



# City of Raleigh Stormwater Management Plan

Permit No. NCS000245 - Updated February 2021 - Final - Prepared by: Brown and Caldwell

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# Acronyms

AU	Assessment Unit
BMP	Best Management Practice
City	City of Raleigh
CWEP	Clean Water Education Partnership
DEQ	North Carolina Department of Environmental Quality
ETJ	Extra Territorial Jurisdiction
GIS	Geographic Information System
I&M	Inspection and Maintenance
IDDE	Illicit Discharge Detection and Elimination
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NCDOT	North Carolina Department of Transportation
NCSU	North Carolina State University
NPDES	National Pollutant Discharge Elimination System
PPGH	Pollution Prevention and Good Housekeeping
SARA	Superfund Amendments and Reauthorization Act of 1986
SCM	Stormwater Control Measure
SMAC	Stormwater Management Advisory Commission
SPCA	North Carolina Sedimentation Pollution Control Act
SPPP	Site Pollution Prevention Plan
SOP	Standard Operating Procedure
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UDO	Unified Development Ordinance
WLA	Waste Load Allocation

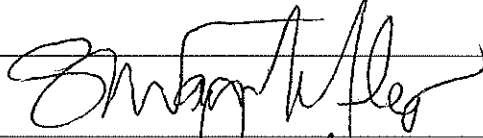
# Revision Log

Revision Number	Date	Revision	Staff

# Certification

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 gather and evaluate 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 fines and imprisonment for knowing violations.

- I am a ranking elected official.
- I am a principal executive officer for the permitted MS4.
- I am a duly authorized representative for the permitted MS4 and have attached the authorization made in writing by a principal executive officer or ranking elected official which specifies me as (*check one*):
  - A specific individual having overall responsibility for stormwater matters.
  - A specific position having overall responsibility for stormwater matters.

Signature:	
Print Name:	S. Wayne Miles.
Title:	Stormwater Program Manager
Signed this <u>3/15</u> day of 20 <u>21</u> .	

# Section 1: Introduction

The City of Raleigh (City) operates under a Phase I National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit Number NCS000245. The current iteration of the City permit became effective October 10, 2018 and extends through October 9, 2023.

This permit authorizes the City to discharge stormwater from the MS4, located within the City corporate limits, into the receiving waters of the State within the Neuse River Basin. This document is the Stormwater Management Plan (SWMP), as required by Part I.A of the City's NPDES MS4 permit, which establishes the methods by which the City implements the permit requirements to achieve compliance and protect receiving stream water quality, to the extent allowable under State and local law. In preparing this SWMP, the City of Raleigh has evaluated its MS4 and the permit requirements to develop a comprehensive five-year SWMP that will meet the community's needs, address local water quality issues, and provide the measures necessary to comply with the permit. This includes the effective prohibition of non-stormwater discharges to the MS4 and the reduction of pollutant discharges to the maximum extent practicable (MEP) through the implementation of the six minimum measures stipulated in the Federal NPDES regulations. This SWMP identifies the program elements to be implemented under the permit program, and includes: a brief program narrative, the best management practices (BMPs) intended to fulfill the permit requirements; measurable program goals; annual reporting metrics; implementation schedules; and responsible parties.

The SWMP includes the following core NPDES MS4 permit programs, implemented within the City's corporate limits unless otherwise noted:

- Project Education and Outreach - BMPs to distribute educational materials to the community, conduct public outreach activities, raise public awareness on the causes and impacts of stormwater pollution, and inform the public on steps they can take to reduce or prevent stormwater pollution.
- Public Involvement and Participation - BMPs for the public to participate in program development and implementation and to comply with applicable State and local public notice requirements.
- Illicit Discharge Detection and Elimination - BMPs to detect and eliminate illicit discharges to the City's MS4, address significant contributors of pollutants to the MS4, implement appropriate enforcement procedures and actions, maintain a map showing the City's major MS4 outfalls to State waters receiving discharges, and inform employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.
- Construction Site Runoff Controls - BMPs to reduce pollutants in stormwater runoff from construction activities disturbing one acre or greater of land surface and to provide procedures for public input, sanctions to ensure compliance, requirements for construction site operators to implement appropriate erosion and sediment control

practices, review of site plans, and procedures for site inspection and enforcement of control measures. The City's unified development ordinance (UDO) exceeds this MS4 permit requirement, requiring BMPs to reduce pollutants in stormwater runoff from construction activities disturbing 12,000 sq ft or more of land surface. The City's UDO also includes procedures for public input, sanctions to ensure compliance, requirements for construction site operators to implement appropriate erosion and sediment control practices, review of site plans, and procedures for site inspection and enforcement of control measures. This City program is authorized within the corporate limits and the Extra Territorial Jurisdiction (ETJ) area.

- Post-Construction Site Runoff Controls - BMPs to manage stormwater runoff from development that drains to the City's MS4, to provide a mechanism requiring long-term operation and maintenance of BMPs, and to ensure controls are in place to minimize water quality impacts. This City program is authorized within the corporate limits and the ETJ.
- Pollution Prevention and Good Housekeeping for Municipal Operations - BMPs to prevent or reduce stormwater pollution from municipal operations through pollution prevention and good housekeeping techniques.
- Program to Monitor and Evaluate Stormwater Discharges to Municipal Systems – BMPs to monitor and control pollutants in stormwater discharges to the City's MS4 from hazardous waste treatment, storage, disposal, and recovery facilities, and from industrial facilities subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and from industrial facilities the City determines are contributing or have a potential to contribute substantial pollutant loading to the municipal stormwater system.
- Water Quality Assessment and Monitoring - BMPs to evaluate the impacts on water quality through the implementation of a water quality assessment and monitoring plan.
- Total Maximum Daily Loads (TMDLs) - BMPs to evaluate strategies and tailor practices to address pollutants of concern in TMDL-listed streams.

The SWMP will be evaluated annually and updated, if necessary, throughout the permit reporting period to ensure that the elements and minimum measures it contains continue to adequately provide for permit compliance and the community's needs. Upon approval of updates to the SWMP by NCDEQ, all provisions contained and referenced in this SWMP, along with any approved modifications of the SWMP, are incorporated by reference into the permit and become enforceable parts of the permit.



## Section 2: MS4 Information

The following sections include general information about the City’s administrative organization, the storm sewer system, and the MS4 receiving waters. These sections inform the development of the stormwater program and successful permit program implementation.

### 2.1 Permitted MS4 Area

This SWMP applies throughout the corporate limits of the City, including all regulated activities associated with the discharge of stormwater from the MS4. Additionally, the City is authorized to operate, administer, and enforce the construction site runoff control and post construction site runoff control programs within the ETJ. The map below (Figure 1) shows the corporate limits and the ETJ area of the City as of the date of this document.

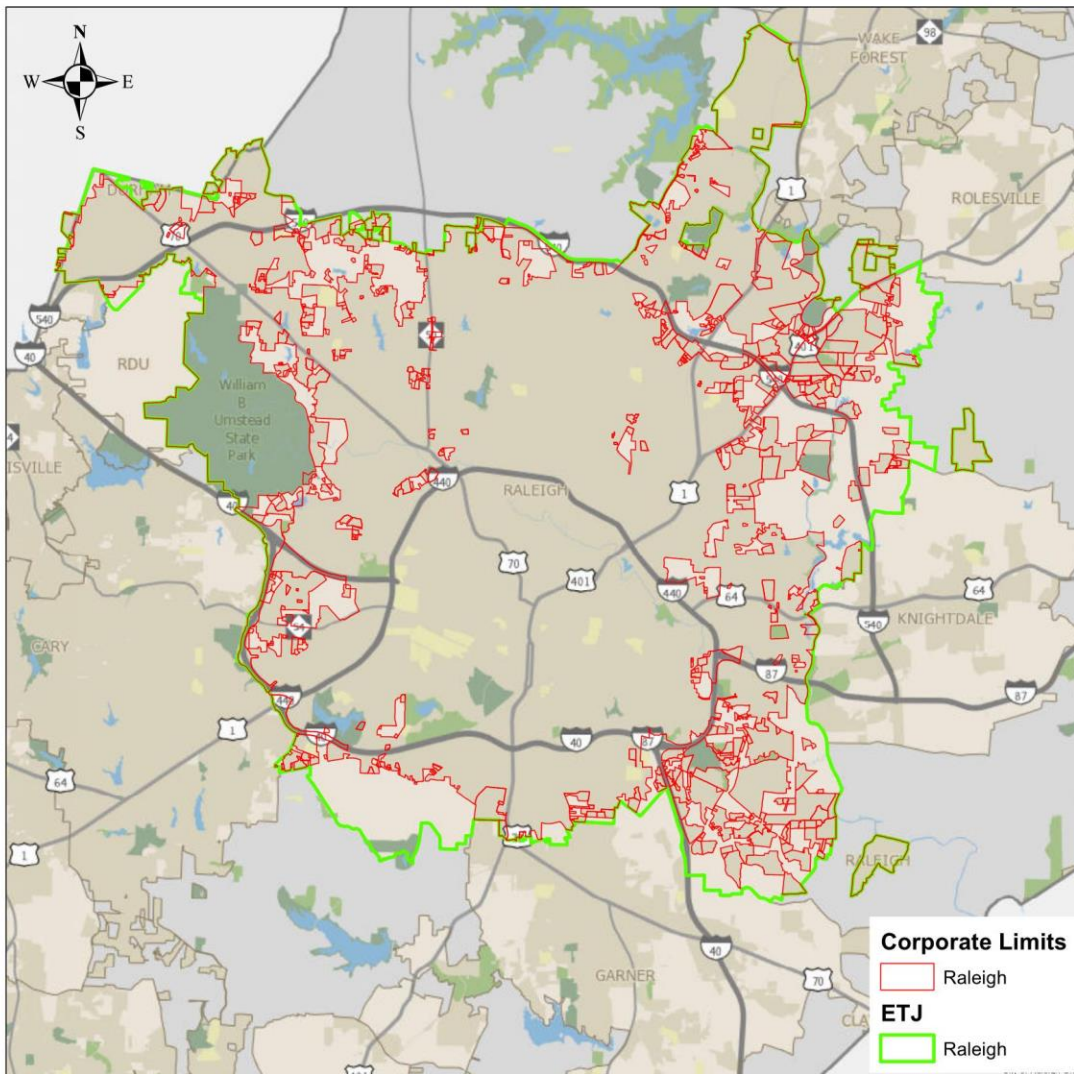


Figure 1. City of Raleigh Corporate Limits and ETJ

## 2.2 Existing MS4 Mapping

In fiscal year 2014, the City conducted an MS4 mapping program which compiled and documented all known MS4 infrastructure and outfalls within the City corporate limit and ETJ in a geographic information system (GIS). Since this initial effort, the City has continually updated the MS4 mapping, which includes pipes, ditches, inlets, catch basins, culverts, headwalls, channels, manholes, and outfalls, including sizes and inverts. The MS4 mapping updates are incorporated into the illicit discharge detection and elimination program, which is described in Section 6.

The condition of the MS4 stormwater inlets and conveyance system are evaluated by the City storm sewer system inspection and maintenance program, which is described in Section 9.

## 2.3 Receiving Waters

The City MS4 is located within the Neuse River Basin and discharges directly into receiving waters as listed in Table 1 below. Applicable water quality standards listed below were compiled from the following North Carolina Department of Environmental Quality (DEQ) sources; Waterbody Classification Map

(<https://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=6e125ad7628f494694e259c80dd64265>) and the most recent EPA-approved DEQ Final 303(d) List (2018)

(<https://files.nc.gov/ncdeq/Water%20Quality/Planning/TMDL/303d/2018/2018-NC-303-d--List-Final.pdf>). TMDLs are addressed in Section 2.5 and Section 12.

The water quality classifications referenced in Table 1 include:

- B: Primary Recreation, Fresh Water
- C: Aquatic Life, Secondary Recreation, Fresh Water
- CA: Critical Area
- NSW: Nutrient Sensitive Waters
- WS-III: Water Supply III – Moderately Developed
- WS-IV: Water Supply IV – Highly Developed

**Table 1. MS4 Receiving Waters**

Receiving Water Name	Stream Index/ Assessment Unit (AU) Number	Water Quality Classification	303(d) Listed Parameters of Interest
Neuse River	27-(20.5)	WS-IV; NSW	N/A
Neuse River	27-(22)	WS-IV; NSW; CA	Copper PCB Fish Tissue Advisory
Neuse River	27-(22.5)	C; NSW	Copper PCB Fish Tissue Advisory
Honeycutt Creek	27-20-(1)	WS-IV;NSW	N/A

Receiving Water Name	Stream Index/ Assessment Unit (AU) Number	Water Quality Classification	303(d) Listed Parameters of Interest
Unnamed Tributary at Camp New Life	27-20.5-(2)	WS-IV;NSW	N/A
Richland Creek	27-21-(1.5)	WS-IV; NSW	N/A
Toms Creek (Mill Creek)	27-24	C; NSW	Benthos
Perry Creek (Greshams Lake)	27-25-(1)	B; NSW	N/A
Perry Creek	27-25-(2)	C; NSW	N/A
Unnamed Tributary near Neuse	27-25-3-(1)	B; NSW	N/A
Unnamed Tributary near Neuse	27-25-3-(2)	C; NSW	N/A
Harris Creek (Peeples Creek) (Wake Crossroads Lake)	27-26	C; NSW	N/A
Hodges Mill Creek (Lake Mirl)	27-26-1-(1)	B; NSW	N/A
Hodges Mill Creek	27-26-1-(2)	C; NSW	N/A
Beaverdam Creek	27-27	C; NSW	N/A
Rocky Creek	27-28	C;NSW	N/A
Beaverdam Creek (east side of Neuse River) (Neuseco Lake, Beaverdam Lake)	27-29	C;NSW	N/A
Bridges Creek (Bridges Lake)	27-30	C;NSW	N/A
Milburnie Creek (Milburnie Lake)	27-31	C;NSW	N/A
Crabtree Creek (Crabtree Lake)	27-33-(3.5)	B; NSW	PCB Fish Tissue Advisory Turbidity
Crabtree Creek	27-33-(10)	C;NSW	PCB Fish Tissue Advisory
Brier Creek	27-33-4	C; NSW	PCB Fish Tissue Advisory
Little Brier Creek	27-33-4-1	C; NSW	PCB Fish Tissue Advisory
Haleys Branch	27-33-7	C; NSW	N/A
Reedy Creek (Reedy Creek Lake)	27-33-8	B; NSW	N/A

Receiving Water Name	Stream Index/ Assessment Unit (AU) Number	Water Quality Classification	303(d) Listed Parameters of Interest
Sycamore Creek (Big Lake)	27-33-9	B; NSW	N/A
Pots Branch	27-33-9-1	B; NSW	N/A
Turkey Creek	27-33-9-2	B; NSW	N/A
Richlands Creek	27-33-11	C; NSW	Benthos
Hare Snipe Creek (Lake Lynn)	27-33-12-(1)	B; NSW	Benthos
Hare Snipe Creek	27-33-12-(2)	C; NSW	Benthos
House Creek	27-33-13	C; NSW	N/A
Mine Creek	27-33-14	C; NSW	Benthos
Beaverdam Creek	27-33-15	C; NSW	N/A
Southwest Prong Beaverdam Creek	27-33-15-1	C; NSW	N/A
Southeast Prong Beaverdam Creek	27-33-15-2	C; NSW	N/A
Oxford Branch	27-33-16	C; NSW	N/A
Big Branch	27-33-17	C; NSW	N/A
Hog Pen Branch	27-33-17-1-(1)	B; NSW	N/A
Hog Pen Branch	27-33-17-1-(2)	C; NSW	N/A
Pigeon House Branch	27-33-18	C; NSW	N/A
Williamson Branch	27-33-18-1	C; NSW	N/A
Cemetery Branch	27-33-18-2	C; NSW	N/A
Bridges Branch	27-33-19	C; NSW	N/A
Marsh Creek	27-33-20	C; NSW	Benthos
Beaman Lake	27-33-20-1	C; NSW	N/A
Pews Pond	27-33-20-2	C; NSW	N/A
Longview Branch	27-33-21	C; NSW	N/A
Carolina Lake	27-33-22	C; NSW	N/A
Walnut Creek	27-34-(1)	C; NSW	PCB Fish Tissue Advisory
Walnut Creek (Lake Johnson)	27-34-(1.5)	B; NSW	PCB Fish Tissue Advisory

Receiving Water Name	Stream Index/ Assessment Unit (AU) Number	Water Quality Classification	303(d) Listed Parameters of Interest
Walnut Creek	27-34-(1.7)	C; NSW	PCB Fish Tissue Advisory Fish Community
Walnut Creek (Lake Raleigh)	27-34-(3.5)	B;NSW	PCB Fish Tissue Advisory
Walnut Creek	27-34-(4)	C;NSW	PCB Fish Tissue Advisory Fish Community
Simmons Branch	27-34-2	C; NSW	N/A
Bushy Creek	27-34-3	C; NSW	N/A
Rocky Branch	27-34-6	C; NSW	Benthos PCB Fish Tissue Advisory
Wildcat Branch	27-34-7	C; NSW	N/A
Watson Branch	27-34-8	C; NSW	N/A
Chavis Branch	27-34-8-1	C; NSW	N/A
Gatling Branch	27-34-9	C; NSW	N/A
Big Branch	27-34-11	C; NSW	N/A
Poplar Branch	27-34-11-1	C; NSW	N/A
Little Arm Branch	27-34-11-2	C; NSW	N/A
Unnamed Tributary to Swift Creek (Silver Lake)	27-43-5-(1)	WS-III; B; NSW	N/A
Unnamed Tributary to Swift Creek (Yates Mill Pond)	27-43-5-(1.5)	WS-III;NSW	N/A

## 2.4 MS4 Interconnection

The City's MS4 is interconnected with two regulated MS4s and conveys stormwater runoff to the North Carolina Department of Transportation (NCDOT) and North Carolina State University (NCSU) storm sewer systems, as determined by the City's storm sewer system conveyance data. There are multiple points of interconnection between the City and NCDOT at the edge of the roadway rights-of-way and the City and NCSU at the property boundaries within the City's corporate limit.

## 2.5 Total Maximum Daily Loads

The TMDLs listed in Table 2 have been approved by EPA within the MS4 receiving waters, as determined by the map and list provided on the DEQ Modeling and Assessment/TMDL web page (<https://deq.nc.gov/about/divisions/water-resources/planning/modeling-assessment/tmdls>). The table also indicates whether the approved TMDL has an individual numeric stormwater Waste Load Allocation (WLA) assigned to the City permitted MS4, and whether a water quality recovery program has been implemented to address the WLA.

**Table 2. Summary of EPA-Approved TMDLs or Nutrient Management Strategies**

Water Body Name	TMDL Pollutant(s) of Concern	Assigned Numeric MS4 WLA (Y/N)	Water Quality Recovery Program (Y/N)
Pigeon House Branch	Copper and Fecal Coliform	No	No
Perry Creek	Benthos	No	No
Falls Lake	Nitrogen and Phosphorus	No	City participating in 4B nutrient management strategy
Neuse River Estuary	Nitrogen	No	City is implementing the State Nutrient Sensitive Waters Management Strategy

## 2.6 Industrial Facility Discharges

The City corporate limit encompasses multiple industrial facilities which hold NPDES Industrial Stormwater Permits. The list of permitted industrial facilities within the City is updated annually as required by Part II Section H.2(a). The City will provide program results in the City's annual reporting, as documented in Section 10.

## 2.7 Non-Stormwater Discharges

The water quality impacts of allowable non-stormwater discharges, documented in Part I.H.1 of the permit, have been evaluated by the City as summarized in Table 3 below. The non-permitted non-stormwater discharges listed as incidental do not significantly impact water quality based upon historical illicit discharges and City staff judgement. The two sources identified below with potential for significant water quality impacts include residential and

charity car washing and dechlorinated swimming pool discharges. These non-stormwater discharges are primarily addressed by the City through their public outreach and education program, documented in Section 4.

**Table 3. Non-Stormwater discharges**

Non-Stormwater Discharge	Water Quality Impacts
Water line and fire hydrant flushing	Incidental
Landscape irrigation	Incidental
Diverted stream flows	Incidental
Rising groundwater	Incidental
Uncontaminated groundwater infiltration	Incidental
Uncontaminated pumped groundwater	Incidental
Uncontaminated potable water sources	Incidental
Foundation drains	Incidental
Air conditioning condensate	Incidental
Irrigation waters	Incidental
Springs	Incidental
Water from crawl space pumps	Incidental
Footing drains	Incidental
Lawn watering	Incidental
Residential and charity car washing	Potential
Flows from riparian habitats and wetlands	Incidental
Dechlorinated swimming pool discharges	Potential
Street wash water	Incidental
Flows from firefighting activities	Incidental

## **2.8 Target Pollutants and Sources**

In addition to the parameters of interest identified through the 303(d) listings and the TMDLs described in Sections 2.3 and 2.5, target pollutants and sources within the City's MS4 will be reviewed annually and identified based on inspections and enforcement activities within the MS4 program elements. The City will provide annual program target pollutants and results in the City's annual reporting, as documented in Section 13.



## Section 3: Program Implementation

The section corresponds to Part II Section A of the MS4 permit. The City's program organization and funding are necessary elements for implementing the remaining elements of MS4 program. Annual reporting metrics are included in Table 4.

### 3.1 City Ordinances

The current City regulations, ordinances, policies, and procedures can be accessed on the City website at: <https://raleighnc.gov/services/government/city-code> and <https://raleighnc.gov/business/content/PlanDev/Articles/Zoning/ZoningRemapping.html>.

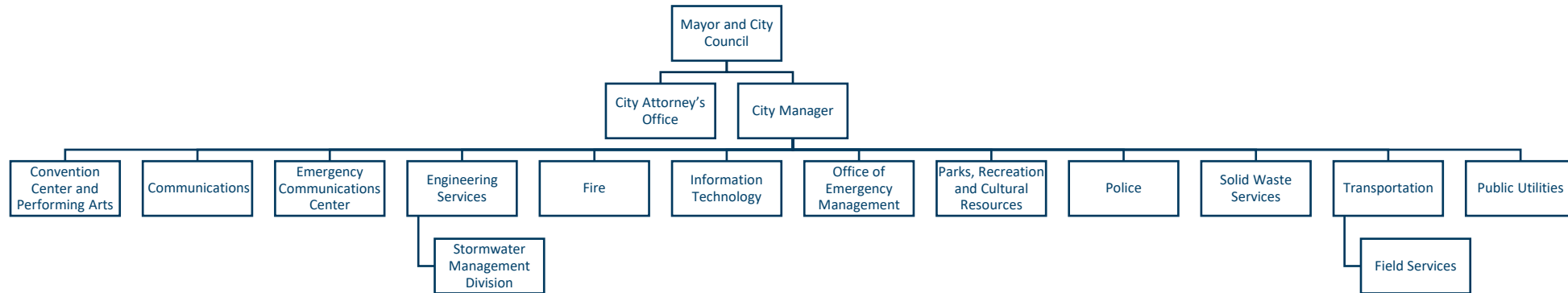
### 3.2 Program Funding and Budget

In accordance with the MS4 permit, the City maintains adequate funding to implement and manage the provisions of the SWMP and comply with the permit requirements. Multiple sources of funding are utilized by the responsible parties to achieve permit compliance. Program elements are primarily funded by the City stormwater utility fee. Additional sources of funding include plan review and permit application fees, and the City general fund may be utilized for pollution prevention and good housekeeping activities by owning departments.

Further fiscal analysis and investigation of funding options (such as a general fund allocation or a change to the stormwater fee) will be conducted annually to maintain adequate funds to meet program needs.

### 3.3 Organizational Structure

The City MS4 program is implemented by multiple departments with oversight and coordination led by the Stormwater Management Division, which is within the Engineering Services Department. The responsible parties are identified in organizational charts, Figures 2 and 3. These charts depict responsible parties for MS4 permit implementation and do not reflect the entire City organizational structure. The responsible parties also are identified by program element and BMP in Sections 4 through 12. Some responsible departments have been identified for having a direct role in implementing the SWMP, such as the SCM Program, and others have an ancillary role (i.e., implement pollution prevention and good housekeeping practices or provide program support activities, such as Information Technology).



**Figure 2. City of Raleigh MS4 Permit Implementation Responsible Departments Organizational Chart**

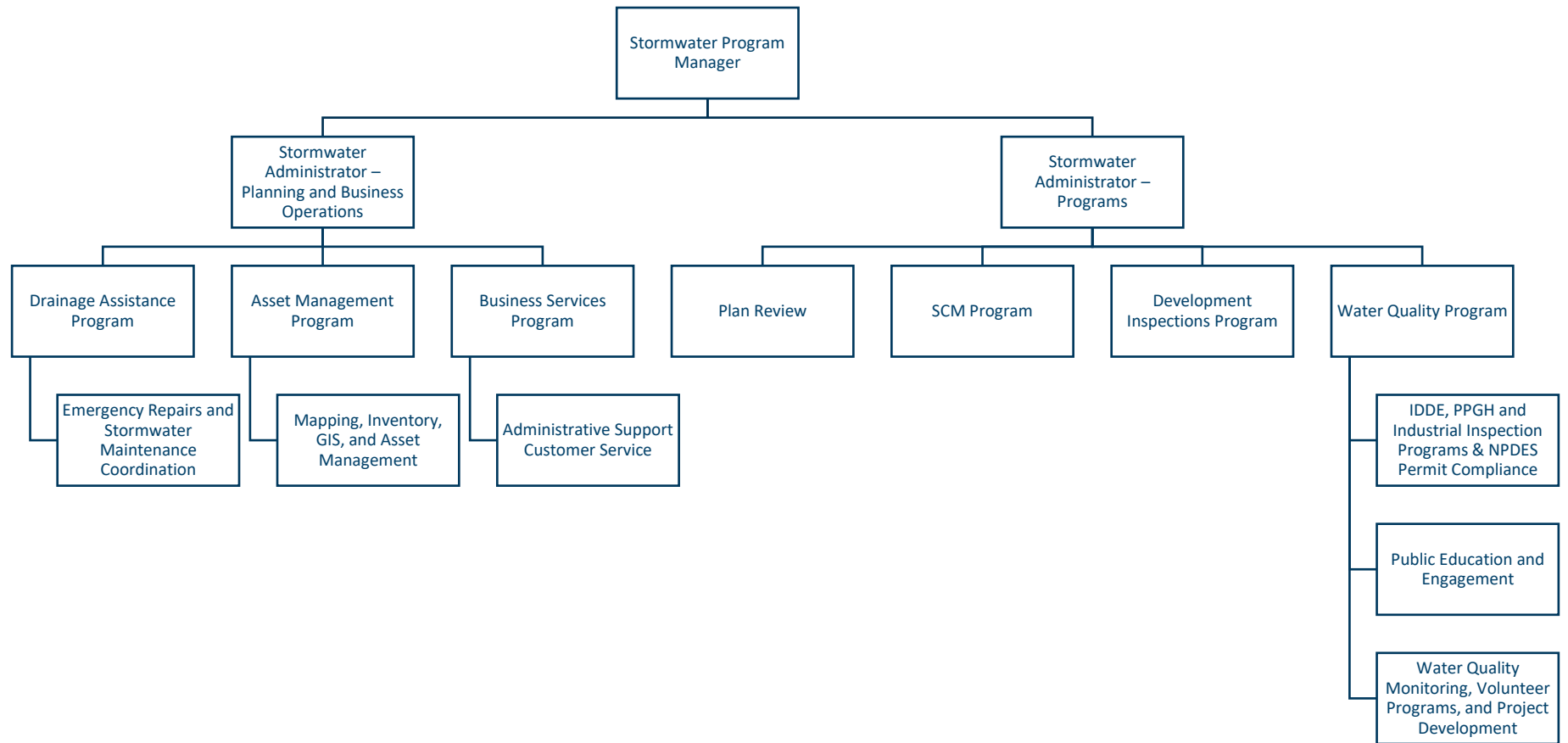


Figure 3. City of Raleigh Stormwater Management Division MS4 Permit Implementation Organizational Chart

**Table 4. Program Element – Program Implementation**

Program Element	Program Actions		Responsible Party(ies)	Annual reporting Metric(s)
	FY2021	FY2022 – FY 2026		
Part II Section A.1 The permittee will maintain adequate legal mechanism, such as regulations, ordinances, policies, and procedures to implement all provisions of the SWMP. If major modifications are proposed in the timeline for development of these authorities, the Division must be notified of the changes, the reasons for the changes, and justifications for the changes. The Division may comment on the modifications and require changes as allowed by Federal and State and as deemed necessary to assure appropriate implementation of the SWMP. The Permittee shall obtain prior approval of changes to the SWMP that eliminate or reduce any program or measure in an approved SWMP.	Review regulations, ordinances, policies, and procedures and update, if necessary.	Review regulations, ordinances, policies, and procedures and update, if necessary.	Stormwater Program Manager Water Quality Manager City Attorney's Office	<ul style="list-style-type: none"> <li>Report modifications to the regulations, ordinances, policies, and procedures</li> </ul>
Part II Section A.2 The permittee will implement provisions of the SWMP and evaluate the performance and effectiveness of the program components.	Evaluate program effectiveness, as described in Section 13	Evaluate program effectiveness, as described in Section 13	Stormwater Program Manager Water Quality Manager	<ul style="list-style-type: none"> <li>N/A, annual reporting of program effectiveness is described in Section 13</li> </ul>
Part II Section A.3 The permittee is required to keep the SWMP up to date with annual updates if any changes are warranted. The permittee is required to make available its SWMP to the Division upon request. At a minimum, the permittee shall include ordinances, or other regulatory mechanisms or a list identifying the ordinances, or other regulatory mechanisms providing the legal authority necessary to implement and enforce the requirements of the permit. The Division may review reports submitted by the permittee to assure that the SWMP is implemented appropriately to address the requirements of the permit. The Division may require modifications to any part of the permittee's SWMP where deficiencies are found. If modifications to the SWMP are necessary, then the Division will notify the permittee of the need to modify the SWMP to be consistent with the permit and will establish a deadline to finalize such changes to the program.	Update the SWMP to incorporate current permit requirements and program components.	Review the SWMP and update, if necessary.	Stormwater Program Manager Water Quality Manager	<ul style="list-style-type: none"> <li>Report modifications to the SWMP and make available to the Division upon request</li> </ul>
Part II Section A.4 The permittee shall maintain, and make available to the Division upon request, written procedures for implementing the six minimum control measures. Written procedures shall identify specific action steps, schedules, resources, and responsibilities for implementing the six minimum measures.	Maintain written procedures as documented in Sections 4 through 12.	Maintain written procedures as documented in Sections 4 through 12.	Stormwater Program Manager Water Quality Manager	<ul style="list-style-type: none"> <li>N/A, written procedures will be available to DEQ upon request</li> </ul>

## Section 4: Public Education and Outreach

As documented in Part II Section B of the MS4 permit, the objectives of the public outreach and education program are to make educational materials available to the community, conduct public outreach activities, raise public awareness on the causes and impacts of stormwater pollution, and inform the public on actions they can take to reduce or prevent stormwater pollution. This is achieved through a variety of BMPs detailed in Table 5.

**Describe target pollutants and target pollutant sources.** In addition to parameters of interests identified in Table 1, Table 2, and Table 3, the City reviews datasets, such as citizen complaints, illicit discharges, and other program activities to identify target pollutants to focus the public education and outreach materials and activities.

**Describe target audiences.** Target audiences may be defined by target parameters of interest and associated sources. The City identifies target audiences by reviewing the types of activities correlated to citizen complaints, illicit discharges, and other activities that may cause pollutants to reach the storm sewer system.

**Informational web site.** The City maintains a stormwater website located at <https://raleighnc.gov/stormwater>.

**Distribute public education materials to identified user groups.** The City utilizes multiple mechanisms to provide educational materials to identified user groups, including attending City events to engage the general public, utilization of social media platforms, mailing materials to target audiences, and providing materials during response to complaint calls. Additionally, the City participates in the Clean Water Education Partnership (CWEP), which conducts regional media campaigns and develops educational materials. Media campaigns and materials include television public service announcements, radio public service announcements, print advertisements, and a stormwater education website at <https://nc-cleanwater.com/>.

**Promote and maintain Hotline(s) or Helpline(s).** The City maintains a public helpline at 919.996.3940, which is included on education and outreach materials and the website. The helpline is staffed by multiple stormwater administrative staff during regular business hours.

**Implement a Public Outreach and Education Program.** The City implements a program to educate the general public, provide classroom educational activities, and target pollutant sources and activities, as informed by other MS4 permit program elements.

**Table 5. BMP Measurable Goals for the Public Education and Outreach Program**

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Annual reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section B.2 (a). Describe target pollutants and sources	Describe the target pollutants and target pollutant sources the permittee’s public education program is designed to address and why they are an issue.	Develop Public Education and Engagement Plan, documenting the existing outreach and education program implemented by City staff, including process for identifying target pollutants and sources.  Implement the public education and outreach program utilizing the Public Education and Engagement Plan and the Communications Plan.  Notify the Water Quality Manager of program modifications.	Review and update target pollutants and sources in the Public Education and Engagement Plan.  Implement the public education and outreach program utilizing the Public Education and Engagement Plan and the Communications Plan.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  IDDE, PPGH and Industrial Inspection Programs & NPDES Permit Compliance  Public Education and Engagement  Communications	<ul style="list-style-type: none"> <li>Report target pollutants and the associated sources</li> <li>Report reason each target pollutant was chosen</li> </ul>
Part II Section B.2 (b). Describe target audiences	Describe the target audiences likely to have significant stormwater impacts and why they were selected.	Develop Public Education and Engagement Plan, documenting the existing outreach and education program implemented by City staff, including process for identifying target audiences for each pollutant and source.  Implement the public education and outreach program utilizing the Public Education and Engagement Plan and the Communications Plan.  Notify the Water Quality Manager of program modifications.	Review and update target audiences associated with each pollutant and source in the Public Education and Engagement Plan.  Implement the public education and outreach program utilizing the Public Education and Engagement Plan and the Communications Plan.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  IDDE, PPGH and Industrial Inspection Programs & NPDES Permit Compliance  Public Education and Engagement  Communications	<ul style="list-style-type: none"> <li>Report target audiences identified for each target pollutant.</li> <li>Report reason each target audience was chosen</li> </ul>
Part II Section B.2 (c). Informational website	The permittee shall promote and maintain an internet web site designed to convey the program’s message.	Maintain and update the stormwater program webpage.  Notify the Water Quality Manager of program modifications.	Maintain and update the stormwater program webpage.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Communications	<ul style="list-style-type: none"> <li>Report number of hits to stormwater website</li> </ul>
Part II Section B.2 (d). Distribute public education materials to identified user groups	Distribute general stormwater educational material to appropriate target groups as likely to have a significant stormwater impact. Instead of developing its own materials, the permittee may rely on state-supplied Public Education and Outreach materials, as available, when implementing its own program.	Distribute public education materials, as described in the Public Education and Engagement Plan.  Notify the Water Quality Manager of program modifications.	Distribute public education materials, as described in the Public Education and Engagement Plan.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Public Education and Engagement	<ul style="list-style-type: none"> <li>Report number of educational materials distributed by type</li> </ul>
Part II Section B.2 (e). Promote and maintain hotline(s) or helpline(s)	Promote and maintain a stormwater hotline(s) or helpline(s) for the public to request information about stormwater, public involvement & participation, and to report illicit connection and discharges, etc.	Maintain the stormwater administration helpline to receive public complaints.  Notify the Water Quality Manager of program modifications.	Maintain the stormwater administration helpline to receive public complaints.	Stormwater Program Manager  Administrative Support Customer Service	<ul style="list-style-type: none"> <li>Report number of calls handled by helpline by type of call</li> </ul>

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Annual reporting Metric(s)
		FY2021	FY2022 – FY 2026		
			Notify the Water Quality Manager of program modifications.		
Part II Section B.2 (f). Implement a public education and outreach program	The permittee’s outreach program, including those elements implemented locally or through a cooperative agreement, shall include a combination of approaches designed to reach the target audiences. For each media, event, or activity, including those elements implemented locally or through a cooperative agreement the permittee shall estimate and record the extent of exposure.	<p>Develop Public Education and Engagement Plan, documenting the existing outreach and education program implemented by City staff.</p> <p>Review and update the Communications Plan, if necessary.</p> <p>Implement the public education and outreach program utilizing the Public Education and Engagement Plan and the Communications Plan.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Review and update the Public Education and Engagement Plan and Communications Plan, if necessary.</p> <p>Implement the public education and outreach program utilizing the Public Education and Engagement Plan and the Communications Plan.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>Public Education and Engagement</p> <p>Communications</p>	<ul style="list-style-type: none"> <li>• Report City events and number of handouts distributed at each event</li> <li>• Report City’s in-school events and number of participants</li> </ul>

## Section 5: Public Involvement and Participation

As documented in Part II Section C of the MS4 permit, the objectives of this program are to provide opportunities for the public to participate in program development and implementation and to comply with applicable state and local public notice requirements. This is achieved through the application of a variety of BMPs detailed in Table 6.

**Volunteer community involvement program.** The City promotes multiple volunteer opportunities on its website, including Adopt-a-Stream, storm drain marking, and the volunteer water quality monitoring program.

**Establish a mechanism for public involvement.** The City engages the public through the Stormwater Management Advisory Commission (SMAC). The SMAC, which is comprised of City residents, meets with Stormwater Management Division staff to discuss program activities, and receive feedback to inform Stormwater Management Division decisions.

**Establish Hotline(s) or Helpline(s).** As described in Section 4, the City maintains a public helpline at 919.996.3940.

**Public review and comment.** Once approved by DEQ, the City will make the current version of the SWMP available to the public on their website. A review and comment period will be posted for the public input before finalization of updates to the SWMP. Public input will be received during a public hearing.

**Public notice.** The City complies with public notice requirements when implementing their public involvement and participation program. Public notice is provided for public engagement in SMAC meetings.



**Table 6. BMP Measurable Goals for the Public Involvement and Participation Program**

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section C.2 (a). Volunteer community involvement program	The permittee shall include and promote volunteer opportunities designed to promote ongoing citizen participation.	Maintain the community volunteer opportunities  Notify the Water Quality Manager of program modifications.	Maintain the volunteer community opportunities  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Water Quality Monitoring, Volunteer Programs, and Project Development	<ul style="list-style-type: none"> <li>Report number of participants in each City volunteer opportunity</li> </ul>
Part II Section C.2 (b). Establish a mechanism for public involvement	The permittee shall provide and promote a mechanism for public involvement that provides for input on stormwater issues and the stormwater program.	Conduct meeting(s) with the SMAC  Notify the Water Quality Manager of program modifications.	Conduct meeting(s) with the SMAC  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager	<ul style="list-style-type: none"> <li>Report meeting dates for SMAC meetings and topics of discussion pertaining to MS4 compliance</li> </ul>
Part II Section C.2 (c). Establish hotline(s) or helpline(s)	The permittee shall promote and maintain a stormwater hotline(s) or helpline(s) for the public to request information about stormwater, public involvements & participation, and to report illicit connection and discharges, etc.	Maintain the stormwater administration helpline to receive public complaints.  Notify the Water Quality Manager of program modifications.	Maintain the stormwater administration helpline to receive public complaints.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Administrative Support Customer Service	<ul style="list-style-type: none"> <li>N/A, see helpline reporting metrics in Table 5.</li> </ul>
Part II Section C.2 (d). Public review and comment	The permittee shall make their most recent Stormwater Management Plans available for public review and comment	Create a webpage for the SWMP on the public website.  Publicize a comment period for updates to the SWMP.  Notify the Water Quality Manager of program modifications.	Maintain the webpage for the most recent edition of the SWMP.  Publicize a comment period for updates to the SWMP.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Communications	<ul style="list-style-type: none"> <li>Report webpage link for SWMP</li> <li>Report mechanisms used for public review and comment on the SWMP</li> </ul>
Part II Section C.2 (e). Public notice	Pursuant to 40 CFR 122.34 the permittee must, at a minimum, comply with State, Tribal and local public notice requirements when implementing a public involvement / participation program	Place legal public notice to advertise public review and comment opportunities, as needed.  Notify the Water Quality Manager of program modifications.	Place legal public notice to advertise public review and comment opportunities, as needed.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Water Quality Manager	<ul style="list-style-type: none"> <li>If public notice occurred, report mechanism(s) used to advertise public review and comment and public notice period.</li> </ul>

## Section 6: Illicit Discharge Detection and Elimination (IDDE)

As documented in Part II Section D of the MS4 permit, the objectives of this program are to detect and eliminate illicit discharges to the City's MS4, address significant contributors of pollutants to the MS4, implement appropriate enforcement procedures and actions, maintain a map showing the City's major MS4 outfalls to Waters of the State, and inform employees, businesses, and the general public of hazards associated with illegal discharges. These objectives are achieved through a variety of BMPs detailed in Table 7.

**Maintain appropriate legal authorities.** The City maintains legal authorities to operate their program as documented in Section 3.1.

**Maintain a storm sewer system base map of the major MS4 outfalls.** The City maintains a storm sewer base map of major MS4 outfalls, as described in Section 2.2.

**Inspection and detection program to detect dry weather flows at MS4 outfalls.** The IDDE program is conducted by the City under the guidelines provided in the most recent version of the IDDE and dry weather screening standard operating procedures (SOPs) to specify a timeframe for monitoring, identify number of outfalls for screening, and areas to be targeted for inspection.

**Employee training.** Employee training on detection and reporting of illicit discharges is conducted regularly to ensure that City staff are able to recognize and report illicit discharges. Training is conducted virtually, in-person classroom setting, and by other means.

**Maintain a public reporting mechanism(s).** The public may report an illicit discharge via the stormwater helpline, the City's illegal discharge email address, and other mechanisms documented on the City website and outreach materials.

**Documentation.** The City maintains documentation for each illicit discharge investigation for a minimum of five years, including the date of the activity and remediation activities that occurred.

**Table 7. BMP Measurable Goals for the IDDE Program**

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Annual Reporting
		FY2021	FY2022 – FY 2026		
Part II Section D.2 (a). Maintain appropriate legal authorities	Maintain adequate ordinance or other legal authorities to prohibit illicit connections and discharges and enforce the approved IDDE program	Maintain and enforce public ordinances. Update, if necessary, to maintain legal authority.  Notify the Water Quality Manager of program modifications.	Maintain and enforce public ordinances. Update, if necessary, to maintain legal authority.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Water Quality Manger  City Attorney’s Office	<ul style="list-style-type: none"> <li>N/A, see Table 4 for reporting of legal authorities.</li> </ul>
Part II Section D.2 (b). Maintain a storm sewer system base map of major MS4 outfalls	The permittee shall maintain a current map showing major outfalls and receiving streams	Evaluate outfall and receiving stream definitions with current program recommendations and revise, if necessary.  Notify the Water Quality Manager of program modifications.	Maintain storm sewer system base map in GIS and update annually as new inventory is added.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Mapping, Inventory, GIS, and Asset Management	<ul style="list-style-type: none"> <li>Report number of major outfalls</li> <li>Provide overview map of receiving streams and major outfalls</li> </ul>
Part II Section D.2 (c). Inspection/detection program to detect dry weather flows at MS4 outfalls	Maintain written procedures and/or SOPs for detecting and tracing the sources of illicit discharges and for removing the sources or reporting the sources to the State to be properly permitted. Written procedures and/or SOPs shall specify a timeframe for monitoring and how many outfalls and the areas that are to be targeted for inspections.	Develop IDDE Plan from existing field forms and SOPs.  Notify the Water Quality Manager of program modifications.	Implement IDDE Plan.  Review and update IDDE Plan as needed.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  IDDE, PPGH and Industrial Inspection Programs & NPDES Permit Compliance	<ul style="list-style-type: none"> <li>Report number of dry weather inspections completed and results</li> </ul>
Part II Section D.2 (d). Employee training	Conduct training for appropriate municipal staff on detecting and reporting illicit connections and discharges.	Document the existing employee training program in a Training Plan, including who should receive training, types of training, and frequency.  Conduct employee training and document attendance.  Notify the Water Quality Manager of program modifications.	Review the employee Training Plan and update as needed  Conduct employee training and document attendance.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  IDDE, PPGH and Industrial Inspection Programs & NPDES Permit Compliance	<ul style="list-style-type: none"> <li>Report number of staff who completed IDDE training and types of training provided</li> </ul>
Part II Section D.2 (e). Maintain a public reporting mechanism(s)	Maintain and publicize reporting mechanism(s) for the public to report illicit connections and discharges	Maintain reporting helpline and reporting email address ( <a href="mailto:IllegalDischarge@raleighnc.gov">IllegalDischarge@raleighnc.gov</a> ).  Notify the Water Quality Manager of program modifications.	Maintain reporting helpline and reporting email address ( <a href="mailto:IllegalDischarge@raleighnc.gov">IllegalDischarge@raleighnc.gov</a> ).  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Administrative Support Customer Service  IDDE, PPGH and Industrial Inspection Programs & NPDES Permit Compliance	<ul style="list-style-type: none"> <li>Report number of calls and emails received</li> </ul>

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Annual Reporting
		FY2021	FY2022 – FY 2026		
Part II Section D.2 (f). Documentation	The permittee shall document the date of investigations, any enforcement action(s) or remediation that occurred.	Maintain IDDE inspection records, notices of violations and compliance and other program records.  Notify the Water Quality Manager of program modifications.	Maintain IDDE inspection records, notices of violations and compliance, and other program records.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  IDDE, PPGH and Industrial Inspection Programs & NPDES Permit Compliance	<ul style="list-style-type: none"> <li>Report date of investigations, any enforcement action(s) or remediation that occurred.</li> </ul>

## Section 7: Construction Site Runoff Controls

As documented in Part II Section E of the MS4 permit, the objectives of this program are to:

- Reduce pollutants in stormwater runoff from construction activities disturbing one or more acres of land, or less than an acre within a larger common plan of development located within Raleigh's ETJ. The City
- Provide procedures for public input, sanctions to ensure compliance, requirements for construction site operators to implement appropriate erosion and sediment control practices, review of site plans which incorporate consideration of potential water quality impacts, and procedures for site inspection and enforcement of control measures.
- A locally delegated program that meets state requirements.

**Delegated local program.** The erosion and sediment control program is delegated to the City by DEQ. The City adopted an erosion and sediment control ordinance, originally, as part of its development regulations, and recodified on September 1, 2013 under the City's UDO, Erosion and Sedimentation Control. The UDO is updated, if necessary, to meet DEQ's minimum requirements. The City's UDO exceeds the MS4 permit requirement, requiring BMPs to reduce pollutants in stormwater runoff from construction activities disturbing 12,000 sq ft or more of land surface. The UDO is available on the website provided in Section 3.1.

**Plan reviews.** Stormwater, erosion and sediment control plans for new development and redevelopment within the City are reviewed by Plan Review staff for compliance with the UDO. This includes associated calculations and details for proposed stormwater devices.

**Construction inspections.** The City Development Inspections Program staff inspects sites for compliance with stormwater, erosion and sedimentation control, buffer, water-supply watershed, and floodplain aspects of approved plans and compliance with the UDO.

These objectives are achieved through a variety of BMPs detailed in Table 8.

**Table 8. Program Elements for Construction Site Runoff Controls**

Program Element	Program Actions		Responsible Party(ies)	Reporting Metric(s)
	FY2021	FY2022 – FY 2026		
Part II Section E.2.a. The permittee has a delegated or authorized Sediment and Erosion Control Program. As such, to the extent authorized by law, the permittee is responsible for compliance with the Sediment Pollution Control Act of 1973 and Chapter 4 of Title 15A of the North Carolina Administrative Code. The delegated or authorized Sediment and Erosion Control Program effectively meets the MEP standard for Construction Site Runoff Controls by permitting and controlling development activities disturbing one or more acres of land surface and those activities less than one acre that are part of a larger common plan of development as authorized under the Sediment Pollution Control Act of 1973 and Chapter 4 of Title 15A of the North Carolina Administrative Code.	<p>Create a standard construction site inspection guidance and inspection form that documents existing procedures for use in the construction inspection process.</p> <p>Perform plan review and construction site inspections and appropriate enforcement activities.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Implement standard construction site inspection procedures.</p> <p>Perform plan review and construction site inspections and appropriate enforcement activities.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>Development Inspections Program</p> <p>Plan Review</p>	<ul style="list-style-type: none"> <li>Report number of inspections and enforcement activities conducted</li> </ul>
Part II Section E.2.b. The NCG010000 permit establishes requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.	<p>Perform construction site inspections for the erosion and sediment control program and appropriate enforcement activities that meet requirements of Part II Section E.2.a.</p> <p>Perform illicit discharge investigations when reported by City staff or residents.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Perform construction site inspections for the erosion and sediment control program and appropriate enforcement activities that meet requirements of Part II Section E.2.a.</p> <p>Perform illicit discharge investigations when reported by City staff or residents.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>Development Inspections Program</p> <p>IDDE, PPGH and Industrial Inspection Programs &amp; NPDES Permit Compliance</p>	<ul style="list-style-type: none"> <li>N/A, see reporting metrics in Part II Section E.2.a and Table 7.</li> </ul>
Part II Section E.2.c. The permittee shall provide and promote a means for the public to notify the appropriate authorities of observed erosion and sedimentation problems. The permittee may implement a plan promoting the existence of the DEQ “Stop Mud” hotline (1-866- STOPMUD) to meet the requirements of this paragraph.	<p>Maintain public helpline.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Maintain public helpline.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>Administrative Support Customer Service</p>	<ul style="list-style-type: none"> <li>N/A, see reporting metrics in Table 5</li> </ul>
Part II Section E.2.d. For new development and redevelopment projects to be built within the permittee’s planning jurisdiction by entities with eminent domain authority, the permittee shall, to the maximum extent practicable, coordinate the approval of the construction site runoff control with the DEMLR.	<p>City to coordinate with DEQ, if necessary.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>City to coordinate with DEQ, if necessary.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>Plan Review</p>	<ul style="list-style-type: none"> <li>Report number of plans that required DEQ coordination</li> </ul>

## Section 8: Post-Construction Site Runoff Controls

As documented in Part II Section F of the MS4 permit, the objectives of this program are to manage stormwater runoff from development that disturbs one acre or more of land surface within the City's ETJ, provide a mechanism requiring long-term operation and maintenance of stormwater control measures (SCMs), and ensure controls are in place to minimize water quality impacts. These objectives are achieved through the application of a variety of BMPs detailed in Table 9.

**Nutrient Sensitive Waters.** The City implements the Neuse River Basin Nutrient Sensitive Waters Management Strategy throughout the City ETJ.

**Post-construction stormwater management program.** The City maintains appropriate ordinances for implementing the program, as documented in Section 3.1.

**Strategies which include SCMs appropriate for the MS4.** The City requires that SCMs are designed to meet DEQ requirements, as required in the City UDO, and designs are reviewed by Plan Review staff prior to construction approval. SCM construction is confirmed by qualified third-party professionals through an as-built submittal process which requires City acceptance prior issuance of the Certificate of Occupancy. To confirm adequate operations and maintenance of SCMs, the City requires annual inspection reports by qualified professionals. The City maintains inspection records of each SCM and conducts enforcement activities, if necessary if SCMs are deemed noncompliant.

**Deed restrictions and protective covenants.** The City provides mechanisms to record deed restrictions and protective covenants in the City UDO, as documented in Section 3.1.

**Operations and maintenance plan.** The City requires an operations and maintenance plan for each SCM during the design review process. The City maintains records of the plan for each SCM.

**Educational materials and training for developers.** The City provides periodic training for contractors and developers.

**Table 9. BMP Measurable Goals for Post Construction Site Runoff Control**

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section F.2 (a). Post-construction stormwater management program	Maintain an ordinance (or similar regulatory mechanism) that authorizes a program to address stormwater runoff from new development and redevelopment to the extent allowable under the State law	Review UDO and Stormwater Design Manual and make documents available for developers and construction site operators.  Notify the Water Quality Manager of program modifications.	Review UDO and Stormwater Design Manual and make documents available for developers and construction site operators.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Plan Review	<ul style="list-style-type: none"> <li>N/A, see reporting metrics documented in Table 4</li> </ul>
Part II Section F.2 (b). Strategies which include SCMs appropriate for the MS4	Maintain strategies that include a combination of structural and/or non-structural SCMs implemented in concurrence with (a) above. Provide a mechanism to require long-term operation and maintenance of structural SCMs. Require annual inspection reports of permitted structural SCMs performed by a qualified professional.  A qualified professional (as designated in the UDO) means an individual trained and/or certified in the design, operation, inspection, and maintenance aspects of the SCMs being inspected, for example, someone trained and certified by NC State for SCM Inspection & Maintenance.  Within 12 months of the effective date of this permit, the permittee shall evaluate, and revise as needed, SCM requirements, to be at least as stringent as the minimum requirements in 15A NCAC 02H .1000.	Maintain UDO and Stormwater Design Manual and make documents available for developers and construction site operators.  Develop an SCM Plan, documenting the SCM inspection and maintenance program, including annual reporting, tracking and enforcement.  Implement SCM inspection and maintenance program.  Notify the Water Quality Manager of program modifications.	Maintain UDO and Stormwater Design Manual and make documents available for developers and construction site operators.  Review the SCM Plan and update, if necessary.  Implement SCM inspection and maintenance program.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  SCM Program	<ul style="list-style-type: none"> <li>Report number of sites with SCMs</li> <li>Report number of sites where SCM inspections have been received</li> <li>Report SCM enforcement activities</li> </ul>
Part II Section F.2 (c). Deed restriction and protective covenants	The permittee shall provide mechanisms such as recorded deed restrictions, plats, and/or protective covenants so that development activities maintain the project consistent with approved plans.	Maintain recording mechanisms for deed restrictions and protective covenants.  Notify the Water Quality Manager of program modifications.	Maintain recording mechanisms for deed restrictions and protective covenants.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Plan Review	<ul style="list-style-type: none"> <li>N/A, see reporting metrics documented in Table 4</li> </ul>
Part II Section F.2 (d). Operation and maintenance plan	The developer shall provide the permittee with an operation and maintenance plan for the stormwater system, indicating the operation and maintenance actions that shall be taken, specific quantitative criteria used for determining when those actions shall be taken, and who is responsible for those actions. The plan must clearly indicate the steps that shall be taken and who shall be responsible for restoring a stormwater system to design specifications if a failure occurs and must include a legally enforceable acknowledgment by the responsible party. Development must be maintained consistent with the requirements in the approved plans and any modifications to those plans must be approved by the Permittee.	Require submittal of operation and maintenance plan(s) prior to certificate of occupancy and maintain records of each plan.  Notify the Water Quality Manager of program modifications.	Require submittal of operation and maintenance plan(s) prior to certificate of occupancy and maintain records of each plan.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Plan Review  SCM Program	<ul style="list-style-type: none"> <li>Report number of sites with newly approved operation and maintenance plan(s).</li> </ul>



Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section F.2 (e). Educational materials and training for developers	Provide educational materials and training for developers. New materials may be developed by the permittee, or the permittee may use materials adopted from other programs and adapted to the permittee’s new development and redevelopment program.	Develop targeted training and outreach materials for developers.  Conduct training for developers.  Notify the Water Quality Manager of program modifications.	Review and update training and outreach materials if necessary.  Conduct training for developers.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Communications  Public Education and Engagement  SCM Program	<ul style="list-style-type: none"> <li>• Report types fact sheets/educational brochures developed and/or maintained</li> <li>• Report training events held for developers and number of participants</li> </ul>

## Section 9: Pollution Prevention and Good Housekeeping for Municipal Operations

As documented in Part II Section G of the MS4 permit, the objective of this program is to reduce stormwater pollution from municipal operations that drain to the MS4 and incorporate pollution prevention and good housekeeping techniques into municipal operations.

This is achieved through the application of a variety of BMPs detailed in Table 10 and managed in cooperation with multiple departments in the City, also referred to as owning departments, which may include but is not limited to the following:

- Convention Center and Performing Arts
- Emergency Communications Center
- Engineering Services Department
- Fire Department
- Office of Emergency Management
- Parks, Recreation, and Cultural Resources Department
- Police Department
- Public Utilities Department
- Transportation Department
- Solid Waste Services

**Inventory of municipal facilities and operations.** The City has developed an inventory of municipal facilities and defined criteria to identify facilities that have significant potential for generating polluted stormwater runoff. The City will update the list as new facilities are identified. Additionally, the City maintains a list of operations that may generate polluted stormwater runoff. The City also maintains a list of municipally owned SCMs.

**Inspection and maintenance program for municipal facilities and operations.** The Stormwater Management Division oversees a program for managing stormwater pollution from municipal facilities and operations with significant potential for generating polluted stormwater runoff. This may include, but is not limited to, municipal facilities with NPDES Industrial Stormwater Permits, other facilities with significant potential for generating polluted stormwater runoff, municipal operations outside of municipal facilities, and maintenance of municipally owned streets, roads, and parking lots.

**Site pollution prevention plans (SPPPs) for municipal facilities.** City facilities with NPDES Industrial Stormwater Permits maintain stormwater pollution prevention plans (SWPPPs), as required by their respective permits. The City is coordinating with owning departments to

develop SPPPs for municipal facilities that have significant potential for generating polluted stormwater runoff.

**Spill response procedures for municipal facilities and operations.** Spill response procedures are included in SWPPPs, as required by the NPDES Industrial Stormwater Permits. Spill response procedures will be included in SPPPs for municipal facilities and operations with significant potential for generating polluted stormwater runoff. The City maintains a general SOP to establish the responsibilities and steps to be followed by City of Raleigh staff in the handling of emergencies involving hazardous materials and non-hazardous materials which threaten to enter the stormwater conveyance system.

**Prevent or minimize contamination of stormwater runoff from all areas used for vehicle and equipment cleaning.** Measures and actions to be taken for preventing and minimizing pollution of stormwater runoff from areas used for vehicle and equipment cleaning are identified in the SWPPP for each municipal operation. For municipal facilities without SWPPPs that conduct vehicle washing, such as fire stations with three or fewer trucks, the Stormwater Management Division is coordinating with facility staff to utilize measures to remove or reduce wash water runoff from entering the storm sewer system.

**Streets, roads, and public parking lots maintenance.** The City may conduct street sweeping, leaf and lawn litter pick up, or other measures to maintain municipally owned streets, roads, and public parking lots.

**Inspection and maintenance for municipally-owned or maintained SCMs and the storm sewer system.** The City conducts programs to inspect and maintain municipally owned SCMs and the storm sewer system. This includes conducting third-party inspections, visual inspections, use of pole cameras, and closed-caption television inspections to determine the system condition and conducting maintenance, if necessary.

**Staff training.** Employee training for pollution prevention and good housekeeping is conducted regularly. Training may be conducted virtually, in-person classroom setting, or by other means.

**Table 10. BMP Measurable Goals for Pollution Prevention and Good Housekeeping for Municipal Operations**

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section G.2 (a). Inventory of municipal facilities and operations	Maintain an inventory of municipal facilities and operations owned and operated by the permittee that have been determined by the permittee to have significant potential for generating polluted stormwater runoff. Also maintain an inventory of municipally owned structural SCMs.	<p>Document the assessment of the facility inventory and establish processes for evaluation and update of inventory for new or modified facilities.</p> <p>Maintain and update inventory of municipally owned SCMs.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Review and update inventory based on changes in municipal facilities and operations.</p> <p>Maintain and update inventory of municipally owned SCMs.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>IDDE, PPGH and Industrial Inspection Programs &amp; NPDES Permit Compliance</p> <p>SCM Program</p>	<ul style="list-style-type: none"> <li>Report inventory of facilities determined to have significant potential for generating polluted stormwater runoff</li> <li>Report number of municipal SCMs by type</li> </ul>
Part II Section G.2 (b). Inspection and maintenance program for municipal facilities and operations	Implement an inspection and maintenance program for facilities and operations owned and operated by the permittee for potential sources of polluted runoff, including stormwater controls and conveyance systems. The inspection program shall evaluate pollutant sources, document deficiencies, plan corrective actions, implement appropriate controls, and document the accomplishment of corrective actions. The maintenance program shall include maintenance activities and procedures aimed at preventing or reducing pollutants generated from municipal facilities and operations.	<p>Document the existing inspection and maintenance program for municipal facilities and operations that are determined to be potential sources of polluted runoff.</p> <p>Inspect and document municipal facility inspections, including any corrective actions.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Review the inspection and maintenance program guidance.</p> <p>Inspect and document municipal facility inspections, including any corrective actions.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>IDDE, PPGH and Industrial Inspection Programs &amp; NPDES Permit Compliance</p> <p>Facility Owning Departments</p>	<ul style="list-style-type: none"> <li>Report number of facilities inspected</li> <li>Report corrective actions taken at municipal facilities or operations</li> </ul>
Part II Section G.2 (c). SPPPs for municipal facilities	Maintain and implement SPPPs for municipal facilities owned and operated by the permittee that have been determined by the permittee to have significant potential for generating polluted stormwater runoff that has the goal of preventing or reducing pollutant runoff.	<p>Develop SPPPs for newly identified facilities.</p> <p>Maintain SWPPPs for all City-owned facilities with individual NPDES Industrial permits</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Review facility SPPPs/SWPPPs with owning departments and update, if necessary.</p> <p>Develop SPPPs/SWPPPs for newly identified facilities.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>IDDE, PPGH and Industrial Inspection Programs &amp; NPDES Permit Compliance</p> <p>Facility Owning Departments</p>	<ul style="list-style-type: none"> <li>Report number of facilities with SPPPs/SWPPPs.</li> </ul>

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section G.2 (d). Spill response procedures for municipal facilities and operations	Maintain spill response procedures for municipal facilities and operations owned and operated by the permittee that have been determined by the permittee to have significant potential for generating polluted stormwater runoff.	<p>Develop department-specific for identified municipal facilities and operations.</p> <p>Review and modify City-wide spill response procedures as needed.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Review facility, operation, and City-wide spill response procedures and update, if necessary.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>IDDE, PPGH and Industrial Inspection Programs &amp; NPDES Permit Compliance</p> <p>Facility Owning Departments</p>	<ul style="list-style-type: none"> <li>Report number of spill response procedures developed/maintained</li> </ul>
Part II Section G.2 (e). Prevent or minimize contamination of stormwater runoff from all areas used for vehicle and equipment cleaning	<p>Describe measures that prevent or minimize contamination of the stormwater runoff from all areas used for vehicle and equipment cleaning, including fire stations that have more than three fire trucks and ambulances. Perform all cleaning operations indoors, cover the cleaning operations, ensure wash water drains to the sanitary sewer system, collect wash water and stormwater run-on from the cleaning area and provide treatment or recycling, or other equivalent measures. If sanitary sewer is not available to the facility and cleaning operations take place outdoors, wash water shall drain to an SCM for treatment, or else the cleaning operations shall take place on or drain directly to grassed or graveled areas to prevent point source discharges of the wash water into the storm drains or surface waters.</p> <p>Where cleaning operations cannot be performed as described above and when operations are performed in the vicinity of a storm drainage collection system, the drain is to be covered with a portable drain cover during cleaning activities. Any excess standing water shall be removed and properly handled prior to removing the drain cover.</p> <p>Facilities that have three or fewer fire trucks and ambulances should attempt to comply with the above requirements; however, those that cannot comply with these requirements due to existing limitations shall incorporate structural measures during facility renovation to the extent practicable.</p>	<p>Incorporate vehicle and equipment washing activities into SPPP development, where appropriate.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Review procedures for vehicle and equipment cleaning operations and update, if necessary.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>IDDE, PPGH and Industrial Inspection Programs &amp; NPDES Permit Compliance</p> <p>Facility Owning Departments</p>	<ul style="list-style-type: none"> <li>Report number of facilities performing vehicle and equipment cleaning operations</li> <li>Report actions taken to prevent or minimize stormwater runoff from vehicle and equipment cleaning</li> </ul>

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section G.2 (f). Streets, roads, and public parking lots maintenance	The permittee shall implement BMPs to reduce polluted stormwater runoff from municipally owned streets, roads, and public parking lots within the corporate limits.	<p>Document streets, roads, and public parking lot BMPs in the inspection and maintenance program guidance.</p> <p>Implement BMPs to reduce polluted stormwater runoff from municipally owned streets, roads, and public parking lots.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Review inspection and maintenance program guidance and revise, if necessary.</p> <p>Implement BMPs to reduce polluted stormwater runoff from municipally owned streets, roads, and public parking lots.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>Transportation Field Services</p>	<ul style="list-style-type: none"> <li>Report schedule of maintenance activities</li> </ul>
Part II Section G.2 (g). Inspection and Maintenance (I&M) for municipally-owned or maintained stormwater control measures (SCMs) and the storm sewer system.	The permittee shall maintain and implement an inspection and maintenance program for SCMs owned and operated by the municipality and the municipal storm sewer system including catch basins, the conveyance system, and SCMs.	<p>Develop an MS4 Plan, documenting the conveyance system inspection and maintenance program, including annual reporting, and tracking of inspection and maintenance performed.</p> <p>Develop an SCM Plan, in conjunction with Part II Section F.2 (b) in Table 9, documenting the SCM inspection and maintenance program, including annual reporting, tracking and enforcement.</p> <p>Implement inspection and maintenance programs documented in the MS4 Plan and the SCM Plan.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Review the MS4 Plan and SCM Plan, and revise, if necessary.</p> <p>Implement inspection and maintenance programs documented in the MS4 Plan and the SCM Plan.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>Transportation Field Services</p> <p>SCM Program</p> <p>Asset Management Program</p>	<ul style="list-style-type: none"> <li>Report number of municipal SCMs inspected</li> <li>Report length or number of storm sewer conveyance system components inspected</li> <li>Report maintenance and repair actions</li> </ul>
Part II Section G.2 (h). Staff training	Maintain and implement a training plan that indicates when, how often, and who is required to be trained and what they are to be trained on.	<p>Develop a Training plan, in conjunction with Part II Section D.2 (d) in Table 7, to document the existing employee training program, including who should receive training, types of training, and frequency.</p> <p>Conduct employee training and document attendance.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Review the employee Training Plan and update as needed</p> <p>Conduct employee training and document attendance.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>IDDE, PPGH and Industrial Inspection Programs &amp; NPDES Permit Compliance</p>	<ul style="list-style-type: none"> <li>Report types of training provided and number of staff who completed PPGH training</li> </ul>

## Section 10: Program to Monitor and Control Pollutants in Storm Water Discharges to Municipal Systems

As documented in Part II Section H of the MS4 permit, the objective of this program is to evaluate pollutants in stormwater discharges to the City's MS4 from industrial facilities that have been determined to contribute or have potential to contribute substantial pollutant loading to the MS4, including the following types of facilities: hazardous waste treatment, disposal, and recovery facilities; industrial facilities subject to Section 313 of Title III of SARA; and facilities with NPDES Industrial Stormwater Permits. This is achieved through a variety of BMPs detailed in Table 11.

**Maintain an inventory of industrial facilities.** The City maintains an inventory of industrial facilities and previous inspection records. At least once per permit cycle, the City reviews and updates the list of facilities with data obtained from the DEQ NPDES Industrial Stormwater Permit program, EPA's RCRAInfo search tool (<https://enviro.epa.gov/facts/rcrainfo/search.html>) to identify permitted hazardous waste facilities, and EPA's Toxic Release Inventory (<https://www.epa.gov/toxics-release-inventory-tri-program#trisearch>) to identify facilities that are subject to Section 313 of SARA Title III.

**Inspection program.** The City has established inspection guidance and documentation procedures for the program.

**Evaluate industrial facilities discharging stormwater to the City's MS4.** Industrial sites within the City's corporate limits will be evaluated using the inspection program guidance. Those sites demonstrating significant non-compliance will be reported to the permitting authority or appropriate enforcement action taken for non-permitted sites where non-compliance is determined. Where compliance with an existing NPDES Industrial Stormwater Permit does not result in adequate control of pollutants to the MS4, City staff will recommend and document the need for modifications or additions to the permit issuing authority.

**Table 11. BMP Measurable Goals for the Program to Monitor and Control Pollutants in Stormwater Discharges to Municipal Systems**

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section H.2 (a). Maintain an inventory of industrial facilities	Maintain an inventory of permitted hazardous waste treatment, disposal, and recovery facilities, industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities identified with an industrial activity permitted to discharge stormwater to the permittee’s MS4.  For the purposes of this permit, industrial activities shall mean all permitted industrial activities as defined in 40 CFR 122.26.	Update the industrial facility inventory to incorporate the current permitted hazardous waste facilities and facilities that are subject to Section 313 of SARA Title III (EPA 2020).	Maintain and update the industrial facility inventory as needed.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  IDDE, PPGH and Industrial Inspection Programs & NPDES Permit Compliance	<ul style="list-style-type: none"> <li>Report number of industrial facilities identified within the City’s corporate limit</li> </ul>
Part II Section H.2 (b). Inspection program	Identify priorities and inspection procedures. At a minimum, priority facilities include those identified above in subsection II.H.2.a.	Review inspection procedures and update inspection guidance and checklists, if necessary.  Review inspections results and identify program priorities.  Notify the Water Quality Manager of program modifications.	Review inspection procedures and update inspection guidance and checklists, if necessary.  Review inspections results and revise program priorities, if necessary.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  IDDE, PPGH and Industrial Inspection Programs & NPDES Permit Compliance	<ul style="list-style-type: none"> <li>Report number of facility inspections conducted</li> <li>Identify program priorities</li> </ul>
Part II Section H.2 (c). Evaluate industrial facilities discharging stormwater to the City’s MS4	The Permittee is required to evaluate control measures implemented at permitted hazardous waste treatment, disposal, and recovery facilities, industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), industrial facilities identified with an industrial activity permitted to discharge stormwater to the permittee’s MS4, or as identified as an illicit discharge under the IDDE Program.  For permitted facilities, the municipality shall establish procedures for reporting deficiencies and non-compliance to the permitting agency. Where compliance with an existing industrial stormwater permit does not result in adequate control of pollutants to the MS4, municipality will recommend and document the need for permit modifications or additions to the permit issuing authority.  For the purposes of this permit, industrial activities shall mean all permitted industrial activities as defined in 40 CFR 122.26. For the purpose of this permit, the Permittee is authorized to inspect the permitted hazardous waste treatment, disposal, and recovery facilities as an authorized representative of the Director.	Conduct inspection activities based on established procedures documented in City guidance and checklists.  Notify the Water Quality Manager of program modifications.	Conduct inspection activities based on established procedures documented in City guidance and checklists.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  IDDE, PPGH and Industrial Inspection Programs & NPDES Permit Compliance	<ul style="list-style-type: none"> <li>Report number of deficiencies identified, and forwarded to enforcement authority (NCDEQ)</li> </ul>



## Section 11: Water Quality Assessment and Monitoring

As documented in Part II Section I of the MS4 permit, the objective of this program is to evaluate the impacts of MS4 discharges on surface water quality. This is achieved through the application of a variety of BMPs detailed in Table 12.

**Water quality assessment and monitoring plan.** The City has developed a Water Quality Assessment and Monitoring Plan that identifies monitoring locations, a monitoring schedule, monitoring parameters, sample data analysis, and data evaluation and assessment. The Water Quality Assessment and Monitoring Plan will be compliant with the monitoring and records requirements documented in Part V Section C of the MS4 permit.

**Water quality monitoring.** City staff conducts water quality monitoring, as documented in the Water Quality Assessment and Monitoring Plan. The current version of the plan has been submitted to DEQ.

**Table 12. BMP Measurable Goals for Water Quality Assessment and Monitoring**

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section 1.2 (a). Water Quality Assessment and Monitoring Plan	Maintain a Water Quality Assessment and Monitoring Plan. The Plan shall include a schedule for implementing the proposed assessment and monitoring activities.	Complete update of the water quality assessment and monitoring plan.	Review the water quality assessment and monitoring plan and update as needed.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Water Quality Monitoring, Volunteer Programs, and Project Development	<ul style="list-style-type: none"> <li>Report updates and revisions to the monitoring plan</li> </ul>
Part II Section 1.2 (b). Water quality monitoring	Maintain and implement the Water Quality Assessment and Monitoring Plan submitted to DEMLR.	Conduct water quality monitoring and data evaluation, as documented in the Water Quality Assessment and Monitoring Plan.  Provide current Water Quality Assessment and Monitoring Plan to DEQ.	Conduct water quality monitoring and data evaluation, as documented in the Water Quality Assessment and Monitoring Plan.  Provide current Water Quality Assessment and Monitoring Plan to DEQ, if revised.  Notify the Water Quality Manager of program modifications.	Stormwater Program Manager  Water Quality Monitoring, Volunteer Programs, and Project Development	<ul style="list-style-type: none"> <li>Report number of stream sites monitored</li> <li>Report number of samples collected</li> <li>Report parameters analyzed</li> <li>Report trends in data from stream sites monitored</li> </ul>

## Section 12: Total Maximum Daily Loads

As documented in Part II Section J of the MS4 permit, the City will determine whether the MS4 discharges to receiving waters within a TMDL and identify the pollutants of concern, utilize BMPs within the six minimum control measures and the City's TMDL Plan to meet the assigned NPDES MS4 regulated stormwater WLA, and address the WLA assigned to the City to the maximum extent practicable. The City is not expected to attain the water quality standards for the subject receiving waters.

The TMDLs identified within the City are documented in Section 2.5 and Table 2. The Falls Lake TMDL is being addressed through the City's participation in the Upper Neuse River Basin Association. As documented in Section 8, the Neuse River Estuary is a Nutrient Sensitive Water, so the City addresses this TMDL through the implementation of the Nutrient Sensitive Waters Management Strategy. The Pigeon House Branch and Perry Creek TMDL are local TMDLs without individual numeric WLAs assigned to the City.

Implementation of TMDLs, such as Pigeon House Branch and Perry Creek, are achieved through the application of a variety of BMPs detailed in Table 13 for TMDLs with an individual numeric WLA or the program elements in Table 14 for other TMDLs within the corporate limits.

**Table 13. BMP Measurable Goals for TMDL Program**

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section J.3 (a). Identify, describe and map watershed, outfalls, and streams	<p>Within 12 months the permittee shall prepare a plan that:</p> <ul style="list-style-type: none"> <li>Identifies the watershed(s) subject to an approved TMDL with an approved Waste Load Allocation (WLAs) assigned to the permittee; and</li> <li>Includes a description of the watershed(s); and</li> <li>Includes a map of watershed(s) showing streams &amp; outfalls</li> <li>Identifies the locations of currently known major outfalls within its corporate limits with the potential of contributing to the cause(s) of the impairment to the impaired segments, to their tributaries, and to segments and tributaries within the watershed contributing to the impaired segments; and</li> <li>Includes a schedule (not to exceed 6 months) to discover and locate other unknown major outfalls within its corporate limits that may be contributing to the cause of the impairment to the impaired stream segments, to their tributaries, and to segments and tributaries within the watershed contributing to the impaired segments.</li> </ul>	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, evaluate strategies and tailor SWMP BMPs to address the pollutants of concern and associated TMDLs and develop a TMDL Plan.	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, evaluate strategies and tailor SWMP BMPs to address the pollutants of concern and associated TMDLs and develop a TMDL Plan.	<p>Stormwater Program Manager</p> <p>Water Quality Program Manager</p> <p>Water Quality Monitoring, Volunteer Programs, and Project Development</p>	<ul style="list-style-type: none"> <li>Report TMDLs with WLAs within the MS4</li> <li>Report changes in outfall inventory that may be contributing to impairment of identified streams</li> </ul>
Part II Section J.3 (b). Evaluate existing measures	<p>Within 12 months the permittee shall prepare a plan that:</p> <ul style="list-style-type: none"> <li>Shall describe existing measures currently being implemented by the Permittee designed to achieve the MS4’s NPDES WLA and to reduce the TMDL pollutant of concern to the MEP within the watershed to which the TMDL applies; and</li> <li>Provide an explanation as to how those measures are designed to reduce the TMDL pollutant of concern.</li> </ul>	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, establish measures for identifying and reducing pollutants of concern to the MEP.	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, establish measures for identifying and reducing pollutants of concern to the MEP.	<p>Stormwater Program Manager</p> <p>Water Quality Program Manager</p> <p>Water Quality Monitoring, Volunteer Programs, and Project Development</p>	<ul style="list-style-type: none"> <li>N/A, Report pollutants of concern and measures taken for reduction</li> </ul>

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section J.3 (c). Assessment of available monitoring data	Within 24 months the permittee shall prepare a plan that shall include an assessment of available monitoring data. Where long-term data is available, this assessment should include an analysis of the data to show trends.	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, review and assess monitoring data.	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, review and assess monitoring data.	Stormwater Program Manager  Water Quality Program Manager  Water Quality Monitoring, Volunteer Programs, and Project Development	<ul style="list-style-type: none"> <li>N/A, Report monitoring data summary and data trends</li> </ul>
Part II Section J.3 (d). Monitoring Plan	Within 24 months the permittee shall develop a Monitoring Plan for the permittee’s assigned NPDES regulated WLA as specified in the TMDL. The permittee shall maintain and implement the Monitoring Plan as additional outfalls are identified and as accumulating data may suggest. Following any review and comment by the Division the permittee shall incorporate any necessary changes to monitoring plan and initiate the plan within 6 months. Modifications to the monitoring plan shall be approved by the Division.	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, develop TMDL monitoring plan for applicable assigned NPDES regulated WLA.	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, develop TMDL monitoring plan for applicable assigned NPDES regulated WLA.	Stormwater Program Manager  Water Quality Program Manager  Water Quality Monitoring, Volunteer Programs, and Project Development	<ul style="list-style-type: none"> <li>N/A, Report updates to monitoring plan</li> </ul>
Part II Section J.3 (e). Additional Measures	Within 24 months the permittee shall prepare a plan to: <ul style="list-style-type: none"> <li>Describe additional measures to be implemented by the permittee designed to achieve the permittee’s MS4’s NPDES WLA and to reduce the TMDL pollutant of concern to the MEP within the watershed to which the TMDL applies; and</li> <li>Provide an explanation as to how those measures are designed to achieve the permittee’s MS4’s NPDES regulated WLA to the MEP within the watershed to which the TMDL applies.</li> </ul>	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, establish programs and measures to be implemented within the City’s MS4 permit program that are designed to achieve the assigned MS4 NPDES regulated WLA and to reduce the TMDL pollutant of concern to the MEP within the watershed to which the TMDL applies.	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, establish programs and measures to be implemented within the City’s MS4 permit program that are designed to achieve the assigned MS4 NPDES regulated WLA and to reduce the TMDL pollutant of concern to the MEP within the watershed to which the TMDL applies.	Stormwater Program Manager  Water Quality Program Manager  Water Quality Monitoring, Volunteer Programs, and Project Development	<ul style="list-style-type: none"> <li>N/A, Report additional measures taken</li> </ul>

Permit Reference/BMP	Measurable Goals	Program Actions		Responsible Party(ies)	Reporting Metric(s)
		FY2021	FY2022 – FY 2026		
Part II Section J.3 (f). Implementation Plan	<p>Within 48 months the permittee shall prepare a plan that describes the measures to be implemented within the remainder of the permit term designed to achieve the MS4’s NPDES WLA and to reduce the TMDL pollutant of concern to the MEP; and</p> <ul style="list-style-type: none"> <li>Identify a schedule, subject to Division approval, for completing the activities.</li> <li>Implement the permittee’s TMDL plan</li> </ul>	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, establish a schedule to address the NPDES WLA pollutant of concerns	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, establish a schedule to address the NPDES WLA pollutant of concerns	Stormwater Program Manager  Water Quality Program Manager  Water Quality Monitoring, Volunteer Programs, and Project Development	<ul style="list-style-type: none"> <li>N/A, Report achievement of schedule milestones</li> </ul>
Part II Section J.3 (g). Incremental Success	<p>The permittee’s plan must outline ways to track progress and report successes designed to achieve the MS4’s NPDES regulated WLA and to reduce the TMDL pollutant of concern to MEP within the watershed to which the TMDL applies.</p>	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, track successes per the plan. Review and update as needed	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, track successes per the plan. Review and update as needed	Stormwater Program Manager  Water Quality Program Manager  Water Quality Monitoring, Volunteer Programs, and Project Development	<ul style="list-style-type: none"> <li>N/A, Report successes</li> </ul>
Part II Section J.3 (h). Reporting	<p>The permittee shall conduct and submit to the Division an annual assessment of the program designed to achieve the MS4’s NPDES WLA and to reduce the TMDL pollutant of concern to the MEP within the watershed to which the TMDL applies. Any monitoring data and information generated from the previous year are to be submitted with each annual report.</p>	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, prepare an assessment of activities and data analysis for the TMDL watershed plan	Continue to monitor TMDL development. If a TMDL is developed that assigns an individual numeric WLA to the City, prepare an assessment of activities and data analysis for the TMDL watershed plan	Stormwater Program Manager  Water Quality Program Manager  Water Quality Monitoring, Volunteer Programs, and Project Development	<ul style="list-style-type: none"> <li>N/A Report annual assessment outcomes</li> </ul>

**Table 14. Program Elements for TMDL Program**

Program Element	Program Actions		Responsible Party(ies)	Reporting Metric(s)
	FY2021	FY2022 – FY 2026		
<p>Part II Section J.4. If no MS4 NPDES regulated waste load allocation (WLA) is specified in the TMDL</p> <p>At any time during the effective dates of this permit, if a TMDL has been approved that does not assign a WLA for the POC to the MS4, or if there was no WLA specified for the POC in the TMDL assigned to the MS4, in lieu of developing a plan within this permit section: within 24 months the Permittee shall evaluate strategies and tailor BMP's within the Permittee's MS4 service area and in the context of the scope of the six minimum permit measures to address the POC in the watershed(s) to which the TMDL applies, to the MEP and to the extent allowable by law.</p>	<p>Develop TMDL Plan for Pigeon House Branch and Perry Creek that includes strategies and tailors BMPs to address the POC in the watersheds.</p> <p>Implement the TMDL Plan.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Review the TMDL Plan to incorporate any new TMDLs or program modifications, if necessary.</p> <p>Implement the TMDL Plan.</p> <p>Notify the Water Quality Manager of program modifications.</p>	<p>Stormwater Program Manager</p> <p>Water Quality Program Manager</p> <p>Water Quality Monitoring, Volunteer Programs, and Project Development</p>	<ul style="list-style-type: none"> <li>• Report the development/maintenance of the TMDL Plan and modifications, if necessary</li> <li>• Report BMPs implemented</li> </ul>

# Section 13: Program Assessment, Record Keeping, and Reporting

## 13.1 Program Assessment

As required in Part III of the MS4 permit, implementation of this SWMP will be documented. Components of documentation will include inspections, maintenance activities, educational programs, monitoring and sampling, implementation of BMPs, enforcement actions, and other stormwater activities. Documentation will be kept on-file for at least five years and made available to DEQ upon request. The SWMP will be reviewed on an annual basis and updated, if necessary. Responsible departments for each permit element will report to the Water Quality Manager during the annual review whether updates are required to program processes, goals, or metrics. The Water Quality Manager will be responsible for incorporating these program changes into the SWMP. The City will submit an annual report of the SWMP evaluation and monitoring information to DEQ, as described in Section 13.3.

## 13.2 Record Keeping

As required in Part IV.A of the MS4 permit, the City will retain records of monitoring information, including all calibration and maintenance records, and copies of reports required by the permit for at least five years from the date of the sample, measurement, report, or application.

## 13.3 Annual Reporting

As required in Part IV.B of the MS4 permit, the City will submit an annual report to DEQ that tracks progress in implementing the SWMP. The annual report will include the following sections:

- Description of the status of implementation of the SWMP, including the development and implementation of each major component of the SWMP for the past year
- Schedule and plan of program implementation for the following year
- Description and justification of any proposed changes to the SWMP, including descriptions and supporting information to show how these changes will impact the SWMP
- Necessary changes to programs or practices for assessment of management measures implemented through the SWMP
- Summary of data accumulated as part of the SWMP with an assessment of what the data indicates
- Assessment of compliance with the permit, information on the establishment of appropriate legal authorities, inspections, and enforcement actions
- Discussion of program funding