Violation
		Ongoing discharge, operator is aware that discharge is illicit	Notice of Violation; Civil Penalty; Civil Litigation
		Accidental spill, no fault to operator	Informal Notice; Notice of Violation
		Spill resulting from operator negligence	Notice of Violation; Civil Penalty; Civil Litigation
		Discharge of pollutants to a storm drain	Notice of Violation; Civil Penalty; Civil Litigation; Referral to TDEC
Miscellaneous	Storm Drain or Ditch Blocked or Altered	Drainage ditch or pipe blocked with debris or yard waste	Informal Notice; Notice of Violation
		Drainage ditch or pipe filled or rendered non-functional	Notice of Violation; Civil Penalty; Civil Litigation
		Drainage pipe or conveyance removed or altered without City approval	Notice of Violation; Civil Penalty; Civil Litigation
		Stream channel altered without ARAP and City approval	Notice of Violation; Civil Penalty; Civil Litigation; Referral to TDEC

Penalty Calculation

It is the City's objective to acknowledge all violations. When determining which types of violations take priority in enforcement; the following criteria will be used:

Generally, Category 1 receives the highest priority attention while Category 3 receives the lowest priority.

- Category 1 violations: Actual, imminent, or acute threats to public health, the MS4, or the environment.
- Category 2 violations: Chronic or potential threat to human health, the MS4, or the environment.
- Category 3 violations: Low potential for threat to public health, the MS4, and/or the environment.

Using the Penalty Matrix contained in the recommendation for enforcement action and shown in Tables 1 and 2 below, determine the size of the penalty. There is a decision flow process that should be used with the civil penalty matrix. The decision flow process consists of a series of questions that are found in the matrix and the following guidance on how to select the appropriate answer to the questions. The amount of a penalty will be based upon a set of criteria. These are:

1) Did the violation result in a public health risk?

- Answer - no if there is no evidence to support a claim of public health risk.
- Answer - possibly if a public health risk can be inferred from evidence and knowledge of the effects of the violation.
- Answer - probably if evidence supports a claim of public health risk and there is a plausible connection between this violation and the health or effect.
- Answer - definitely if there is direct evidence linking public health risk or adverse effects with the violation.

2) Did the violation result in environmental damage or damage to MS4?

- Answer - no if there is no evidence to support a claim of environmental damage or impairment of beneficial uses.
- Answer - possibly if environmental damage or impairment of beneficial uses can be inferred from evidence and knowledge of the effects of the violation.
- Answer - probably if evidence supports a claim of environmental damage or impairment of beneficial uses and there is a plausible connection between this violation and the damage or impairment.

- Answer - definitely if there is direct evidence linking environmental damage or impairment of beneficial uses with the violation.

3) Was it a knowing violation?

- Answer - no if the violator did not know that the action or inaction constituted a violation.
- Answer - possibly if it is likely the violator knew that the action or inaction constituted a violation.
- Answer - probably if the violator should have known.
- Answer - definitely if the violator clearly knew. If the answer is definitely, consider consulting with the City Attorney.

4) Was the responsible party unresponsive in correcting the violation?

- Answer - no if the violation was corrected as soon as the responsible person learned of it.
- Answer - possibly if the violation was corrected in a less timely and cooperative fashion.
- Answer - probably if the responsible person attempted to correct the problem but did not correct it.
- Answer - definitely if the responsible person made no attempt to correct the violation.

5) Was the violation the result of improper operation and/or maintenance?

- Answer - no if the violation was not the result of improper operation or inadequate maintenance.
- Answer - possibly if the facility has an O&M manual, SWPPP or Best Management Practices manual that is out of date or inadequate.
- Answer - probably if there is no O&M manual, SWPPP or Best Management Practices manual developed for the facility.
- Answer - definitely if the facility has no plans or is not following its plan AND the violation was clearly the result of improper operation or maintenance.

6) Did the facility obtain necessary permits and approvals to operate?

- Answer - no if the paperwork was complete and appropriate for the project or task that caused the violation.
- Answer - definitely if the facility did not have all the required permits and approvals for the job or task that caused the violation.

7) Did the facility benefit economically from non-compliance?

- Answer - no if it is clear that no one obtained an economic benefit.
- Answer - possibly if the facility might have benefited.
- Answer - probably if the facility benefited, but the benefit is not quantifiable.
- Answer - definitely if the economic benefit is quantifiable.

Penalty Calculation - Gravity Criteria

NO (0) POSSIBLY (1) PROBABLY (2) DEFINITELY (3)

1) Public Health Risk? _____

2) Environmental Damage? _____

3) Willful or Knowing Violation? _____

4) Unresponsive in Correcting Violation? _____

5) Improper Operation or Maintenance? _____

6) Failure to obtain necessary permits _____

7) Economic Benefit from Noncompliance? _____

Total Rating Points _____

Gravity Component Penalty

Rating	0	1	2-3	4-5	6-7	8-9
Penalty	$50	$100	$200	$300	$400	$600

Rating	10-11	12-13	14-15	16-17	18-19	20-21
Penalty	$1000	$1500	$2000	$3000	$4000	$5000

If the answer to question #7 in Table 1 is **Definitely**, consider including the estimated dollar amount of economic benefit determined by the EPA BEN model or other appropriate method. Retain calculations for internal records.

Failure to Submit a required report:

An NOV with no penalty shall be issued to sites with an SCM annual reporting requirement that fail to submit their annual report. The NOV will be accompanied by a letter that explains the annual reporting requirement and will include a copy of the signed agreement. The deadline for the report submittal following an NOV is 30 days, unless an extension is requested for a legitimate reason. The City of Springfield may inspect the site to determine if the BMP(s) requires maintenance or repair. If deficiencies are noted, another NOV may be issued. If a site fails to submit their annual report for two consecutive years while under the same ownership and receives an NOV without penalty each year, or receives two violations in a single reporting year, the third failure will result in a civil penalty.

Civil penalties may not exceed the maximum penalty amount established by law. The City has discretion in issuing penalties. The Stormwater Coordinator may deviate from the civil penalty matrix provided that the deviation can be explained. In general, the discretion should be implemented in the answering of the seven penalty questions rather than in adjusting the penalty amount once the calculation has been completed.

Issuance of civil penalties is mandatory in the following general instances.

- Any Category 1 violation - Category 1 violations pose an actual, imminent, or acute threat to public health and/or the environment.
- A Category 2 or 3 violation is repeated within two (2) years of issuance of a notice of violation, civil penalty, or order.
- A knowing violation, such as falsification of records, or a flagrant disregard of permitting requirements.
- Issuance of civil penalties is mandatory in each of the situations noted above, unless:

- A deviation from these guidelines has been justified in writing by responsible staff and approved by the Director of Public Works.
- There is insufficient evidence that a violation occurred.
- A penalty action would jeopardize an ongoing criminal investigation or prosecution.

Public entities are subject to issuance of civil penalties to the same extent as any other individual or organization unless specifically exempted by law. Discretion is allowed on the use of penalties for public entities. Elevation of the issue within the entities' organization is often more effective in achieving compliance than penalties. Public entities that are experiencing chronic, as opposed to isolated incident, should be provided with formal or informal written notice of their potential liability for civil penalties prior to the initiation of penalty action. Issuing a Notice of Violation to the entity can usually satisfy this.

Penalties may be appealed. Penalties are due and payable 15 days from the day they are received; regardless of whether or not the penalty is appealed. If a penalty is not appealed and the violator fails to pay the penalty, penalty collection is the responsibility of accounting. If the violator fails to pay the penalty, the City may apply to the appropriate chancery court for a judgment and seek execution of such judgment.

If a facility, or individual, was penalized for a violation and they repeat that violation the penalty should be escalated to at least two times the amount of the previous penalty. The violation should be the exact same violation for penalty escalation to be employed. Penalties over two years old will not generally be considered for previous penalty escalation, but a longer time period may be justified for some violations.

In cases where the economic benefit of a violation can be demonstrated it may be included in the penalty calculation as long as the total amount of the penalty does not exceed the statutory maximum of $5,000.00 per day of violation. The EPA models BEN and ABLE may be used to calculate economic benefit but their use is not required.

Often the penalized party will want to use the penalty amount to fix the problem that caused the violation or do other work in the community. There are many reasons this may be considered, but it can only be done with the City Attorney's advisement after a formal appeal has been made. The settlement moneys cannot be used to meet requirements of a permit or order.

References

Tennessee Code Annotated, § 68-221-1106

Appendix B

(1) STORMWATER CONTROL MEASURES (SCM)

Stormwater control measures shall be designed to provide full treatment capacity within 72 hours following the end of the preceding rain event for the life of the new development or redevelopment project The water quality treatment design storm is a 1-year, 24-hour storm event as defined by Precipitation-Frequency Atlas of the United States. The water quality treatment volume (WQTV) is a portion of the runoff generated from impervious surfaces at a new development or redevelopment project by the design storm. SCMs must be designed, at a minimum, to achieve an overall treatment efficiency of 80% TSS removal from the WQTV. Permanent stormwater control measure design must consider infiltrative capacity of soils at the site.

The quantity of the WQTV depends on the type of treatment provided, as established in the following table:

Water Quality Treatment Volume and the Corresponding SCM Treatment Type for the 1-year, 24-hour design storm		
SCM Treatment Type	WQTV	Notes
Infiltration, evaporation, transpiration, and/or reuse	Runoff generated from the first 1 inch of the design storm	Examples include, but are not limited to, bioretention, stormwater wetlands, and infiltration systems.
Biologically active filtration, with an underdrain	Runoff generated from the first 1.25 inches of the design storm	To achieve biologically active filtration, SCMs must provide minimum of 12 inches of internal water storage.
Sand or gravel filtration, settling ponds, extended detention ponds, and wet ponds	Runoff generated from the first 2.5 inches of the design storm or the first 75% of the design storm, whichever is less	Examples include, but are not limited to, sand filters, permeable pavers, and underground gravel detention systems. Ponds must provide forebays comprising a minimum of 10% of the total design volume. Existing regional detention ponds are not subject to the forebay requirement.
Hydrodynamic separation, baffle box settling, other flow-through manufactured treatment devices (MTDs), and treatment trains using MTDs	Maximum runoff generated from the entire design storm	Flow-through MTDs must provide an overall treatment efficiency of at least 80% TSS reduction.

Treatment trains using MTDs must provide an overall treatment efficiency of at least 80% TSS reduction utilizing the following formula:

The calculation:

R = A + B – (A x B) / 100

Where:

R = total TSS percent removal from application of both SCMs,

A = the TSS percent removal rate applicable to the first SCM, and

B = the TSS percent removal rate applicable to the second SCM.

TSS removal rates for MTDs must be evaluated using industry-wide standards. TSS removal rates for other SCMs must be from published reference literature.

Treatment trains using infiltration, evaporation, transpiration, reuse, or biologically active filtration followed by sand or gravel filtration, settling ponds, extended detention ponds or wet ponds may subtract the treated WQTV of the upstream SCMs from the WQTV of the downstream SCMs.

The WQTV for a new development or redevelopment project may be reduced up to 20% for any one of the following conditions, and up to a total maximum of 40% for a combination of the following conditions:

1. Redevelopment projects (including, but not limited to, brownfield redevelopment);
2. Vertical density (floor to area ratio of at least 2, or at least 18 units per acre)

Care must be taken to ensure that SCMs do not become nuisances or health hazards. Stormwater quality management facilities generally require more maintenance than stormwater quantity facilities. Stormwater quality detention facilities should be designed to require minimal maintenance and maintenance responsibility must be clearly stated on the plans.

Failure to maintain a stormwater management facility as described in the maintenance agreement may result in a penalty in accordance with Section 8 – Enforcement.

SCMs and detention facilities located in residential subdivision developments shall be within public utility and drainage easements and shall be maintained by the Department of Public Works in the absence of a homeowner's association. SCMs and detention facilities located in condominium developments, apartment or townhouse complexes, PUDs, industrial, commercial, or institutional developments shall be within public utility and drainage easements and maintained by the property owner or homeowner's association. A maintenance agreement must be executed before the Certificate of Occupancy is approved.

(2) STORMWATER DRAINAGE SYSTEM

Storm drainage plans shall include sufficient information to allow the Director of Public Works or his designee to evaluate the environmental characteristics of the project site, potential impacts of all

proposed development of the site, both present and future, on the water resources, and the effectiveness and acceptability of the measures proposed for managing stormwater runoff generated at the project site. The basic storm drainage plan requirements are included in the Subdivision Regulations. In addition to requirements contained in the Subdivision Regulations, the storm drainage plan shall include the following:

1. Proposed land use with tabulation of the percentage of surface area to be adapted to various uses (green spaces, pervious areas, etc.); drainage patterns; locations of utilities, roads, and easements; the limits of clearing and grading;

2. Proposed SCMs with maintenance plans;

3. Written description of the site plan and justification of proposed changes in natural conditions may also be required at the request of the Public Works Director or his designee; and,

4. Soils Information: If a SCM depends on the hydrologic properties of soils (e.g., infiltration basins), then a soils report shall be submitted. The soils report shall be based upon on-site boring logs or soil pit profiles and soil survey reports. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soil types present at the location of the control measure.

(3) Compliance with Minimum Standards

Standards for the design and construction of drainage improvements shall be in accordance with the Standards of the Springfield Public Works Department (SPW). If a conflict occurs between the Stormwater Management Ordinance, Subdivision Regulations, or the standards of the SPW, the more stringent requirement shall govern. If above-described standards for design and construction of drainage does not address an item of construction or design, then the latest edition of the *Tennessee Erosion and Sediment Control Handbook*, the current *Tennessee General Permit for Discharges of Stormwater Associated with Construction Activities*, or the current *Small Municipal Separate Storm Sewer System Permit*, as applicable, shall govern the design and construction.

City of Springfield
Public Information and Education Plan

Section I

1. Requirement

Section 4.2.1 of the State of Tennessee Small MS4 NPDES Permit states:

> "Permittees shall develop and implement an education and outreach program that includes public education and outreach on stormwater impacts as a component of the stormwater management program."

2. Program Objectives

- Raise awareness of the water bodies in the jurisdiction, how stormwater reaches natural water bodies, and how this impacts water quality, not only in the City but also in downstream communities.
- Improve understanding of impacts on water quality by individual and group behaviors.
- Educate the public regarding the importance of clean water, and its importance as a significant natural resource and community asset by fostering stewardship and enthusiasm for cleaner water.
- Encourage a change in people's behavior and practices that are currently causing storm water pollution.
- Promote active participation in reducing pollutants in stormwater runoff.
- Increase the number of individuals, schools and other organizations in the City who participate in water related educational activities (e.g., Earth Day).

3. Program Requirements

This program is designed to reach three major audiences:

a. The public;
b. The engineering and development community; and
c. City employees.

The program will include:

a. Specific public information/education activities that are designed to meet specified management measures;
b. Identification of job categories and applicable management measures for employee education;
c. A schedule/calendar of events for each year; and
d. Methodology to evaluate components to assess overall effectiveness and the need for improvement.

Program Documents and Forms

Springfield Stormwater Regulations can be viewed and/or downloaded at http://www.springfieldtn.gov/351/Storm-Water-Management-Ordinance.

Information on pollution prevention can be viewed and downloaded at http://www.springfieldtn.gov/381/Storm-Water-Pollution. The web page also has:

- Examples of illicit discharges
- A form for reporting violations
- Suggested Best Management Practices for residents

Web links to relevant websites are located at http://www.springfieldtn.gov/QuickLinks.aspx?CID=49,.

4. Educational Materials

The City's Stormwater Program uses public education materials developed by various non-profits and watershed information groups. These materials are available to the public at City Hall, Public Works, and are distributed during educational encounters held for various groups. These publications include:

- *Tennessee Farmers Guide to Cleaner Water*
- *Tennessee Homeowners' Guide to Cleaner Water*
- *Tennessee Construction Guide to Cleaner Water*

New and relevant materials will be assessed and added as appropriate and when available.

Stormwater Program documents for developers are available for download on the Stormwater Program website including:

- Grading and Erosion Control Permit
- Drainage Plan and Calculation Review Checklist
- Erosion Prevention and Sediment Control Plan and SWPPP Review Checklist

5. Public Classes and Presentations

A variety presentations related to clean water are available for general contractors, homeowner groups, business owners, civic organizations, and youth groups. The City Stormwater coordinator can develop and facilitate training appropriate for the audience.

Topics will include:

a. General awareness of the impacts on water quality;
b. Awareness of the importance of maintenance activities for operators of permanent Best Management Practices (BMPs)/Stormwater Control Measures (SCMs);
c. Awareness of the proper storage, use, and disposal of pesticides, herbicides, fertilizers, oil and other automotive-related fluids; and
d. Awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc.

6. Public Comment and Input

Public meetings may be held to promote, publicize, and facilitate citizen participation in the development and implementation of the stormwater management program. These may be advertised by email notifications to area watershed groups, development professionals, engineers, and construction professionals. For events requiring a formal public notice, the City's public notice process will be followed. Notices are vetted through offices of the City Recorder, City Clerk and Public Affairs. Notice is published on the City website, local newspaper and social media. All public participation events will be posted in the public spaces of City offices and social media.

Meeting Information

Formal Public Notice will be posted at https://www.springfieldtn.gov/706/Public-Notices

7. Public/Private Partnerships

Partnerships with civic groups and businesses will be pursued to design and execute public service projects in order to reduce the discharge of pollutants. These projects are designed to increase public awareness of stormwater issues and encourage participation of the general public in these activities. Examples may include stream clean-ups, tree plantings and slope stabilization projects that will result in improved runoff water quality and reduces pollutant loading for creeks and streams.

8. Public Involvement/Participation

The public involvement and participation program is intended to reach two major audiences:

a. The general public; and
b. The commercial and industrial community.

This program consists of the following:

a. Public involvement/participation activities that are designed to meet specific management measures;
b. Schedule/calendar of events for each year;
c. Methodology to evaluate components to assess overall effectiveness and the need for improvement;
d. A mechanism for citizen reporting of illegal spillage, dumping, or otherwise illicit disposal of materials into the MS4 system;
e. Publicity plan for public involvement and participation opportunities by methods designed to reach the intended audience;
f. Creating opportunities for the public to participate in the decision-making processes for developing, implementing, and updating the Stormwater Management Program;
g. Mechanisms, procedures, and processes for public access to information on new development and redevelopment projects and receiving and considering comments from the public on those new development and redevelopment projects;
h. Developing and implementing a public notice process; and
i. Tracking and maintaining records of public involvement and participation opportunities.

9. Publicity Plan

Program Documents and Forms

Springfield Stormwater Regulations can be viewed and/or downloaded at http://www.springfieldtn.gov/351/Storm-Water-Management-Ordinance.

Information on pollution prevention can be viewed and downloaded at http://www.springfieldtn.gov/381/Storm-Water-Pollution. The web page also has:

Public Notice Process

Notices are vetted through offices of the City Recorder, City Clerk and Public Affairs. Notice is published on the City website, local newspaper and social media. All public participation events will be posted in the public spaces of City offices and social media.

Formal Public Notice will be posted at https://www.springfieldtn.gov/706/Public-Notices

Public access to information on construction projects.

Individuals or groups may view information on construction projects during normal business hours at the Community Development and Planning Office. Site plans may not be copied or photographed, but copies may be provided at the discretion of the City Planner / City Clerk following a formal request. Comments on projects 50,000 square feet or less can be made directly to the City Planners. Projects of more than 50,000 square feet, or comprised of three or more lots are reviewed and approved by the Planning Commission. Planning Commission meetings are open to the public, and the Planning Commission will receive and consider public comments on construction projects. The Planning Commission reserves the right to review all projects, regardless of size.

Illicit Discharge Reporting

To report an issue or a violation or to request service:

Contact the Storm Water Management Department during regular business hours to report an issue or violation or request service at (615) 384-2746 or submit an online form. https://www.springfieldtn.gov/FormCenter/Public-Works-8/Public-Works-Service-Request-66

10. Evaluation

An annual evaluation of the Stormwater Management Program shall be conducted to evaluate compliance with the terms and conditions of the City's MS4 Permit, including the effectiveness of the Public Information and Education Plan. The plan may be modified as necessary following an annual review if it is determined that a measurable goal has not been, or cannot be achieved.

Implementation

Public Education

Target Audience	Management Measure	Delivery Method/Materials
General Public	Awareness of the impacts on water quality	Public event booth; Informational pamphlet's, interactive activity
General Public	Awareness of the importance of maintenance activities for operators of permanent BMPs/SCMs	E-mail or USPS mail; Informational pamphlet
General Public	Awareness on the proper storage, use, and disposal of pesticides, herbicides, fertilizers, oil and other automotive-related fluids	Social media/resident newsletter; Monthly post on stormwater topics
General Public	Awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc.	Public event booth; Informational pamphlets
Engineering & Development Community	Awareness of the stormwater ordinances, regulations, and guidance materials related to long-term water quality impacts	Conference session; Slide presentation
Engineering & Development Community	Awareness of the stormwater ordinances, regulations, and guidance materials related to long-term water quality impacts	Conference session; Slide presentation
Public Employees	Awareness of water quality impacts from daily operations	Training session; Video presentation
Public Employees	Pollution Prevention and Good Housekeeping (see Permit sub-part 4.2.6.)	Training session; Video presentation
Public Employees	The awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer diversions or seepages, spills, etc.	Training session; Video presentation

Public: Minimum of one activity each reporting year.

Engineering & Development Community: Minimum of one activity per five year permit term.

Employees: All trained or retrained once during the permit term, new employees trained within six months.

Public Involvement

Participants	Management Measure	Delivery Method/Materials
General Public	Pollution Prevention	Annual Clean-up event; public interaction
General Public	Impacts on water quality or local storm water management issues	School and or club events; Interactive demonstrations
General Public	Storage, use, and disposal of household hazardous waste, automotive-related fluids, pesticides, herbicides, and fertilizers use	Sponsor Hazardous Household Waste collection; Public interaction
General Public	Identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc.	Encourage and solicit active reporting; Illicit discharge hotline / website
Commercial & Development Community	Pollution Prevention	Building permit process; Personal interaction with builders
Commercial & Development Community	Impacts on water quality or local storm water management issues	Pre-construction meeting; Collaboration with developers/builders

General Public: Minimum of one activity each reporting year.

Commercial &
Development
Community: Minimum of two activities per five year permit term.

Illicit Discharge Detection and Elimination (IDDE) Program

November 30, 2023

INTRODUCTION

The State of Tennessee Small MS4 Permit requires the City to implement a program to effectively prohibit non-stormwater discharges. This document establishes the City's IDDE Plan and documents the procedures used to meet the MS4 Program requirements for the Illicit Discharge Program.

Illicit Discharges

The term "illicit discharge" is defined at 40 CFR § 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from firefighting activities.

There are many types of illicit discharges that need to be prohibited in accordance with the Permit. The discharges listed in Part 1.3.3.2 of the MS4 Permit can be excluded from being effectively prohibited (to be referenced as "allowed non-stormwater discharge" from this point forward). (See Section 1 for a list of allowed non-stormwater discharges).

Section 1: Codes, Resolutions, and Ordinances

To the extent allowable under state or local law, the City must implement a regulatory mechanism to meet the IDDE requirements outlined in the MS4 Permit. The City must:

1) Develop a storm sewer system map;
2) Effectively prohibit non-stormwater discharges (except excluded discharges) into the storm sewer system and implement an appropriate enforcement response plan (ERP); and
3) Develop and implement a program to detect, investigate, and address non-stormwater discharges, including illegal dumping, to the system.

The City uses the following methods to meet the regulatory mechanism required by the Phase II MS4 Permit.

Storm Water Management Ordinance, Section 9

The City's Storm Water Management Ordinance (Section 9) as amended in July 2018 has a section that specifically prohibits illegal discharges and allows for noncompliance remedies. The ordinance states, "the following direct or indirect discharges into Community Waters or Waters of the State are prohibited and shall be unlawful:"

1. Sewage dumping or dumping of sewage sludge;

2. Chlorinated swimming pool discharge;
3. Discharge of any polluted household wastewater, such as but not limited to laundry wash water and dish water, except to a sanitary sewer or septic system;
4. Leaking sanitary sewers and connections, which shall have remained uncorrected for seven days or more;
5. Leaking water lines shall have remained uncorrected for seven days or more;
6. Commercial, industrial or public wash discharge;
7. Garbage or sanitary waste disposal;
8. No dead animals or animal fecal waste shall be directly discharged into Community Waters;
9. No non-storm water discharges shall be directly discharged into Community Waters except pursuant to a permit issued by the State of Tennessee or the City;
10. No dredged or spoil material shall be directly or indirectly discharged or discarded into Community Waters;
11. No solid waste shall be directly or indirectly discharged or discarded into Community Waters;
12. No chemical waste shall be directly or indirectly discharged or discarded into Community Waters.

Allowed Non-Stormwater Discharges

Certain non-storm water discharges are allowable, as defined below, into the City's MS4 unless the Director of Public Works or his designee has identified them as a source of pollutants to the "Waters of the State of Tennessee". The following non-stormwater discharges into the Municipal Separate Storm Sewer System are allowed:

1. Discharges from emergency firefighting activities;
2. Rising ground waters;
3. Uncontaminated groundwater infiltration to separate storm sewer systems (as defined by 40 CFR35.2005(b)(20));
4. Uncontaminated pumped ground water and discharges from potable water sources as required for system maintenance;
5. Potable de-chlorinated water line flushing;
6. Foundation drains and pumps;
7. Air conditioning condensate;
8. Landscape irrigation;
9. Irrigation water;
10. Lawn watering;
11. Springs;
12. Water from crawl space pumps;
13. Uncontaminated footing drains and pumps;
14. Individual residential car washing;
15. Flows from riparian habitats and wetlands;
16. De-chlorinated swimming pool discharges;
17. Street wash waters resulting from normal street cleaning operations;
18. Discharges approved at the discretion of the Director of Public Works or his designee as being necessary to protect public health and safety; and
19. Dye testing is an allowable discharge if approved by the Director of Public Works or his designee.

The Storm Water Management Ordinance does not authorize:

1. Alteration of the physical, chemical, radiological, biological, or bacteriological properties of any water of the state or community waters;
2. Construction, installation, modification, or operation of any treatment works or part, thereof, or any extension or addition thereto;

3. Increase in volume or strength of any wastes in excess of permissive discharges specified under any existing permit;
4. Development of natural resource or construction, installation, or operation of any establishment or any extension or modification thereof or addition thereto; the operation of which will or is likely to cause an increase in the discharge of wastes into waters of the state or community waters or would otherwise alter the physical, chemical, radiological, biological, or bacteriological properties of any waters of the state or community waters in any manner not already lawfully authorized;
5. Construction or use of any new outlet for the discharge of any wastes into waters of the state;
6. Discharge of sewage, industrial wastes or other wastes into waters of the state, or a location from which it is likely that the discharged substance will move into waters of the state;
7. Discharge of sewage, industrial wastes or other wastes into a well, sinkhole, or a location that is likely that the discharged substance will move into a well or sinkhole, or the underground placement of fluids and other substances which do or may affect the waters of the state.

Section 2: Mapping

The MS4 Permit requires the city to develop, update and maintain, a storm sewer system map (preferably Geographic Information System based) that shows the location of system outfalls where the municipal storm sewer system discharges into waters of the state. The map must be available for review upon request. The map must show:

1. MS4 outfalls;
2. Inputs into the storm sewer collection system, such as the inlets, catch basins, drop structures, flow's from adjacent MS4s or other defined contributing points to the storm sewershed of that outfall;
3. Direction of stormwater flow through the system; and
4. Receiving streams.

Section 3: Program Requirements

Permittees must "develop and implement a program to detect, investigate, and address non-stormwater discharges, including illegal dumping, to the system". This plan must include:

1. Procedures for locating "priority areas" likely to have illicit discharges;

2. Procedures for tracing the source of an illicit discharge.

3. Procedures for removing the source of the discharge.

4. Procedures for tracking, investigating, and addressing potential illicit discharges and confirmed Illicit discharges. The results of all illicit discharge investigations shall be individually tracked and documented and include the name of Owner/Operator, locations, description of findings, dates, times, parameters and sampling results, discharge source, description of enforcement action(s) including referrals to other agencies, the date the illicit discharge was resolved, and any other pertinent information.

Priority Areas

Priority areas are areas or facilities where dumping, spills, or other illicit discharges could be a common occurrence. The list of priority areas will be updated annually. Sources of illicit discharges typically found in urban areas may include apartments and residences, commercial car washes, restaurants, airports, landfills, and gas stations. The illicit discharges from these sources may include sanitary wastewater, septic system effluent, vehicle wash water, wash down from grease traps, motor oil, antifreeze, gasoline and fuel spills, and disposal of pesticides, herbicides and fertilizers.

Section 4: Tracing the Source of an Illicit Discharge

Illicit discharges can be categorized as either direct or indirect.

- Example Direct Discharges
  - Sanitary wastewater piping that is directly connected from a home to the storm drain system,
  - Materials (e.g., used motor oil, paint) that have been dumped illegally into a storm drain catch basin,
  - A shop floor drain that is connected to the storm drain system, and
  - A cross-connection between the sanitary sewer and the storm drain system.
- Example Indirect Discharges
  - An old and damaged sanitary sewer line that is cracked and leaking sewage into a storm drain line, or
  - A failing septic system that is leaking into a storm drain line or causing surface discharge in the storm drain system.

Typical illicit surface discharges that may be observed by field personnel in include:

- Overflows of sanitary sewer systems
- Over-application of fertilizers, pesticides, or herbicides onto landscaping and impervious surfaces
- Dewatering of construction sites
- Improper washing of concrete ready-mix trucks,
- Commercial use of soaps and detergents to clean pavement, sidewalks, vehicles, and equipment,
- Latex- or oil-based paints and solvents disposed of in gutters or inlets
- Restaurant grease disposed of in gutters or inlets
- Leaking dumpsters
- Fuel spills
- Hazardous materials dumped along roads

Tracing Process

Reporting of an illicit discharge in the City may occur through citizen observation, field staff observation, the City's website, or other miscellaneous means. Once a report of an illicit discharge is received and verified, the following steps may be taken:

- Reports received in an area of the City that has been previously mapped can be traced through Mapping/GIS. The illicit discharge tracing function will allow the user to move upstream or downstream from the sighting of the illicit discharge. Maps can be produced and reviewed in the field with notes taken by field staff to be added to the process for follow-up.
- The City collects information regarding the illicit discharge, including type of discharge, reporting party, remarks on the discharge, and type of mitigation used for the discharge. Follow-up on the incident is conducted if necessary.

Inactive Illicit Discharge Reporting

Through field observation or citizen reporting there may be the instance where an illicit discharge is untraceable. This may be due to the discharge no longer occurring, or evidence of an illicit discharge cannot be found. If the responsible party or source of a confirmed illicit discharge cannot be identified after a comprehensive investigation in accordance with all stormwater management program IDDE investigation and tracing procedures, the illicit discharge shall be referred to TDEC within fourteen calendar days of completing the investigation.

Other Tracing Options

There are many proven techniques that may be considered for tracing illicit discharges. The City will utilize procedures listed in The Center for Watershed Protection *"Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments"* to trace, isolate and remedy illicit discharges.

Section 5: Tracking an Illicit Discharge

The City tracks information provided through the various tracing options outlined in this section in a report format. Illicit Discharge files include information on the following items if available: Owner/Operator, locations, description of findings, dates, times, parameters and sampling results, discharge source, description of enforcement action(s) including referrals to other agencies, the date the illicit discharge was resolved, and any other pertinent information.

Tracking these data provides information that can assist in determining priority areas, tracing sources of illicit discharges and removing sources of illicit discharges. Tracking the data collected in the IDDE Program will play an important role in the evaluation and refinement of the Program. In addition, tracking will provide reporting information required by TDEC.

In rare cases, the incident could become the focus of a judicial process that would require the first staff person on site to provide valuable information, and possibly testimony and evidence. For that reason, it is necessary to be as thorough as possible on the initial investigation.

Measurable Goals:

- Maintain an inventory of and investigate as an illicit discharge all non-stormwater discharges or flows that the permittee identified as a significant contributor of pollutants to the MS4.
- Track all potential illicit discharges reported, categorized by reporting source.
- Initiate 100% of all potential Illicit discharges investigations within 7 days of the receipt of the complaint.
- 100% of all Initial enforcement actions shall be taken within seven calendar days of the investigation on confirmed illicit discharges.
- 100% of all corrective action plans are reviewed in accordance with procedures.

Section 6: Removing an Illicit Discharge

Of the various methods that can be used to remove/correct illicit discharges, contacting the source of the discharge and securing the cooperation of the responsible party is the most beneficial way to correct the illicit discharge and eliminate future discharges. If the responsible party is unwilling to remedy the problem, legal action may be necessary to secure their cooperation. The ERP shall include remedies to address failures by the owner/operator to complete the corrective action plan and eliminate the illicit discharge.

This section groups those actions into two categories: compliance assistance and enforcement for illegal connections from homes and businesses; and responding to and preventing illegal dumping/discharges.

Surface contamination from illicit discharges is minimized by removing or requiring the removal of surface residue or other type of pollutant source. In cases where a site has or should have coverage under an NPDES general permit

for a discharge and the discharge is not subject to prohibitions against issuance of a permit the removal requirement may met by notifying TDEC through a written report.

Illegal Connections from Homes and Businesses

There is a range of ways in which the City may wish to handle the removal of illegal connections between homes or businesses and the storm sewer system. The City will use judgment about what mix of compliance assistance and enforcement actions is appropriate in a given situation. Typically, the City responds to the discovery of an illegal connection in a graduated manner, beginning with efforts to obtain voluntary compliance and escalating enforcement actions if compliance is not obtained. The illicit connection is plugged if possible, to remove the source of the discharge until a permanent solution can be implemented.

Often, home or business owners are not aware of the existence of illegal connections between their buildings and the storm sewer systems. In these cases, providing the responsible party with information about the connection, its environmental consequences, the applicable regulations, and how to remedy it may be enough to secure voluntary compliance.

Illegal Dumping/Discharges

It is often difficult to identify and locate the individual(s) responsible for illicit discharges; therefore, the City's program to address illicit discharge focuses on education and prevention, backed up by enforcement to the extent possible.

The following key strategies may be used in the City to remove an illicit discharge/illegal dumping:

- Site maintenance and controls. Measures are taken to clean up areas where illegal dumping has taken place, and controls such as signs or access restrictions are used, as appropriate, to prevent further dumping.
- The City requires residue and surface contamination from illicit discharges to be removed if possible. In some cases, clean-up of a discharge is not possible or feasible such as paint dried in the curb and gutter.
- For cases where the responsible party is unknown, the City is responsible for removal and clean-up of residue and surface contamination from illicit discharges. For non-hazardous pollutant sources, Public Works crews take action to mitigate surface residue depending on the pollutant type and amount of pollutant. Illicit discharges are only washed down where wash water is captured and discharged into the sanitary sewer (if approved). Sand absorbents or socks, pillows, or pads are used to capture spilled liquid. All clean-up materials are properly disposed of.
- For hazardous or unknown materials, the City will contact the Fire Department for guidance and contact an environmental cleanup company if needed.

Section 7: Enforcement

To the extent allowable under state and local law, the City must effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into the storm sewer system and implement an appropriate Enforcement Response Plan (ERP).

Informal (Verbal) Enforcement Response

The following steps may be used by the City when enforcing the Stormwater Ordinance:

1. Identify the source property owner or their designated representative.
2. Make contact through any medium available to notify the property owner of the infraction. Attempt to meet with the property owner or their designated representative to discuss requirements and infraction. The preferred medium is verbal notification but is not limited to this. This may also require involving the City Code Enforcement Officer to respond.
3. Education materials and/or verbal warning is given.

The goal is to respond to an illicit discharge with informal enforcement within 24 hours, but no more than 48 hours. In cases where the discharge is reported on a weekend and pollution potential is minimal (no precipitation in the forecast, material is not easily discharged, storm inlets are not close by, etc.), the City's initial response may take up to 72 hours. In no case will an initial investigation exceed 7 days from the receipt of a complaint.

Enforcement Response Plan

Part 4.5 of the MS4 permit refers to the development and implementation of an Enforcement Response Plan (ERP). The plan sets out the City's potential responses to violations, and addresses repeat violations through progressive enforcement as needed to achieve compliance.

The City of Springfield shall have the authority to issue notices of violation and citations, and to impose civil penalties as provided in the Enforcement Response Plan.

Formal measures authorized include:

1. Verbal Warnings,
2. Written Notice of Violation,
3. Citations or Administrative Orders,
4. Stop Work Orders,
5. Withholding of Plan Approvals or Other Authorizations,
6. Civil Penalties, and
7. Additional Measures.

Additional Measures

The City may use other escalated measures provided under its legal authority. The City may perform work necessary to remove the illicit discharge and collect the funds from the responsible party in an appropriate manner, as allowed by law.

The timeline for a judicial enforcement response is determined by court schedules.

Section 8: Training

The quality of stormwater entering the waters of the state within the City relies heavily on a variety of staff visually monitoring the MS4. There are two types of staff trained on the detection of pollutants to assist in preventing and eliminating sources of pollution to the waterways. The groups are:

1. Specific Stormwater staff that have the duty of conducting field investigations of reported illicit discharges (IDDE Team); and

2. Ancillary staff who are in the field for other purposes (Public Works employees).

IDDE Team

City staff that is part of the Stormwater Team has the responsibility of responding to an IDDE incident. Team members include the City Stormwater Program Coordinator and additional personnel as assigned by the Director of Public Works.

Training

Name and department of each individual trained, date of training, the type of training, and a list of topics covered will be documented for each training event and recorded in the Stormwater Files on the Z drive. The PIE Plan will contain detailed training methodology.

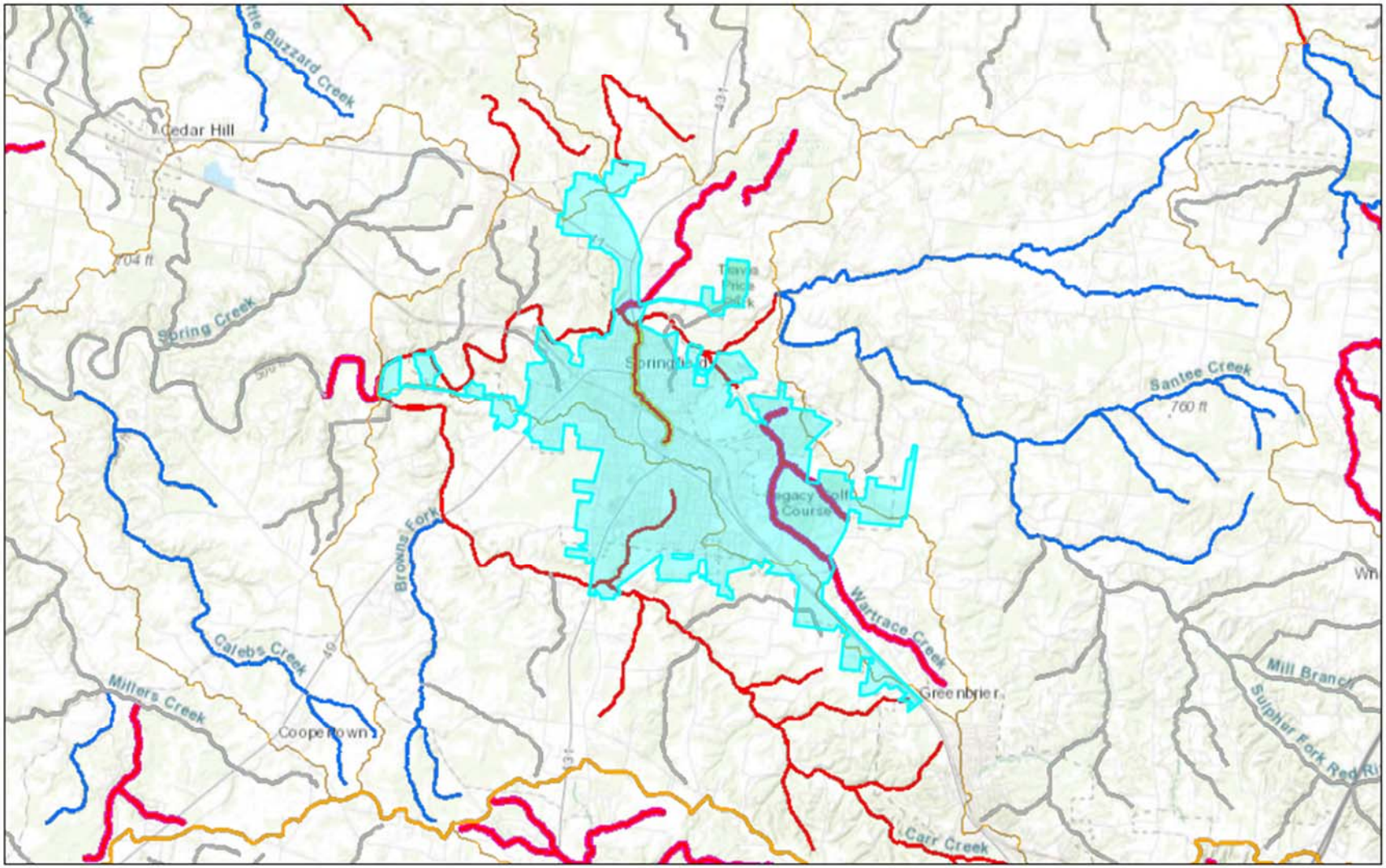
Section 9: Guidance on responding to an IDDE

- Determine if the situation is an emergency. If it is an emergency, call 911.
- Determine if the situation requires immediate response.
- If the situation requires an immediate response, during regular office hours:
    - For construction or road projects, contact the Construction Inspector.
    - For fixed facilities and/or commercial/industrial sites such as restaurants or concrete plants, call the Stormwater Program Coordinator.
- If the situation requires an immediate response outside of regular office hours, forward to on call staff.
- Priorities when responding or investigating a possible illicit discharge:
    - Stop any current pollution events. This should be done before any other responses are undertaken.
    - Prevent pollutants from entering state waters with future storm events.
    - Mitigate any environmental damage which has already occurred.
    - Consider whether civil or criminal penalties should be recommended.
- If the situation does not require an immediate response:
    - For construction or road projects, call the Construction Inspector to investigate and respond.
    - For fixed facilities and/or commercial/industrial sites, call the Stormwater Program Coordinator to investigate and respond.
    - Sometimes a situation may be investigated by the staff that has responded if it makes sense (for example, if a homeowner spilled paint and staff responded and oversaw/assisted with cleanup. In this case, most likely the responding staff would fill out the appropriate IDDE Investigation Form with any pictures and additional documentation).
- The investigator will gather the following information, if possible, and fill out the IDDE Investigation Report:
    - Speak with the person filing the original report.
    - Go to the site, take pictures, write down observations, and collect samples if deemed appropriate.
    - Contact the owner of the site; arrange a visit with a site representative.
    - Tour the site, carefully write down the conditions you observe, take any additional pictures needed, and inform the representative of any problems you see.
- The IDDE Investigation Report and supporting documentation should be forwarded to the Stormwater Coordinator.
- If enforcement is necessary, discuss the possible responses with the Public Works Director and refer to the Enforcement Response Plan for guidance.
- If a written notification of violation is sent to the site owner:
    - Outline the complaint and the findings.

- List any required response, including mitigations, with specific deadlines. It should be noted that the entity is in violation until the unacceptable condition is corrected. A deadline is not intended to be interpreted as permission to violate until that deadline is met.
- Specify any penalties.

- Once all unacceptable conditions have been corrected, and any mitigations have been completed, ensure the IDDE Investigation Report is updated with conclusion/actions taken.

ArcGIS Web Map



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Water Quality Assessment Waterbodies
- Fully Supporting
- Not Assessed
- Not Supporting
- Siltation Impaired Waterbodies
- Habitat Impaired Streams

- Siltation Impaired Streams

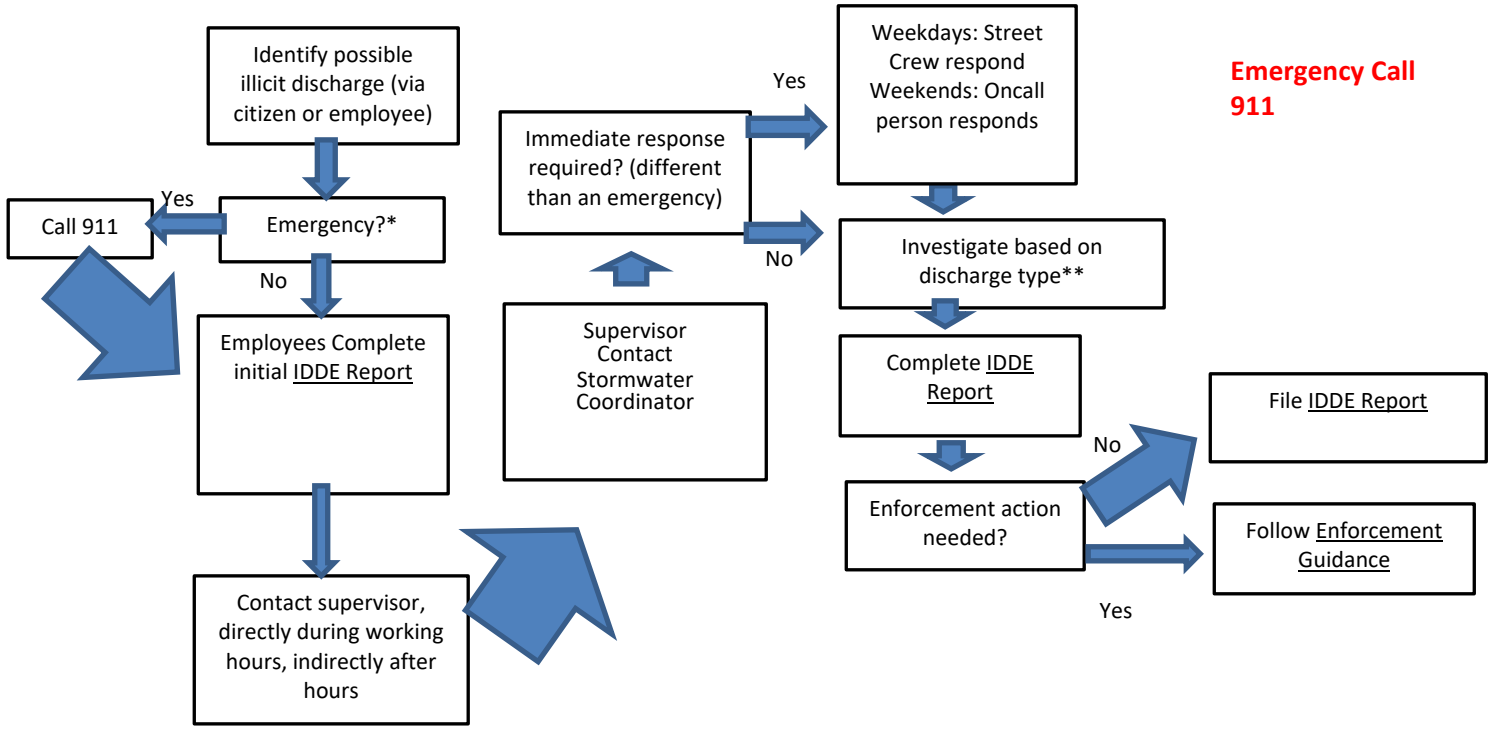
Water Quality Assessment
- Fully Supporting

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Response Flow Chart Guidance



* What constitutes an emergency?
Hazardous
Too large to contain

**Fixed Facilities- Stormwater Coordinator
Road/Construction-related projects- Construction Inspector

Illicit Discharge Incident Tracking Sheet

Incident ID:

Responder Information	
Call taken by:	Call date:
Call time:	Precipitation (inches) in past 24-48 hrs:
Reporter Information	
Incident time:	Incident date:

Caller contact information (*optional*):

Incident Location *(complete one or more below)*

Latitude and longitude:

Stream address or outfall #:

Closest street address:

Nearby landmark:

Primary Location Description	**Secondary Location Description:**		
☐ Stream corridor *(In or adjacent to stream)*	☐ Outfall	☐ In-stream flow	☐ Along banks
☐ Upland area *(Land not adjacent to stream)*	☐ Near storm drain	☐ Near other water source (storm water pond, wetland, etc.):	

Narrative description of location:

Upland Problem Indicator Description

☐ Dumping	☐ Oil/solvents/chemicals	☐ Sewage
☐ Wash water, suds, etc.	☐ Other: _____	

Stream Corridor Problem Indicator Description

Odor	☐ None	☐ Sewage	☐ Rancid/Sour	☐ Petroleum (gas)
	☐ Sulfide (rotten eggs); natural gas	☐ Other: Describe in "Narrative" section		
Appearance	☐ "Normal"	☐ Oil sheen	☐ Cloudy	☐ Suds
	☐ Other: Describe in "Narrative" section			
Floatables	☐ None:	☐ Sewage (toilet paper, etc)	☐ Algae	☐ Dead fish
	☐ Other: Describe in "Narrative" section			

Narrative description of problem indicators:

Suspected Violator (name, personal or vehicle description, license plate #, etc.):

Investigation Notes	
Initial investigation date:	Investigators:
☐ No investigation made	Reason:
☐ Referred to different department/agency:	Department/Agency:
☐ Investigated: No action necessary	
☐ Investigated: Requires action	Description of actions:
Hours between call and investigation:	Hours to close incident:
Date case closed:	
Notes:	

ANNEX 4

City of Springfield

Water Quality Monitoring Plan

Permit TNS077640 Expiration Date: July 31, 2027

Updated November 30, 2023

I. Introduction

This document presents the City of Springfield's Stormwater Monitoring Plan as required by the Tennessee Department of Environment & Conservation's (TDEC) National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Separate Storm Sewer System (MS4) Permit. This plan was created to monitor efforts in reducing targeted pollutants to impaired streams in the City's MS4 jurisdiction. The plan will be reviewed annually as part of the Stormwater Management Plan (SWMP) review process and any needed changes will be documented in the MS4 Annual Report.

A. Background Information

Springfield's MS4 discharges into several waters identified on the State of Tennessee 303(d) list of impaired waters with unavailable parameters. These impairments have been identified as nutrients, pathogens, siltation, or other parameters related to storm water runoff from urbanized areas. Figure 1 shows locations of the impaired waters.

B. Permit Requirements

MS4 Phase II permittees that discharge to waters with unavailable parameters or to a water for which a TMDL has been approved, must develop and implement a monitoring and assessment program in accordance with Part 4.6 (Monitoring Program, Sampling Requirements and Reporting) and must meet the following objectives:

1. Assess compliance with the permit;
2. Measure the effectiveness of the stormwater management program;
3. Evaluate stormwater impacts to the receiving waters;
4. Identify sources of specific pollutants, including nutrients, pathogens, siltation, or other parameters related to stormwater discharges from the MS4 System; and
5. Gather data to inform program decisions and prioritization of future activities related to the protection of water quality and identify corrective actions.

C. Targeted Pollutants

The map in Figure 1 indicates locations of impaired waters within Sprinfield's MS4 jurisdiction. Within the watershed, increased stormwater runoff from land development has accelerated erosion and stream channel degradation, which has led to the excessive sedimentation. Sedimentation is a process by which eroded particles of rock are transported primarily by moving water from areas of relatively high elevation to areas of relatively low elevation, where the particles are deposited. Erosion rates are accelerated by human activity related to land use and other activities where soils are exposed or disturbed. Erosion rates are also influenced by amounts of rainfall and resulting stormwater runoff. Excessive sedimentation is detrimental to water quality, destroys biological habitat, reduces storage volume of water impoundments, impedes the usability of aquatic recreational areas, and causes damage to structures. Sediment loads in streams are composed of relatively small particles suspended in the water column (suspended solids) and larger particles that move on or periodically near the stream bed (bed load).

II. Monitoring

For stream segments identified by TDEC as waters with unavailable parameters for siltation and/or nutrients, biological stream sampling and habitat assessment must be performed utilizing the Semi-Quantitative Single Habitat (SQSH) Method as identified in TDEC's most current version of the Quality System Standard Operating Procedure for Macro-invertebrate Stream Survey. At least one sample per stream segment must be collected, with all segments within the MS4 jurisdiction sampled in a five-year period i.e. no more than 5 years between samples in a segment.

For stream segments identified by TDEC as waters with unavailable parameters for pathogens, bacteriological stream sampling must be performed utilizing methods identified in the Division's most current version of the Quality System Standard Operating Procedure for Chemical and Bacteriological Sampling of Surface Water. Monitoring shall include the collection of five samples within a thirty-day period (to establish a geometric mean) and be performed during the summer (March through November). Corresponding flow measurement is recommended but not required. At least one series of five samples per stream segment must be collected, with all segments within the MS4 jurisdiction sampled in a five-year period.

Visual Stream Surveys and Unavailable Parameter Inventories must be performed on each stream segment within the MS4 jurisdiction with unavailable parameters for siltation, pathogens, and nutrients to identify and prioritize sources of these pollutants of concern. At a minimum, a visual stream survey must be performed immediately upstream and downstream of each MS4 outfall that discharges into that stream segment. The City shall refer to existing survey protocols such as the ones available through the Natural Resources Conservation Service, State of Maryland Department of Natural Resources, and/or the State of Tennessee Habitat Assessment Protocol and related Stream Survey Field Sheets. All stream segments with unavailable parameters in the MS4 must be surveyed in a five-year period.

A. Record Keeping

Monitoring of stormwater discharges, or of receiving waters, will comply with the following:

1. Representative sampling: Samples and measurements taken in compliance with the monitoring requirements specified herein shall be representative of the volume and nature of the monitored discharge or the receiving stream.

2. Test Procedures: Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304 (h) of the Clean Water Act, as amended.

Records of monitoring information shall include:

1. The date, exact place indicated by latitude and longitude, and time of sampling or measurements;
2. The names(s) of the individual(s) who performed the sampling or measurements;
3. The date(s) analyses were performed;
4. The names of the individuals who performed the analyses;
5. The analytical techniques or methods used; and
6. The results of such analyses.

B. Sampling Locations

Sampling location access and safety, land use, ownership, watershed boundaries, soil types, and many other factors are evaluated to determine the sampling locations. The sampling locations for each stream identified in Figure 1 will be determined using the preceding criteria.

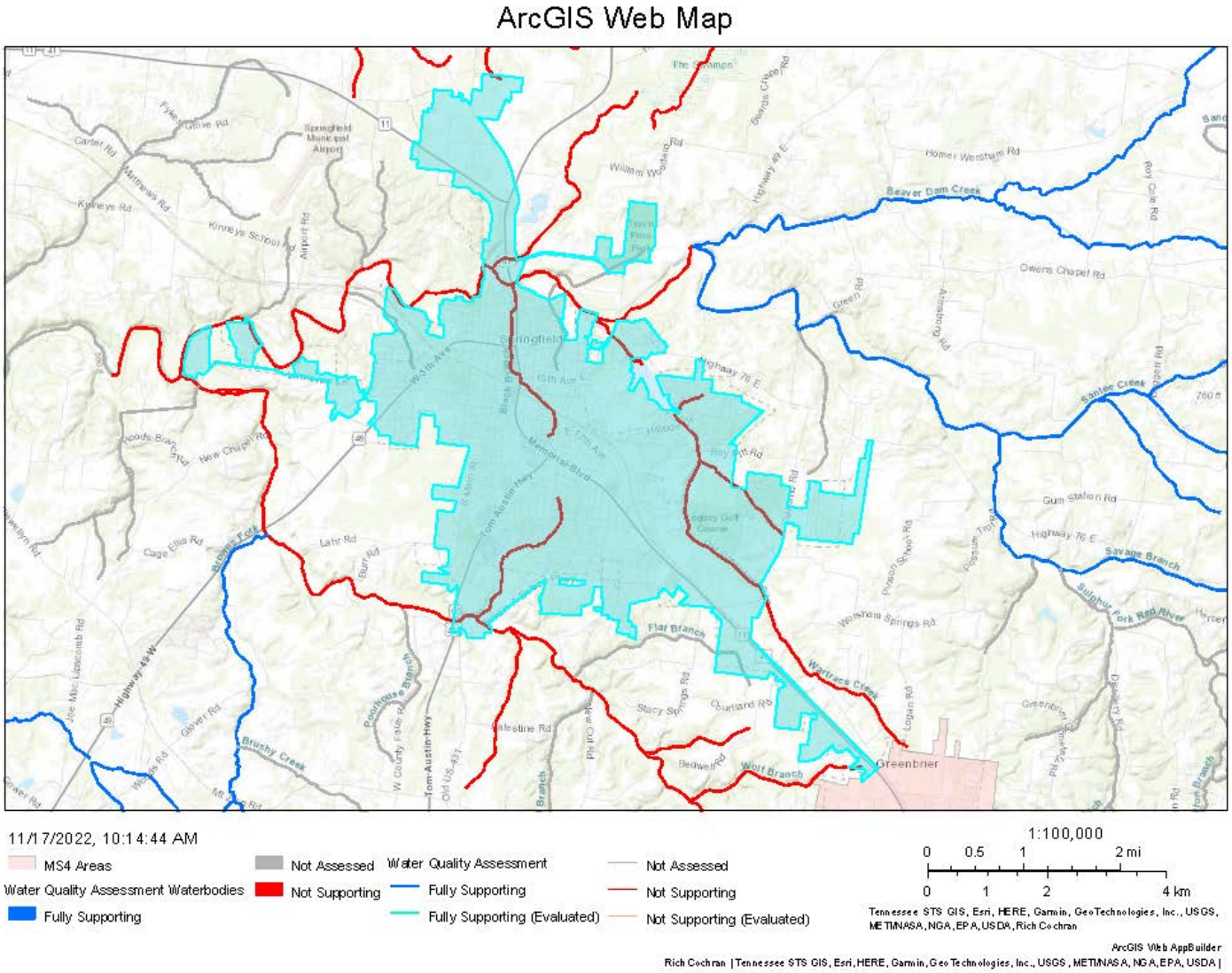
Table 1. Waterbodies

Receiving Water (Enter Source_FeatureID Value)	Number of Outfalls	Nutrients	Pathogens	Siltation	Other	ETW	TMDL	MS4 Jurisdiction
Buzzard Creek from Red River to headwaters (TN05130206002_0400)	0	No	Yes	No	No	Yes	Yes	
Trib to Sulphur Fork (north of Springfield) to headwaters (TN05130206003_0300)	4	No	No	Yes	Yes	No	No	
Wartrace Creek from Sulphur Fork to Wartrace Lake Dam (TN05130206003_1100)	4	No	No	No	Yes	No	No	
Wartrace Creek from Wartrace Lake to headwaters (TN05130206003_1150)	27	No	No	Yes	Yes	No	No	
Black Branch from Sulphur Fork to headwaters (TN05130206003_1200)	29	No	No	No	Yes	No	No	
Carr Creek from Sulphur Fork to confluence of Browns Fork (TN05130206003_1300)	0	No	Yes	No	No	No	No	
Carr Creek from Browns Fork to confluence of Flat Branch (TN05130206003_1350)	11	No	Yes	No	No	No	No	
Carr Creek from confluence of Flat Branch to headwaters (TN05130206003_1355)	0	Yes	Yes	No	No	No	No	
Sulphur Fork from rapids d/s of confluence of Carr Creek to Springfield STP outfall (TN05130206003_3000)	0	Yes	Yes	Yes	Yes	No	No	
Sulphur Fork from Springfield STP outfall (just u/s of Carr Creek) to confluence of Beaver Dam Creek (TN05130206003_4000)	0	No	Yes	No	No	No	No	
Flat Branch from Carr Creek to headwaters (TN05130206003_1310)	0	No	No	No	No	No	No	
Misc tribs to Sulphur Fork (TN05130206003_0999)	4	No	No	No	No	No	No	

C. Reporting

Monitoring results will be submitted as part of the City's MS4 Annual Report. The monitoring plan will be included in the SWMP as an appendix. The records and results of all monitoring will be submitted to TDEC as part of the annual report following a sampling event.

FIGURE 1. Springfield Impaired Streams Segments (2022)



III. Implementation

Monitoring results will be reported with the first Annual Report following a monitoring event unless the results are unavailable, in that case results will be reported during the subsequent reporting year. Monitoring events will be distributed over the five year permit term to manage budget requirements.

A. Visual Stream Assessments

Visual Stream Assessments will be conducted by walking the entirety of impaired streams within the jurisdiction and conducting spot visual stream assessments upstream and downstream of each MS4 Outfall throughout the jurisdiction.

B. Analytical Monitoring

Analytical Monitoring requires 5 sampling events at each discreet location within 30 days to establish baseline e.coli concentrations. This task must be completed between June and September to meet permit requirements.

C. Non-Analytical Monitoring

Macro-invertebrate sampling requires using the Semi-Quantitative Single Habitat (SQSH) methods to sample macro-invertebrate populations. Monitoring should be performed during the preferred seasonal macro-invertebrate occurrence.

ANNEX 5

City of Springfield Public Works Standard Operating Procedures -Public Works Facility-

November 30, 2023

Public Works SOP
Building Maintenance

For More Information

Kenny Morris
615-384-2746
kenny.morris@springfieldtn.gov

Possible Pollutants

Sediment
Toxics

Good Housekeeping

Dry cleanup methods
Employee training

Building Maintenance

Description

This SOP is designed to control the maintenance and construction activities that take place in municipal buildings and their surrounding grounds by promoting procedures to help eliminate the potentially contaminated debris, trash, and water runoff from reaching our stormwater system. This includes the disposal of debris caused by window washers, painters, and building contractors

When services are contracted, this written procedure should be provided to the contractor so they have the proper operational procedures. In addition, the contract should specify that the contractor is responsible for abiding by all applicable municipal, state, and federal codes, laws, and regulations.

Procedures

General

- Remove paper, trash and other debris from building grounds, (parking lots, landscaped areas, detention ponds and waterways).
- Standard cleaning of buildings and windows generate sediment, chemicals and debris. Collect material and dispose of properly.
- When maintenance operation requires wash water such as power washing of buildings, wash water must be collected a disposed of in the sanitary system or directed to landscaping so it does not reach the storm sewer system. For further information, refer to the Powerwashing SOP.
- At no time shall chemicals be allowed to be washed into the storm sewer system.
- Sediment collected from walkways and parking areas needs to be collected, removed and disposed, and not swept or power-washed into stormwater drains.

Debris Handing

- Conduct regular clean-up of property grounds of all trash and debris,
- If a spill should happen, refer to the Spill Prevention & Control SOP for proper procedures.
- Contractors such as landscapers, painters and any others are expected to follow proper clean-up procedures to ensure that chemicals, runoff, debris, and excessive sediment will not enter the stormwater system.

Employee Training

- Provide applicable employees who are involved in building maintenance this written procedure.

For More Information

Kenny Morris

615-384-2746

kenny.morris@springfieldtn.gov

Possible Pollutants

Organics

Chemicals

Good Housekeeping

Secondary containment

Employee training

Fertilizer, Herbicide, and Pesticide Application

Description

It is important to properly store, handle, apply, and clean up all fertilizers, herbicides, pesticides, and other landscaping chemicals. These chemicals can cause water pollution. Excessive fertilizer application can also contribute to algae blooms and deplete oxygen from waterways.

When services are contracted, this written procedure should be provided to the contractor so they have the proper operational procedures. In addition, the contract should specify that the contractor is responsible for abiding by all applicable municipal, state, and federal codes, laws, and regulations.

Procedures

General

- Follow label directions when applying, storing, handling, mixing, recycling, and disposing of chemicals and empty containers.
- Use care to transfer, mix or dispose of chemicals. Never perform these activities near storm drains or drainage areas.
- Have spill cleanup materials available in case of a spill and clean up chemical spills promptly with dry methods, if possible. Refer to the Spill Prevention and Response procedure.

Application

- Staff performing chemical applications should wear all appropriate protective garments.
- All chemicals shall be used strictly in accordance with their labels and all applicable federal, state, and local laws, regulations, and ordinances.
- Always follow the manufacturer's recommendation on handling and applying the chemicals.
- Chemicals should not be applied right before or during rain storms or while the area is being irrigated.
- Chemicals should not be applied right before or during high-wind events.
- Apply only the recommended amounts of chemicals to avoid chemicals being picked up by irrigation or stormwater runoff.
- Be careful not to overspray chemicals onto an impervious surface, such as a sidewalk or roadway. These chemicals will wash into the storm drain inlet during the next rainstorm.
- Clean up all over-sprayed chemicals.
- Do not apply landscape chemicals to frozen ground.

Chemical Storage

- Materials shall be stored in accordance with all current federal, state and local laws, regulations and ordinances.
- Chemicals should be stored inside when not in use.

- Recycle or dispose of all spent or excess chemicals properly and promptly.

Application Equipment

- Sprayers shall be used to apply only materials that are suitable for spraying.
- Spreaders shall be used to apply only materials that are available in granular forms.
- Fertilizers and pesticides should be loaded into application equipment over impervious surfaces, so that any spills can be easily cleaned.
- Properly calibrate application equipment to ensure the proper amount of chemical is applied.
- Keep application equipment clean; do not allow chemical buildup.
- Maintain (including washing) all equipment by following the Heavy Equipment and Vehicle Maintenance procedure.

Employee Training

- It is recognized that additional training and certifications exist that describe procedures for chemical application, handling, and storage. The appropriate employees and supervisors must have this certification.
- Provide applicable employees who are involved with fertilizer, herbicide, and pesticide application and storage this written procedure.

Public Works SOP
Heavy Equipment Vehicle Maintenance

For More Information

Kenny Morris
615-384-2746
kenny.morris@springfieldtn.gov

Possible Pollutants

Metals
Toxins
Solvents (degreasers, paint thinners, etc.)
Antifreeze
Brake fluid and brake pad dust
Battery acid
Motor oil
Fuel (gasoline, diesel, kerosene)
Lubricating grease

Good Housekeeping

Drip pans
Secondary containment
Proper disposal of used fluids
Spill cleanup materials
Dry cleanup methods
Employee training

Equipment and Vehicle Maintenance

Description

Regular maintenance of municipal vehicles and equipment prolongs the life of the municipality's assets and prevents the leaking of hazardous fluids commonly associated with normal wear and tear of vehicles and equipment.

Potential pollutants generated at vehicle maintenance facilities include oil, antifreeze, brake fluid and cleaner, solvents, batteries and fuels.

Procedures

Maintenance activities should be performed inside a maintenance building unless the equipment is too large to fit inside or temporary repairs need to be made before the equipment can be moved to the maintenance building.

Vehicle Storage

- Monitor vehicles and equipment closely for leaks and use drip pans as needed until repairs can be performed.
- When drip pans are used, check frequently to avoid overtopping and properly dispose of fluids.
- Drain fluids from leaking or wrecked vehicles and from motor parts as soon as possible. Dispose of fluids properly.

Vehicle Maintenance

- Conduct routine inspections of heavy equipment and vehicles to proactively identify potential maintenance needs.
- Perform routine preventive maintenance to ensure heavy equipment and vehicles are operating optimally.
- Recycle or dispose of all wastes properly and promptly.
- Do not dump any liquids or other materials outside, especially near or in storm drains or ditches. Sweep and pick up trash and debris as needed.

Material Management

- Store maintenance materials and waste containers (e.g., used oil and antifreeze) in labeled containers under cover or in secondary containment (e.g., double-walled tanks). Chemicals should not be combined in containers.
- All hazardous wastes must be labeled and stored according to hazardous waste regulations.
- Carefully transfer fluids from collection devices to designated storage areas as soon as possible. Do not store the transferred fluids adjacent to the containers (for example, oil drip pans with used oil in them should not be placed next to the used oil tank).
- Store new batteries securely to avoid breakage and acid spills.

- Store used batteries indoors or in secondary containment to contain potential leaks. Recycle used batteries.
- Conduct periodic inspections of storage areas to detect possible leaks.
- Do not wash or hose down storage areas except where wash water will enter the sanitary sewer as an approved discharge. Use dry clean-up methods whenever possible.
- Keep lids on waste barrels and containers, and store them indoors or under cover to reduce exposure to rain.
- Periodically inspect and maintain all pretreatment equipment, including sumps, separators, and grease traps to ensure proper functioning.

Parts Cleaning

- Use designated areas for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors.
- When steam cleaning or pressure washing, only discharge wastewater to an oil/water separator connected to the sanitary sewer.
- When using solvents to clean parts, rinse and drain parts over the designated solvent tank so that fluids will not drip or spill onto the floor. Use drip boards or pans to catch excess solutions and divert them back to the tank. Allow parts to dry over the hot tank.
- Recycle cleaning solution when it becomes too dirty to use. Never discharge cleaning waste to the sanitary sewer or storm sewer.

Vehicle and Equipment Washing

- Vehicles should be washed in the vehicle and equipment wash area/bay.

Employee Training

- Train applicable employees who perform heavy equipment and vehicle maintenance on this written procedure.

For More Information

Kenny Morris
615-384-2746
kenny.morris@springfieldtn.gov

Possible Pollutants

Sediment
Organics
Oil and Grease
Trash
Metals
Toxins

Good Housekeeping

Employee/Contractor Training
Proper cleanup and disposal procedures
Dry cleaning methods

Outdoor Material Storage

Description

The responsible management of automotive products, fertilizers, pesticides, paints, chemicals, and other materials at a municipal facility can significantly reduce polluted stormwater runoff. All materials should be handled properly including unloading, use, storage, and disposal. Proper management of materials can also reduce the likelihood of accidental spills or releases.

Procedures

General

- Periodically inspect the outdoor material storage areas to ensure that all materials are being stored properly when not in use.
- Clean the material storage area when necessary using dry clean-up methods.
- Properly dispose of unneeded materials.
- Store materials in a manner that reduces the potential for transport in stormwater flows.

Materials Stored in Containers

- Whenever possible, containerize and cover stored materials to prevent stormwater from coming in contact with materials.
- Secondary containment is required for liquid bulk storage located outside (55 gallon drums or greater).
- Store containers in a location where they will not be accidentally damaged by equipment or vehicles.
- Provide tight-fitting lids for all containers.
- Follow the Spill Prevention and Response procedure to respond to and clean up any spills or leaks.
- Inspect storage containers regularly for signs of leaking or deterioration.
- Replace or repair leaking storage containers.
- Use care to avoid spills when transferring materials from one container to another.
- Use powered equipment or get assistance when moving bulk materials to and from a storage area. Handle containers appropriately and get help if needed. Use care to prevent punctures in the containers from equipment.

Loose Materials

- Consolidate loose material (gravel, mulch, etc.) and berm where needed to prevent contaminated run-off of stormwater.
- Large inert materials such as piping and road signs can be stored outside without a protective covering. These materials do not impact stormwater quality.

Public Works SOP
Outdoor Material Storage

Hazardous Materials

- Identify all hazardous materials stored at the facility.
- Maintain a Material Safety Data Sheet (MSDS) for each hazardous chemical.
- Clearly label all containers with the name, chemical, unit number, expiration date, handling instructions, and health and environmental standards.
- Provide special handling, storage (e.g., metal lockers), and disposal for all hazardous materials.

Employee Training

Provide applicable employees this written procedure.

For More Information

Kenny Morris
615-384-2746
kenny.morris@springfieldtn.gov

Possible Pollutants

Sediment
Chemicals

Good Housekeeping

Covered outdoor storage areas
Dry clean up methods
Employee training
Vehicle Fueling

Salt and Sand Storage

Description

Deicers, including salt and sand, are commonly used during snow removal activities. Improper handling of deicers, salt and sand can contribute pollutants to waterways.

Procedures

Solid Deicer Storage

- Deicers are stored under cover inside a covered structure or under a tarp.
- Any temporary salt and sand storage areas should be protected from erosive forces of wind and rain.
- Do not overload material spreaders.
- Sweep the area outside of the material storage area after loading and unloading.

Employee Training

- Provide applicable employees who are involved in salt and sand storage activities this written procedure.

For More Information

Kenny Morris
615-384-2746
kenny.morris@springfieldtn.gov

Possible Pollutants

Sediment
Toxics

Good Housekeeping

Dry cleanup methods
Employee training

Snow and Ice Control

Description

Deicers can contaminate surface and ground water and damage vegetation adjacent to roadways. Salt will change the chemical balance of local waterways and sand can be picked up by stormwater resulting in higher dissolved and suspended sediment loads in waterways. Sand also presents an air quality concern.

Procedures

Plowing

- Inspect plowing equipment for leaks prior to use. Follow the Equipment and Vehicle Maintenance procedure for responding to leaking vehicles.
- Take care when connecting or releasing snow plows and clean up any hydraulic fluid that may leak onto the pavement.
- Wash snow removal equipment in the wash bay.
- Do not pile snow in front of storm sewer inlets to allow inflow of snowmelt runoff.

Deicer Application

- Apply only the recommended amount of deicer to roadways.
- Spreaders should be inspected at the beginning of each season and any needed maintenance or repair should be conducted after each storm.
- As soon as weather conditions allow, follow-up with street sweeping to remove remaining deicer from roadways.

Ice Cutting

- Gutters and storm sewer inlets should be cleared of ice to allow drainage of snowmelt or ice-melt.

Employee Training

- Provide applicable employees who are involved in snow and ice control this written procedure.

For More Information

Kenny Morris
615-384-2746
kenny.morris@springfieldtn.gov

Possible Pollutants

Chemicals
Toxics
Oil
Paint
Fuel

Good Housekeeping

Waste Management
Employee/Contractor Training
Proper cleanup and disposal procedures

Spill Prevention and Response

Description

Due to the type of work and the materials involved, many activities that occur either at a municipal facility or as part of municipal operations have the potential for accidental spills. Proper spill response planning and preparation enables employees and contractors to effectively respond to problems and minimize the discharge of pollutants to the storm sewer system.

When services are contracted, this written procedure should be provided to the contractor so they have the proper operational procedures. In addition, the contract should specify that the contractor is responsible for abiding by all applicable municipal, state, and federal codes, laws, and regulations.

Procedures

Spill Prevention

- Keep work areas neat and well organized.
- Maintain a Material Safety Data Sheet (MSDS) for each hazardous chemical. Follow the Outdoor Material Storage procedures.
- Provide tight fitting lids for all containers.
- Keep containers clearly labeled. Labels should provide name and type of substance at a minimum.
- Store containers, drums, and bags away from direct traffic routes to prevent accidental spills.
- Inspect storage containers regularly for signs of leaking or deterioration.
- Replace or repair leaking storage containers.
- Use care to avoid spills when transferring materials from one container to another.
- Use powered equipment or get assistance when moving bulk materials to and from a storage area. Use care to prevent puncturing containers with the equipment.
- Do not wash down or hose down any outdoor work areas or trash/waste container storage areas except where wash water is captured and discharged into the sanitary sewer (if approved).
- Conduct periodic inspections to ensure that materials and equipment are being handled, disposed/recycled, and stored correctly.
- Inspect each spill kit or locker regularly and after each spill response. Replace any spent supplies or repair any equipment that is worn or not suitable for service.
- Stock adequate personal protective equipment.

Spill Response

Safety

Consider safety at all times. Anticipate and avoid all likely hazards. Never approach, contact, or sample an unknown substance. If a highly toxic or flammable substance is discovered, staff should leave the immediate area and contact the appropriate identified response authority, such as the fire department. If there is any question about a substance, contact the appropriate identified response authority or other designated representative.

Procedures

- Stop the leading edge of the spill. Block or divert the spill to avoid discharge to the storm sewer system and to minimize the area requiring cleanup.
- Determine the source of the spill and stop the spill at its source by closing a valve, plugging a leak, or setting a container upright. Transfer material from a damaged container.
- Identify the material and volume spilled. Contact the appropriate identified response authority or other designated representative if you cannot identify the material and its properties.
- Refer to the MSDS to determine appropriate personal protective equipment, such as gloves and safety glasses and appropriate cleanup methods.
- Clean up spills immediately to prevent spreading of wastes by wind, rain, and vehicle traffic and potential safety hazards.
- Use sand absorbents or socks, pillows, or pads to quickly capture spilled liquid and properly dispose of all clean-up materials. Use dry clean-up methods only.
- Complete all necessary reports.

Spill Reporting

- A spill of any chemical, oil, petroleum product, or sewage that enters waters of the state including surface water, ground water, dry swales, and storm sewers leading to surface water must be reported immediately to the National Response Center (NRC) (800-424-8802) and the Tennessee Emergency Management Agency (TEMA) (emergencies: 800-262-3300; non-emergencies: 800-262-3400); as well as the Nashville Field Office.
- Release of a substance into a storm drain, or onto a parking lot or roadway that drains to a storm sewer leading to surface water, is reportable. However, if the material can be contained and cleaned within the storm sewer system to the degree that a subsequent flow in the storm sewer will not flush the substance to waters of the State, it may not need to be reported.
- Contact the appropriate identified response authority within the municipality or other designated representative and be prepared to provide details needed to report the spill to the necessary agencies- see the IDDE Plan for additional information.

Employee Training

Provide applicable employees who perform spill prevention and response this written procedure.

For More Information

Kenny Morris
615-384-2746
kenny.morris@springfieldtn.gov

Possible Pollutants

Fine-grained sediment
Organics
Oil and Grease
Trash
Road Salt
Metals
Toxins

Good Housekeeping

Proper cleanup and disposal procedures
Dry cleaning methods

Parking Lot Maintenance

Description

The operation and maintenance of parking lots, if not conducted properly, can contribute to stormwater pollution. This SOP applies to municipal parking lots, sidewalks and other municipally owned large outdoor-paved surfaces.

Procedures

- Schedule a cleaning anytime storm drains have debris blocking the water flow to storm sewers or excessive debris is being carried into the stormwater sewers.
- Schedule more frequent cleanings in areas that have high pollutant loadings.
- Immediately treat spills of any pollutants, large or small, such as oil, diesel, and transmission fluids,
- Review parking lot cleaning and maintenance schedule (i.e., sweeping, crack filling and overlaying) annually to ensure priority areas are properly maintained, and new areas of development are incorporated in master schedule.

Employee Training

- Provide applicable employees who perform parking lot maintenance this written procedure.

For More Information

Kenny Morris
615-384-2746
kenny.morris@springfieldtn.gov

Possible Pollutants

Fine-grained sediment
Oil
Paint
Trash

Good Housekeeping

Proper Cleanup and Disposal Procedures

Power Washing

Description

Wastewater from power washing must not be allowed to enter the storm sewer system and must be disposed of properly. Power washing combined with proper wastewater collection can prevent or reduce fine-grained sediment particles, anti-freeze, oil, paint, or trash from polluting stormwater.

When services are contracted, this written procedure should be provided to the contractor so they have the proper operational procedures. In addition, the contract should specify that the contractor is responsible for abiding by all applicable municipal, state, and federal codes, laws, and regulations.

Procedures

General

- Use dry methods for surface pre-cleaning, such as using absorbent on small oil spots and sweeping up trash, debris, dirt, and used absorbent before power washing.
- Minimize the amount of water used during power washing activities.
- Avoid using cleaning products that contain hazardous substances (e.g., hydrofluoric acid, muriatic acid, sodium hydroxide, bleach) that can turn wastewater into hazardous waste.

Wastewater Collection

- Identify the locations of all storm drains in the area and place inlet protection or drain covers at all locations, as needed.
- Locate high and low spots on the property to determine the area where wastewater will be pooled for collection.
- Equipment to contain and collect wastewater generated by power washing includes: vacuum pumps, booms, berms, portable containment areas, weighted storm drain covers, inflatable plumber's plugs, oil and water separators, holding tanks, portable sump pumps, hoses, and absorbent pads.
- Avoid mixing non-hazardous wastewater with wastewater known to contain hazardous substances or hazardous levels of pollutants. Mixing these wastes may increase the characteristic and/or total volume of waste, resulting in more expensive disposal and additional regulatory requirements.
- Place an oil-absorbent mat or pad on top of collected wastewater to help reduce the amount of oil re-deposited on the surface of the collection area.
- Wastewater can be filtered through an oil absorbent boom or oil/water separator and a filter to decrease the concentration of oil in the liquid and the amount of solids in the wastewater.
- Once wastewater has been collected, visible solids remaining in the collection area after liquids have evaporated must be swept up and properly disposed to prevent future discharges to the storm sewer system.

Wastewater Disposal

- Do not dispose of power washing wastewater into the storm sewer system.
- Power washing wastewater may be disposed of in an inside drain connected to the sanitary sewer system with the permission of the wastewater treatment plant (may require a permit) and the facility owner where the work is being performed. Collected

wastewater can also be discharged to the sanitary sewer system at the power washer's place of business with the permission of the wastewater treatment plant, or can be taken directly to a wastewater treatment plant.

- Do not remove sewer manhole covers to dispose of wastewater to the sanitary sewer system without prior approval.
- Power washing wastewater may be discharged to landscaped areas if it is not harmful to vegetation, there is no ponding, and there is no runoff from the site to the storm sewer system.

Employee Training

- Train applicable employees who perform power washing activities on this written procedure.

For More Information

Kenny Morris
615-384-2746
kenny.morris@springfieldtn.gov

Possible Pollutants

- Fine-grained sediment
- Organics
- Oil and Grease
- Trash
- Road Salt
- Metals
- Toxins

Good Housekeeping

- Temporary covers/tarps
- Proper cleanup and disposal procedures
- Dry cleaning methods

Street Sweeper Cleaning and Waste

Description

The operation and maintenance of street sweepers, if not conducted properly, can contribute to stormwater pollution. In addition, all sweeper waste must be disposed of properly. All sweeper waste must be taken directly to a permanent disposal site or to a secure temporary storage area at the municipal yard.

Procedures

Sweeper Debris Disposal

- Do not empty sweeper hoppers, even temporarily, onto areas near storm drains or surface water bodies or where wind or rain could wash the debris into the storm sewer system or scatter the debris.
- Dispose of sweeper debris at the designated dump site or at the designated area at the municipal facility. The temporary storage area for debris is protected from wind, rain, and surface runoff.
- If unusual sweeping materials are identified, bring the issue to the attention of a supervisor for evaluation and proper disposal.

Sweeper Wash Out

- Sweepers must be washed in the designated municipal wash bay. The wash bay is connected to the sanitary sewer system and the debris should be left in the wash bay to dry. The debris should be properly disposed of when dried.

Employee Training

- Provide applicable employees who perform street sweeping this written procedure.

Public Works SOP
Street Sweeping

For More Information

Kenny Morris
615-384-2746
kenny.morris@springfieldtn.gov

Possible Pollutants

Fine-grained sediment
Organics
Oil and Grease
Trash
Road Salt
Metals
Toxins

Good Housekeeping

Proper cleanup and disposal procedures
Dry cleaning methods

Street Sweeping

Description

Street sweeping gives the City an overall clean appearance, and aids in helping reduce traffic accidents and air pollution caused by fine dust particles. Street sweeping can prevent pollutants such as sediment particles, organics, oil, grease, trash, road salt, and trace metals from entering and plugging the storm sewer system.

Procedures

General

- Operate all sweepers according to manufacturer's recommended settings and standards.
- Do not conduct street sweeping during or immediately after heavy rainstorms.
- Conduct regular maintenance of sweepers in accordance with the master schedule or as needed (see written procedure Equipment/Vehicle Maintenance).
- Prior to operating the sweeper, perform a routine inspection, including checking for leaks. Follow procedures outlined in the Spill Prevention and Response procedure if a leak is observed.
- Do not wash down any streets or curbs for routine cleaning. If medians or signs are washed seasonally, follow the Pressure Washing procedure.
- Immediately contain and properly clean up all spills (see the Spill Prevention and Response procedure).
- Handle sweeper debris as detailed in written procedure Street Sweeper Cleaning and Waste.

Frequency

- Monday
  - Memorial North (10th Avenue to Fairgrounds), 5th Avenue, North Main, 7th Avenue, Court House Square, City Hall, Locust Street
- Wednesday
  - Memorial Middle (10th Avenue to HWY 431), Central Avenue, South Main, 16th Avenue, 22nd Avenue, Watson Road, Batts BLVD, Woodland Street, Richard Street
- Friday
  - Memorial South (HWY 431 to Stonegate), Blackpatch Drive, 17th Avenue, Tom Austin
- Court House Square and City Hall will be swept again on Wednesdays or Fridays, time permitting.
- Any additional time can be used on City parking areas off of 4th Avenue West and 7th Avenue West
- Areas prone to litter and dust/dirt accumulation and areas that have a history of storm drain plugging will be prioritized seasonably.
- Schedule additional sweeping, as needed and where feasible, due to the following conditions:
  - Construction conducted by the municipality where there is temporary storage of construction materials like dirt, sand, and road base along the roadway.
  - Median grass cutting.

- Landscape planting.
- After heavy rainstorms in which sediment is present on the streets.
- After snows melt where large course sediments and garbage have been left behind.
- In the fall when deciduous trees are losing their leaves.

Employee Training

- Provide applicable employees who perform street sweeping this written procedure.

For More Information

Kenny Morris
615-384-2746
kenny.morris@springfieldtn.gov

Possible Pollutants

Metals
Hydrocarbons
Toxins

Good Housekeeping

Secondary containment
Automatic shutoff nozzles
Spill cleanup materials
Dry cleanup methods

Vehicle Fueling

Description

Spills of gasoline and diesel fuel on the ground or on vehicles during fueling can wash into a storm drain and cause water pollution.

Procedures

General

- Fuel vehicles at approved locations (municipal fueling station or offsite fueling station).
- Provide spill kits near the municipal fueling locations.
- If fuel is stored in an above-ground tank, store fuel in enclosed tanks with secondary containment (e.g., concrete barrier or double-walled tanks).
- Periodically inspect municipal fueling locations for the following:
  - For above-ground tanks, inspect tank foundations, connections, coatings, tank walls, and piping systems. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank.
  - Check for spills and fuel tank overfills due to operator error.
- Clean up any leaks or drips. Clean up is not completed until the absorbent is swept up and disposed of properly.
- Report leaking vehicles to the Director of Public Works.

Vehicle Fueling

- Follow all posted warnings.
- Ensure that the nozzle is properly inserted in the filler neck of the vehicle before dispensing any fuel.
- Remain by the fill nozzle while fueling to ensure the nozzle stays in place.
- Do not top off the tank of the vehicle once the nozzle has shut off the fuel.
- Follow the procedures outlined in the Spill Prevention and Response Procedure to respond to any leaks or spills.
- Clean fuel dispensing areas with absorbent material.
- Never use water to clean up a spill.

Employee Training

- Provide applicable employees who fuel vehicles this written procedure.

City of Springfield Public Works Facility Inspection Form

Instructions:

- **Inspections must be performed annually at minimum.**
- All "No" answers require further explanation in the Comments/Actions column. The Comments/ Actions column should either provide the action needed to be taken, or an explanation of why the answer is no.

Facility:_____ Date:_____

Stormwater Industrial Routine Facility Inspection Report

General Information			
Facility Name	Public Works		
NPDES Tracking No.	N/A		
Date of Inspection		**Start/End Time**	
Inspector's Name(s)	Kenny Morris		
Inspector's Title(s)	Stormwater Coordinator		
Inspector's Contact Information	615.384.2746		
Inspector's Qualifications	TDEC Level II		

Weather Information

Weather at time of this inspection?
❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds
❑ Other: Temperature:

Have any previously unidentified discharges of pollutants occurred since the last inspection? ❑Yes ❑No
If yes, describe:

Are there any discharges occurring at the time of inspection? ❑Yes ❑No
If yes, describe:

Control Measures

- *Number the structural stormwater control measures identified in your SWPPP on your site map and list them below (add as many control measures as are implemented on-site). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required control measures at your facility.*
- *Identify if maintenance or corrective action is needed.*
  - *If maintenance is needed, fill out section B of this template*
  - *If corrective action is needed, fill out section G of this template*

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Maintenance or Corrective Action Needed and Notes
1	Outfall	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
2	Inlets	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
3	Fuel ASTs	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
4	Treatment Unit	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
5	Swales	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
6	Bio-Pond	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
7	Silt Fence	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Maintenance or Corrective Action Needed and Notes
8	Used Oil AST	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
9	Housekeeping	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
10	Spills	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	

Areas of Industrial Materials or Activities Exposed to Stormwater

Below are some general areas that should be assessed during routine inspections. Customize this list as needed for the specific types of industrial materials or activities at your facility that are potential pollutant sources. Identify if maintenance or corrective action is needed. If maintenance is needed, fill out section B of this template. If corrective action is needed, fill out section G of this template.

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective and operating)?	Maintenance or Corrective Action Needed and Notes
1	**Material loading/unloading and storage areas**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
2	**Equipment operations and maintenance areas**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
3	**Fueling areas**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
4	**Outdoor vehicle and equipment washing areas**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
5	**Waste handling and disposal areas**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
6	**Erodible areas/construction**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
7	**Non-stormwater/ illicit connections**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
8	**Salt storage piles or pile containing salt**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
9	**Dust generation and vehicle tracking**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
10	**Processing areas**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
11	**Areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water**	❑Yes ❑No ❑ N/A	❑Yes ❑No	

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective and operating)?	Maintenance or Corrective Action Needed and Notes
12	**Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
13	**(Other)**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
14	**(Other)**	❑Yes ❑No ❑ N/A	❑Yes ❑No	

Discharge Points

At discharge points, describe any evidence of, or the potential for, pollutants entering the drainage system. Also describe observations regarding the physical condition of and around all outfalls, including any flow dissipation devices, and evidence of pollutants in discharges and/or the receiving water. Identify if any corrective action is needed.

Non-Compliance

Describe any incidents of non-compliance observed and not described above:

Additional Control Measures

Describe any additional control measures needed to comply with the permit requirements:

Notes

Use this space for any additional notes or observations from the inspection:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: Kenny Morris; Stormwater Coordinator

Signature: _____ **Date:** _____

REVISED
11:24 am, Nov 17, 2022

ANNEX 6

DETENTION POND		
ELEVATION	**TOTAL STORAGE**	**TOTAL DISCHARGE**
277	-	0
278	278	0.96
279	1,926	1.55
280	4,976	1.98
281	8,914	3.28
282	13,795	6.58
283	19,677	33.07
284	26,617	36.79
OUTLET 9" ORIFICE @ ELEV=677.05		
OUTLET 15" ORIFICE @ ELEV=680.55		
OUTLET STR. WEIR @ ELEV=682.05		

	PRE-DEVELOPMENT		**POST DEVELOPMENT**				
	STIE AREA=	5.72 Acres	AREA TO POND=	3.29 Acres	BY PASS AREA=	2.43 Acres	
	CN=	84	CN=	98	CN=	82	
	T_C=	30.8 Min.	T_C=	7.4 Min.	T_C=	26.5 Min.	
STORM EVENT (yr)	**DISCHARGE (cfs)**		**POND DISCHARGE (cfs)**	**BY PASS DISCHARGE (cfs)**	**TOTAL DISCHARGE (cfs)**	**WSE**	**FREEBOARD**
2	4.20		2.16	1.77	3.93	280.49	3.51
5	8.60		4.79	3.81	8.6	281.38	2.62
10	12.62		6.68	5.72	12.4	282.02	1.98
25	19.25		10.12	9.87	19.99	282.31	1.69
100	28.90		19.47	11.47	30.94	282.7	1.3

CITY OF SPRINGFIELD PUBLIC WORKS DEPARTMENT
STREET PLAN AND PROFILE CHECKLIST

Title Block & General Requirements			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Standard Title Block
□	□	□	Standard Sheet Size
□	□	□	Project Name w/ Phase or Section Designator
□	□	□	Scale Horizontal and Vertical
□	□	□	State of TN Professional Engineer Stamp and Signature
□	□	□	Sheet Number

TYPICAL SECTION			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Dimensions
□	□	□	Base Material & Thickness
□	□	□	Pavement Material & Thickness
□	□	□	Sidewalk
□	□	□	Curb & Gutter
□	□	□	Proposed Grade Line
□	□	□	Pavement X-Slopes
□	□	□	Sidewalk & Grass X-Slopes

PLAN VIEW			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	North Arrow
□	□	□	Intersection Equation
□	□	□	Intersection Angle
□	□	□	Centerline Stationing
□	□	□	Centerline Curve Data
□	□	□	P.C. Sta. & P.T. Sta.
□	□	□	Concrete Water Table
□	□	□	Curb Radius
□	□	□	E.R. Sta. & Elev
□	□	□	Slope & Direction Around E.R.
□	□	□	T.C. Elev. & Sta. When Tying to Ex. Curbs
□	□	□	R.O.W Widths on All Streets
□	□	□	Curb to Curb Widths on All Streets
□	□	□	Handicap Ramps at All Intersections
□	□	□	Scale
□	□	□	Easements
□	□	□	Objects in 'Clear Zone'
□	□	□	Pedestrian Easements

STREET PROFILE			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Grades (Max 2% from E.R. to Intersecting Road EOP; End V.C. Behind ER)
□	□	□	P.V.I. Sta. & Elev.
□	□	□	P.V.C. & P.V.T. Sta. & Elev.
□	□	□	Length of Vertical Curve
□	□	□	K Values
□	□	□	P.G.L. Elev. At 25' Stations

CITY OF SPRINGFIELD PUBLIC WORKS DEPARTMENT
STREET PLAN AND PROFILE CHECKLIST

DRAINAGE STRUCTURES			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Types of Structure
□	□	□	Structure No.
□	□	□	FL of Throats, No. Openings
□	□	□	Structure Station and Offset
□	□	□	Flowline Elevations
□	□	□	Structure Top Elevation
□	□	□	Width of Spread of Flow in Street

DRAINAGE PIPE DATA			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Pipe Size
□	□	□	Pipe Length
□	□	□	Pipe Slope
□	□	□	Pipe Capacity
□	□	□	Flowline Elevations
□	□	□	Design Flow
□	□	□	Pipe Velocity
□	□	□	Drainage Area in Pipe
□	□	□	Clearly Noted Note Public or Private
□	□	□	By-Pass Flow
□	□	□	Intercepted Flow
□	□	□	Pond Area and Flow
□	□	□	Total Post-Flow

Structure Data Table			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Structure Number
□	□	□	Type of Structure
□	□	□	Drainage Area to Inlet
□	□	□	Sub-basin Design Flow
□	□	□	Intercepted Flow
□	□	□	By-pass Flow
□	□	□	Depth from Top of Casting to Invert
□	□	□	Structure Top Elevations
□	□	□	Invert Elevations
□	□	□	Asbuilt Columns
□	□	□	Identification of Public or Private Structures

GENERAL			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Water Table Design Flow
□	□	□	Structure Sta. & Offset if not on Centerline
□	□	□	DMH Flowlines
□	□	□	DMH Diameter
□	□	□	Rip - Rap Grade
□	□	□	Rip - Rap Dimensions and Thickness
□	□	□	Headwall Exit Velocity

SANITARY SEWER			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Manhole size (if not 4 ft.)
□	□	□	SMH Sta. & Offset (both plan and profile)
□	□	□	Pipe Size (both plan and profile)
□	□	□	Pipe Length (profile only)
□	□	□	Pipe Slope (profile only)
□	□	□	Clearance with Drainage (1.5' outside pipe)
□	□	□	Headwall Exit Velocity
□	□	□	Ductile Iron as req'd (profile only)

	DRAIN PIPE DATA																	
	DESIGN INFORMATION													AS-BUILT				
	PIPE NO.	FROM STR.	INVERT	TO STR.	INVERT	PIPE LENGTH (ft)	PIPE DIA.(in)	MAT'L	SLOPE (%)	AREA (Ac.)	Q_D (cfs)	Q_C (cfs)	VEL. (fps)	FROM STR.	TO STR.	PIPE LENGTH (ft)	SLOPE (%)	Q_C (cfs)
PUB																		
PRVT																		

PUB = PUBLIC
PRVT=PRIVATE

CITY OF SPRINGFIELD PUBLIC WORKS DEPARTMENT
GRADING AND DRAINAGE PLAN CHECKLIST

Title Block & General Requirements			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Standard Title Block
□	□	□	Standard Sheet Size
□	□	□	Project Name w/ Phase or Section Designator
□	□	□	Scale
□	□	□	State of TN Professional Engineer Stamp and Signature
□	□	□	Sheet Number

General			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	North Arrow
□	□	□	Graphic and Detail Scales
□	□	□	Property Lines
□	□	□	Interior Lot Lines
□	□	□	FEMA Note and Nearest BFE
□	□	□	Lot FFE
□	□	□	Footprints of Existing and Proposed Buildings on Property (Except for Single Family)
□	□	□	Existing and Proposed Paving on Property
□	□	□	Existing and Proposed Impervious Area on Property
□	□	□	Construction Buffer 30/60 ft from top of bank
□	□	□	Legend
□	□	□	Street Names and ROW Width
□	□	□	Existing Contours (Preferred, No Greater Than 2 Feet)
□	□	□	Proposed Contours (Intervals no greater than 2 feet)
□	□	□	Ridge Lines Delineating Basins
□	□	□	Sub-Basin Drainage Areas
□	□	□	Pipes and Structures Public or Private
□	□	□	Easements
□	□	□	Area of off-site Basins Draining to Development
□	□	□	Adjoining Development/Property Owner Names
□	□	□	Existing Contours (100 feet off-site)
□	□	□	Adjacent Improvements and Topography As Needed to Determine Effects on Subject Property
□	□	□	Rip-Rap Grade
□	□	□	Rip-Rap Dimensions and Thickness
□	□	□	General Notes
□	□	□	Existing and Proposed Storm Water Management Structures & Pipes. Must include the location, size, and capacity of the next two (2) structures immediately downstream in every direction that will receive runoff. Must include size, type, slope, and invert elevation of the structures/pipes in tables.

Major Drainageway Data			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	HEC-RAS or GeoRAS Analysis
□	□	□	Drainage Easements
□	□	□	Access to Drainage Way
□	□	□	Improvement Cross-Section and Details
□	□	□	Location and Geometry of Improvements
□	□	□	Q100 for Major Systems

CITY OF SPRINGFIELD PUBLIC WORKS DEPARTMENT
GRADING AND DRAINAGE PLAN CHECKLIST

Pipe Data Table			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Pipe Identification
□	□	□	List Pipe Material
□	□	□	Pipe Sizes
□	□	□	Pipe Length
□	□	□	Slope
□	□	□	Pipe Inverts
□	□	□	Design Flow
□	□	□	Pipe Capacity
□	□	□	Gross Drainage Area Tributary to Pipe
□	□	□	Full Pipe Velocity
□	□	□	Public or Private Clearly Marked
Detention Data			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	State Design Method Utilized (Rational or NRCS)
□	□	□	Site Drainage Area In Acres
□	□	□	Stage-Storage-Discharge Relationship
□	□	□	Design Flow (Q2,Q5,Q10,Q25,Q100)
□	□	□	C (Runoff Coefficient) or Pre and Post CN
□	□	□	Tc (Time of Concentration) - Pre and Post
□	□	□	Allowable Discharge
□	□	□	Controlling Downstream Structure
□	□	□	Outlet Structure Details
□	□	□	Predevelopment Flow
□	□	□	Bypass Area and Flow
□	□	□	Pond Area and Flow
□	□	□	Total Post-Flow
Structure Data Table			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Structure Number
□	□	□	Type of Structure
□	□	□	Drainage Area
□	□	□	Sub-basin Design Flow
□	□	□	Intercepted Flow
□	□	□	By-pass Flow
□	□	□	Depth from Top of Casting to Invert
□	□	□	Structure Top Elevations
□	□	□	Invert Elevations
□	□	□	As-built Columns
□	□	□	Identification of Public or Private Structures
Ditch Data			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Typical Cross Section
□	□	□	Location
□	□	□	Slope
□	□	□	Q100 Depth
□	□	□	Q100
□	□	□	100yr Velocity
Permit Data			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	NPDES Permit
□	□	□	ARAP Permit
□	□	□	Flood Plane Alteration Permit
□	□	□	NOC

CITY OF SPRINGFIELD PUBLIC WORKS DEPARTMENT
EROSION CONTROL CHECKLIST

Title Block & General Requirements			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Standard Title Block
□	□	□	Standard Sheet Size
□	□	□	Project Name w/ Phase or Section Designator
□	□	□	Scale
□	□	□	State of TN Professional Engineer Stamp and Signature
□	□	□	Sheet Number
General			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	North Arrow
□	□	□	Legend or individually labeled EPSC measures
□	□	□	Streets Identified By Names
□	□	□	Engineering Firm and Developer Information
□	□	□	Property Lines
□	□	□	Top of bank labeled
□	□	□	Existing and proposed storm water management structures on and in the immediate vicinity of the property.
□	□	□	Existing and proposed buildings and pavement on property.
□	□	□	Existing and proposed impervious area on property.
□	□	□	Existing and proposed site contours at an interval no greater than two (2) feet
□	□	□	Floodplain and floodway boundaries and the floodplain elevations. (Buffers should be the width of the floodway plus 50' perpendicular from the floodway on each side.)
□	□	□	Ridge lines delineating basins. Sub-basin drainage areas
□	□	□	Delineation of wetlands or sensitive areas including Exceptional Tennessee Waters or waters with unavailable parameters
□	□	□	Provide adequate access from public right of way to storm water areas.
□	□	□	Indicate the acreage of each off-site contributing drainage area.
□	□	□	Indicate limits of disturbance
			Total Disturbed Acreage =
□	□	□	Appropriate number of erosion control plan sheets per amount of disturbed acreage as required by the NPDES permit for storm water discharges associated with construction activity.
□	□	□	Temporary erosion and sediment control measures to be implemented during construction to protect storm water inlets and adjacent properties that will receive runoff from disturbed areas.
□	□	□	If a stream is within or adjacent to the site, have the appropriate EPSC designs and riparian buffers been applied? 30 ft from top of bank or 60 ft for waters with unavailable parameters/Exceptional Tennessee Waters
□	□	□	Detail drawings of swales, ditches, inlets, head walls, detention pond outlet structures and overflows, erosion control measures, etc.
□	□	□	Final stabilization measures proposed for all disturbed areas on the property. Areas with slopes greater than 3:1 must be stabilized by methods approved by the Public Works Director.

Sediment Basin Data Table & Details			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Design storm of principal spillway (Minimum 2 yr/ 24 hr storm event. If discharging to an impaired or Exceptional TN Waters, design storm should be a minimum of 5yr/24hr storm event.)
□	□	□	Design storm of emergency spillway (25yr/ 24hr storm event)
□	□	□	Sediment basin stage-storage-discharge relationship data
□	□	□	Elevation of emergency spillway. (If >or = to 20 ft., dam must comply with Safe Dams Act)
□	□	□	Embankment should have 1ft. minimum freeboard above max design flood elevation
□	□	□	Height and slope of embankment
□	□	□	Stage and storage of forebay, if a forebay is included in basin design. (Should be 25% of dry storage volume and floor elevation should be > or = to the permanent pool elevation.)
□	□	□	Baffles in forebay to increase residence time (if done, not required)
□	□	□	Forebay berm top and bottom elevation (top elevation should crest with the top of the dry storage and floor elevation should be > or = to the permanent pool elevation.)
□	□	□	Sediment basin detail drawing, see note below*
□	□	□	Outlet structure detail. (Should never have an open bottom outlet.) Detail of skimmer, if used
□	□	□	Outlet protection
□	□	□	Anchoring detail for riser pipe, if used
□	□	□	If at maximum water storage elevation, the capacity is 30 ac-ft (48,400cy) or more, then dam must comply with Safe Dams Act
□	□	□	Principal spillway with trash rack
□	□	□	Resting pier, if skimmer is used.
□	□	□	Equivalent controls approved by TDEC. Give description., if applicable.

***Note: Sediment Basin is required if drainage area is 10 acres or more, (5 acres if impaired/Exceptional Tennessee Waters)**

Permit Data			
Complete	**Incomplete**	**N/A**	**Description**
□	□	□	Tennessee General Storm Water Permit Certification Form Certifying that a Notice of Intent (NOI) has been submitted to Tennessee Department of Environment and Conservation (TDEC) for a permit for construction site runoff. Include the permit number or intent to submit the number at a later date or that a permit is not required.
□	□	□	NPDES Permit
□	□	□	ARAP Permit
□	□	□	Land Disturbance Permit
Public Comment			
Yes	**No**	**N/A**	**Description**
□	□	□	Where any comments received from the Public?
□	□	□	Did comments result in a change to the plan?

	STRUCTURE DATA													
	DESIGN INFORMATION												AS-BUILT	
	STR. NO.	TYPE	SIZE	CL STA.	INVERT	OFFSET	AREA (Ac.)	Q_D (cfs)	ADD BYPASS	INLET Q_D (cfs)	INLET Q_C (cfs)	BYPASS (cfs)	RIM ELEV.	INVERT
PUB														
PRVT														