

Draft Stormwater Management Plan
City of Roxboro
NCS000547

December 23, 2021



Table of Contents

PART 1: INTRODUCTION	1
PART 2: CERTIFICATION	2
PART 3: MS4 INFORMATION	3
3.1 Permitted MS4 Area	3
3.2 Existing MS4 Mapping	3
3.3 Receiving Waters	4
3.4 MS4 Interconnection	4
3.5 Total Maximum Daily Loads (TMDLs)	4
3.6 Endangered and Threatened Species and Critical Habitat	5
3.7 Industrial Facility Discharges	5
3.8 Non-Stormwater Discharges	6
3.9 Target Pollutants and Sources	7
PART 4: STORMWATER MANAGEMENT PROGRAM ADMINISTRATION	8
4.1 Organizational Structure	8
4.2 Program Funding and Budget	10
4.3 Shared Responsibility/Contracted Services	10
4.4 Co-Permittees	10
4.5 Measurable Goals for Program Administration	10
PART 5: PUBLIC EDUCATION AND OUTREACH PROGRAM	12
PART 6: PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM	15
PART 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM	16
PART 8: CONSTRUCTION SITE RUNOFF CONTROL PROGRAM	19
PART 9: POST-CONSTRUCTION SITE RUNOFF CONTROL PROGRAM	19
PART 10: POLLUTION PREVENTION AND GOOD HOUSEKEEPING PROGRAMS	23

List of Tables

- [Table 1](#): Summary of MS4 Mapping
- [Table 2](#): Summary of MS4 Receiving Waters
- [Table 3](#): Summary of Approved TMDLs
- [Table 4](#): Summary of Federally Listed Species/Habitat Impacted by Surface Water Quality
- [Table 5](#): NPDES Stormwater Permitted Industrial Facilities
- [Table 6](#): Non-Stormwater Discharges
- [Table 7](#): Summary of Target Pollutants and Sources
- [Table 8](#): Summary of Responsible Parties
- Table 9: Shared Responsibilities (N/A)
- Table 10: Co-Permittee Contact Information (N/A)
- [Table 11](#): Program Administration BMPs
- [Table 12](#): Summary of Target Pollutants & Audiences
- [Table 13](#): Public Education and Outreach BMPs
- [Table 14](#): Public Involvement and Participation BMPs
- [Table 15](#): Illicit Discharge Detection and Elimination BMPs
- Table 16: Qualifying Alternative Program Components for Construction Site Runoff Control Program (N/A)
- [Table 17](#): Construction Site Runoff Control BMPs
- Table 18: Qualifying Alternative Program(s) for Post-Construction Site Runoff Control Program (N/A)
- Table 19: Summary of Existing Post-Construction Program Elements (N/A)
- [Table 20](#): Post Construction Site Runoff Control BMPs
- [Table 21](#): Pollution Prevention and Good Housekeeping BMPs

PART 1: INTRODUCTION

The purpose of this Stormwater Management Plan (SWMP) is to establish and define the means by which the City of Roxboro will comply with its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit and the applicable provisions of the Clean Water Act to meet the federal standard of reducing pollutants in stormwater runoff to the maximum extent practicable.

This SWMP identifies the specific elements and minimum measures that the City of Roxboro will develop, implement, enforce, evaluate and report to the North Carolina Department of Environmental Quality (NCDEQ) Division of Energy, Minerals and Land Resources (DEMLR) in order to comply with the MS4 Permit number **NCS000547** as issued by NCDEQ. This permit covers activities associated with the discharge of stormwater from the MS4 as owned and operated by the City of Roxboro and located within the corporate limits of the City of Roxboro.

In preparing this current SWMP, the City of Roxboro has evaluated its MS4, the permit requirements of its MS4, and previous Comprehensive Stormwater Management Plans to develop a comprehensive 5-year SWMP that will meet the community's needs, address local water quality issues and provide the minimum measures necessary to comply with the permit. The SWMP will be evaluated and updated annually to ensure that the elements and minimum measures it contains continue to adequately provide for permit compliance and the community's needs.

Once the SWMP is approved 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. Any major changes to the approved SWMP will require resubmittal, review and approval by NCDEQ, and may require a new public comment period depending on the nature of the changes.

PART 2: CERTIFICATION

By my signature below I hereby 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 also aware that the contents of this document shall become an enforceable part of the NPDES MS4 Permit, and that both the Division and the Environmental Protection Agency have NPDES MS4 Permit compliance and enforcement authority.

- 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.

<i>Signature:</i>	<u>DO NOT SIGN DRAFT</u>
<i>Print Name:</i>	
<i>Title:</i>	<i>City Manager</i>
Signed this 23th day December of 20 21 .	

PART 3: MS4 INFORMATION

3.1 Permitted MS4 Area

This SWMP applies throughout the corporate limits of the City of Roxboro, including all regulated activities associated with the discharge of stormwater from the MS4. The map below shows the corporate limits of City of Roxboro as of the date of this document.

Corporate Limits are shown on the Map Below in Red

3.2 Existing MS4 Mapping

The current MS4 mapping includes mapping of Storm drain piping, Streams, Pumpstations, Outfall Locations and Industrial Permitted sites.

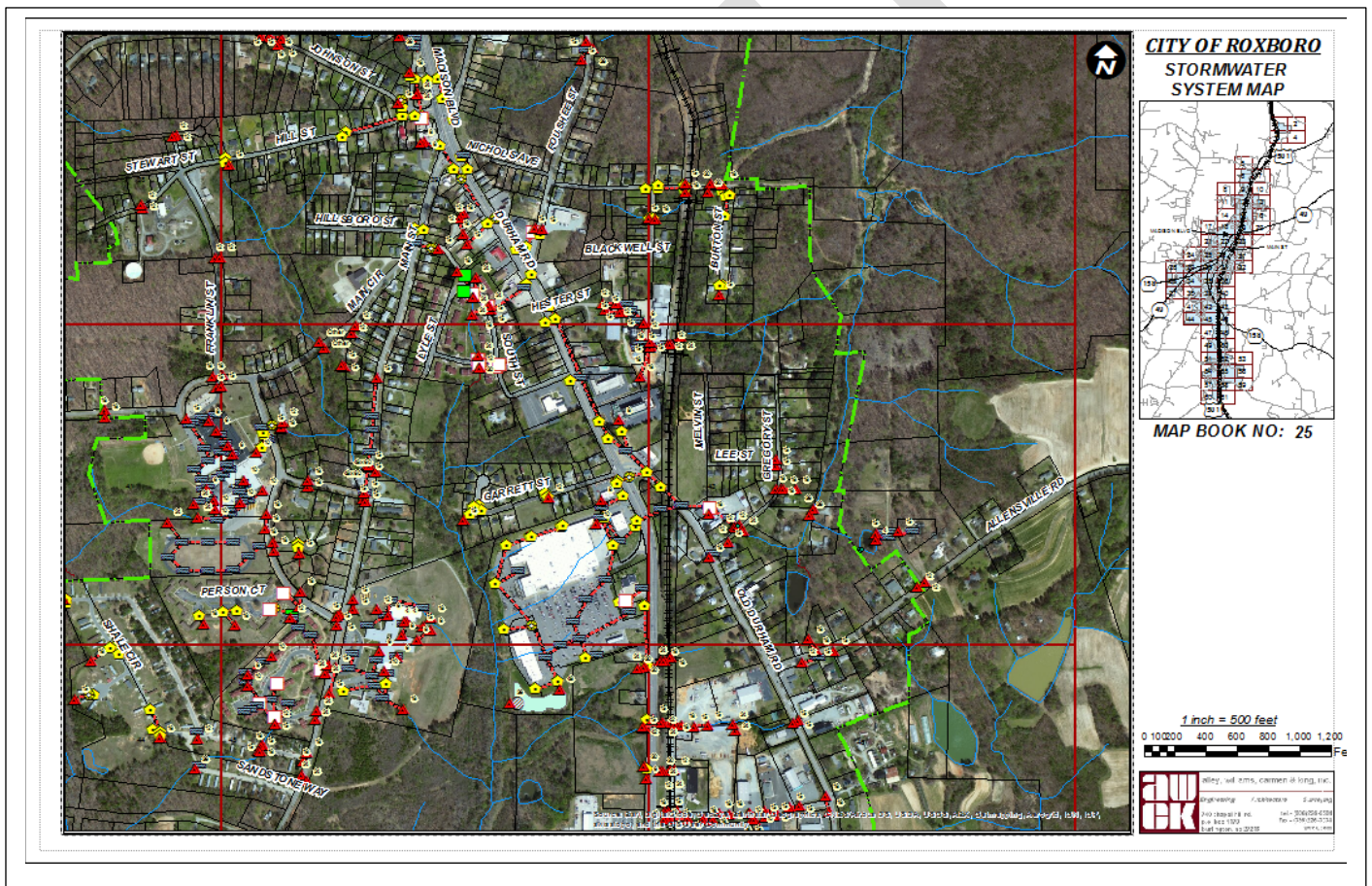


Table 1: Summary of Current MS4 Mapping

Percent of MS4 Area Mapped**	100	%
No. of Major Outfalls* Mapped	38	total

*An outfall is a point where the MS4 discharges from a pipe or other conveyance (e.g. a ditch) directly into surface waters. Major outfalls are required to be mapped to meet permit requirements. A major outfall is a 36-inch diameter pipe or discharge from a drainage area > 50-acres; and for industrial zoned areas a 12-inch diameter pipe or a drainage area \geq 2-acres.

** Roxboro’s entire stormwater system is mapped currently but due to rapid growth this is an ongoing tasks

3.3 Receiving Waters

The City of Roxboro MS4 is located within the Roanoke and Neuse River Basin and discharges directly into receiving waters as listed in Table 2 below. Applicable water quality standards listed below are compiled from the following NCDEQ sources:

- o [Waterbody Classification Map](#)
- o [Impaired Waters and TMDL Map](#)
- o Most recent NCDEQ Final [303\(d\) List](#)

Table 2: Summary of MS4 Receiving Waters

Receiving Water Name	Stream Index / AU Number	Water Quality Classification	303(d) Listed Parameter(s) of Interest
Marlowe Creek ²	22-58-12-6b	C	Benthos, (Nar, Al, FW)
Tanyard Branch	22-58-16-2	C	
U.T. to Mitchell Creek	22-58-12-6-3	C	
U.T. to Story’s Creek	22-58-12-(1)	WS-II, HQW	pH, AL, FW, Chlorophyll a
U.T. to North Flat River	27-3-2	WS-III, NSW	

3.4 MS4 Interconnection

The City of Roxboro’s MS4 is interconnected with the NCDOT MS4 within NCDOT owned right of ways.

3.5 Total Maximum Daily Loads (TMDLs)

The TMDL(s) listed in Table 3 below have been approved within the MS4 area, as determined by the map and list provided on the [NCDEQ Modeling & Assessment Unit web page](#). The table also indicates whether the approved TMDL has a specific stormwater Waste Load Allocation (WLA) for any watershed

directly receiving discharges from the permitted MS4, and whether a Water Quality Recovery Program has been implemented to address the WLA.

Table 3: Summary of Approved TMDLs

Water Body Name	TMDL Pollutant(s) of Concern	Stormwater Waste Load Allocation (Y/N)	Water Quality Recovery Program (Y/N)

The City of Roxboro is subject to the Falls Lake Rules which is recognized as TMDL alternative rather than as an actual TMDL. The City has several programs that operate in accordance with those rules.

3.6 Endangered and Threatened Species and Critical Habitat

Significant populations of threatened or endangered species and/or critical habitat are not identified within the regulated MS4 urbanized area. Based upon a review of the [Endangered and Threatened Species and Species of Concern by County for North Carolina Map](#) and [Listed species believe to or known to occur in North Carolina map](#) as provided by the [U.S. Fish and Wildlife Service](#), the species listed in Table 4 have the potential to occur within the regulated MS4 urbanized area. Of those species listed, Table 4 summarizes the species that may be significantly impacted by the quality of surface waters within their habitat.

Table 4: Potential Federally Listed Species/Habitat Impacted by Surface Water Quality

Scientific Name	Common name	Species Group	Federal Listing Status
Danus Plexippus	Monarch Butterfly	Insects	Candidate
Fusconaia Masoni	Atlantic Pigtoe	Clam	Threatened
Lasmigona subviridis	Green floater	Clam	Under Review
Necturus Lewisii	Neuse River waterdog	amphibian	Threatened
Alasmidonta Heterodon	Dwarf wedgemussel	Clam	Endangered
Elliptio lanceolata	Yellow Lance	Clam	Threatened
Noturus Furiosus	Carolina madtom	Fish	Endangered

3.7 Industrial Facility Discharges

The City of Roxboro MS4 jurisdictional area includes the following industrial facilities which hold NPDES Industrial Stormwater Permits, as determined from the [NCDEQ Maps & Permit Data web page](#).

Table 5: NPDES Stormwater Permitted Industrial Facilities

Permit Number	Facility Name
NCS000547	City of Roxboro – Small MS4
NCG110042	City of Roxboro WWTP
NCG080867	Snipes Brother Oil Company
NCGNE0408	NC National Guard
NCG030027	Eaton Corporation Roxboro
NCS000347	CPI USA NC
NCG201288	Boise Cascade Wood Products LLC

3.8 Non-Stormwater Discharges

The water quality impacts of non-stormwater discharges have been evaluated by the City of Roxboro as summarized in Table 6 below. The unpermitted non-stormwater flows listed as incidental do not significantly impact water quality. The City of Roxboro has evaluated residential and charity car washing and street washing for possible significant water quality impacts.

Street washing discharges are addressed under the Pavement Management Program in Part 10 of this SWMP. The Division has not required that other non-stormwater flows be specifically controlled by the City of Roxboro.

Wash water associated with car washing that does not contain detergents or does not discharge directly into the MS4 is considered incidental. However, these types of non-stormwater discharges that do contain detergents have been evaluated by the City of Roxboro to determine whether they may significantly impact water quality. **Currently runoff from car washing in The City of Roxboro would be considered incidental.**

Table 6: 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	Possible
Flows from riparian habitats and wetlands	Incidental
Dechlorinated swimming pool discharges	Incidental
Street wash water	Possible
Flows from firefighting activities	Incidental

3.9 Target Pollutants and Sources

In addition to those target pollutants identified below, the City of Roxboro is not aware of other significant water quality issues within the permitted MS4 area.

The education program will target total suspended solids and nutrient loading because turbidity, sedimentation, and nutrients are the pollutants of concern in downstream waters. In addition, floatables, trash, and debris will also be targeted. The education program will also address the proper use and disposal of typical household chemicals, garden chemicals, and used motor oil.

Table 7 below summarizes the water quality pollutants identified throughout Part 3 of this SWMP, the likely activities/sources/targeted audiences attributed to each pollutant and identifies the associated SWMP program(s) that address each. In addition, the City of Roxboro has evaluated schools, homeowners and businesses as target audiences that are likely to have significant stormwater impacts.

Table 7: Summary of Target Pollutants and Sources

Target Pollutant(s)	Likely Source(s)/Target Audience(s)	SWMP Program Addressing Target Pollutant(s)/Audience(s)
Litter	Residents, Businesses, Schools	Public Education & Outreach
Sediment	Residents, Businesses	Public Education & Outreach
Nitrogen and Phosphorous	Fertilizer/Residents	Public Education & Outreach

PART 4: STORMWATER MANAGEMENT PROGRAM ADMINISTRATION

4.1 Organizational Structure

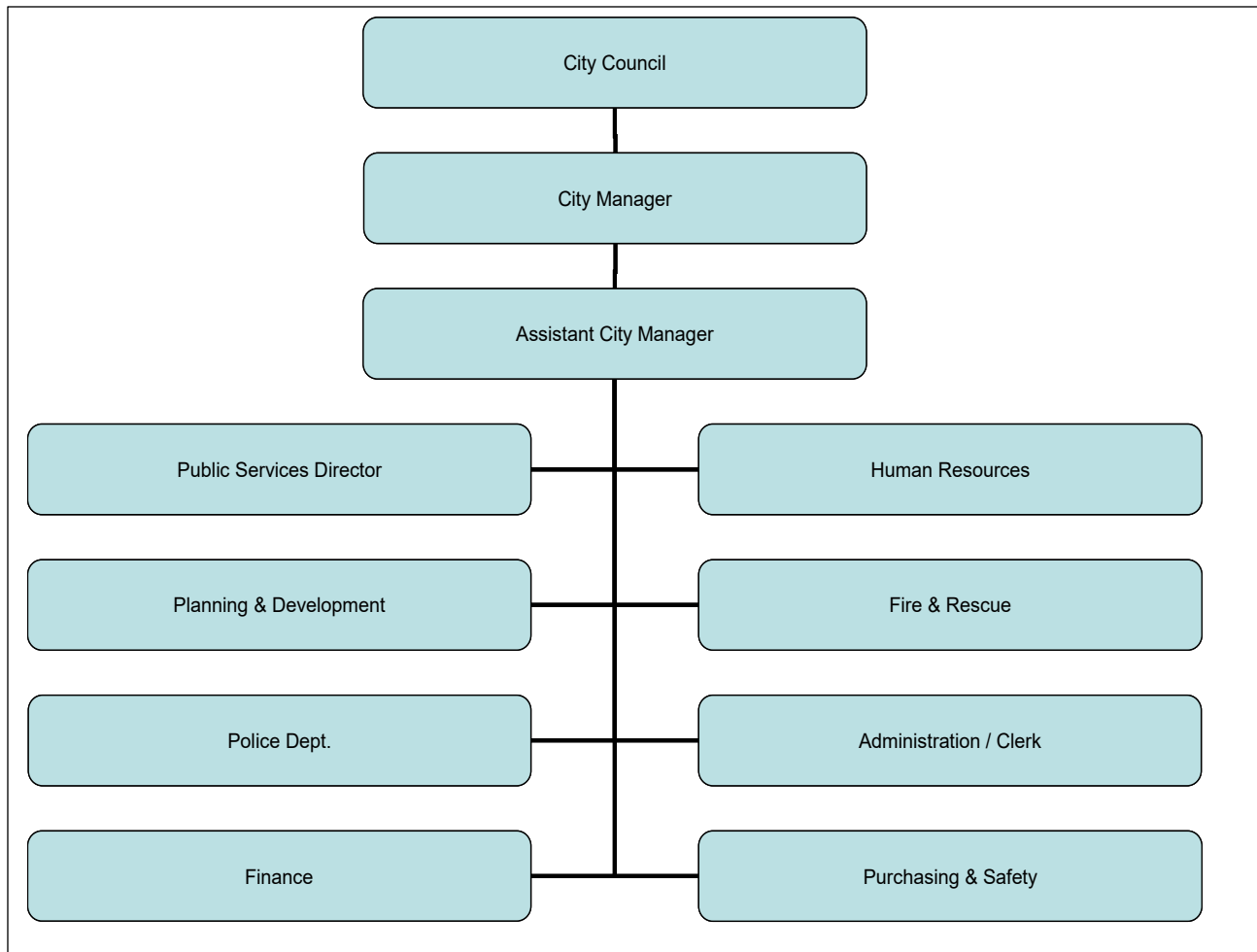


Table 8: Summary of Responsible Parties

Position	Name	Phone No.	Fax No.	Email
City Public Services Director	Andrew Oakley	336/599-5658	336/503-0588	aoakley@cityofroxboro.com
City Manager	Brooks Lockhart	336/599-3116	336/599-3774	blockhart@cityofroxboro.com
Assistant City Manger	Tommy Warren	336/599-3116	336/599-3774	twarren@cityofroxboro.com
City Clerk	Trevie Adams	336/599-3116	336/599-3774	tadams@cityofroxboro.com
City Attorney	Nick Herman	919/929-3905		herman@broughlawfirm.com
City Planner	Julie Kelly	336/599-3116	336/599-3774	jkelly@cityofroxboro.com
Stormwater Consultant	Josh Johnson	336/226-5534	336/226-3034	josh@awck.com
Stormwater Consultant	Phil Ross	336/226-5534	336/226-3034	pross@awck.com

Public Services Director Andrew Oakley is responsible for the City’s stormwater program. The City also contracts with Alley, Williams, Carmen, and King, Inc. on various stormwater tasks. Josh Johnson and Phil Ross are the contacts for Alley, Williams, Carmen, and King.

SWMP Component	Responsible Position	Staff Name	Department
Stormwater Program Administration	City Public Services Director	See Table 8	Administration Public Works
SWMP Management	City Public Services Director	See Table 8	Administration Public Works
Public Education & Outreach	City Public Services Director	See Table 8	Administration Public Works
Public Involvement & Participation	City Public Services Director	See Table 8	Administration Public Works
Illicit Discharge Detection & Elimination	City Public Services Director	See Table 8	Administration Public Works
Construction Site Runoff Control	N/A	See Table 8	Administration Public Works
Post-Construction Stormwater Management	City Public Services Director	See Table 8	Administration Public Works
Pollution Prevention/Good Housekeeping for Municipal Operations	City Public Services Director	See Table 8	Administration Public Works
Municipal Facilities Operation & Maintenance Program	City Public Services Director	See Table 8	Administration Public Works
Spill Response Program	City Public Services Director	See Table 8	Administration Public Works
MS4 Operation & Maintenance Program	City Public Services Director	See Table 8	Administration Public Works
Municipal SCM Operation & Maintenance Program	City Public Services Director	See Table 8	Administration Public Works
Pesticide, Herbicide & Fertilizer Management Program	City Public Services Director	See Table 8	Administration Public Works

Vehicle & Equipment Cleaning Program	City Public Services Director	See Table 8	Administration Public Works
Pavement Management Program	City Public Services Director	See Table 8	Administration Public Works
Total Maximum Daily Load (TMDL) Requirements	City Public Services Director	See Table 8	Administration Public Works

4.2 Program Funding and Budget

In accordance with the issued permit, the City of Roxboro shall maintain adequate funding and staffing to implement and manage the provisions of the SWMP and comply with the requirements of the NPDES MS4 Permit. The budget includes the permit administering and compliance fee, which is billed by the Division annually.

The City of Roxboro funds its Stormwater Programs through a Stormwater Fee. The City collects a flat fee from utility users within the City Limits. The City uses this fee to pay for its Water Quality Programs including its NPDES Phase II, Falls Lake, and Street Sweeping Programs. The FY 20-21 Adopted Stormwater Budget was \$250,000.00. The City has also used excess funding from the stormwater fund to fund other stormwater or water quality projects. This includes investigating drainage complaints from residents and investigating potential inflow/infiltration/exfiltration between the collections system and the MS4.

4.3 Shared Responsibility/Contracted Services

The City of Roxboro implements 5 of the 6 minimum control measures, with the 6th measure being construction site runoff controls which is implemented through NC DEMLR's Erosion and Sediment Control program.

The City of Roxboro contracts with Clean Water Education Partnership (CWEP) for assistance with Public Education and Public Involvement and Outreach. CWEP is not directly responsible for any items but rather assists the City of Roxboro.

The City of Roxboro contracts engineering services with Alley, Williams, Carmen, and King, Inc. Alley, Williams, Carmen, and King is not directly responsible for any items but rather assists the City of Roxboro.

4.4 Co-Permittees

There are no other entities applying for co-permittee status under the NPDES MS4 permit number NCS000547 for the City of Roxboro. Table 10 summarizes contact information for each co-permittee.

4.5 Measurable Goals for Program Administration

The City of Roxboro will manage and report the following Best Management Practices (BMPs) for the administration of the Stormwater Management Program.

Table 11: Program Administration BMPs

Permit Ref.	2.1.2 and Part 4: Annual Self-Assessment			
	Measures to evaluate the performance and effectiveness of the SWMP program components at least annually. Results shall be used by the permittee to modify the program components as necessary to accomplish the intent of the Stormwater Program. The self-assessment reporting period is the fiscal year (July 1 – June 30).			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
1	Annual Self-Assessment			
	Perform an annual evaluation of SWMP implementation, suitability of SWMP commitments and any proposed changes to the SWMP utilizing the NCDEQ Annual Self-Assessment Template.	1. Prepare, certify and submit the Annual Self-Assessment to NCDEQ prior to August 31 each year.	1. Annually Permit Years 1 – 4	1. Yes/No
Permit Ref.	1.6: Permit Renewal Application			
	Measures to submit a permit renewal application no later than 180 days prior to the expiration date of the NPDES MS4 permit.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
2	Permit Renewal Application			
	Audit stormwater program implementation for compliance with the permit and approved SWMP; and utilize the results to prepare and submit a permit renewal application	1. Participate in an NPDES MS4 Permit Compliance Audit, as scheduled and performed by EPA or NCDEQ.	1. TBD – Typically Permit Year 4	1. Yes/No
		2. Self-audit and document any stormwater program components not audited by EPA or NCDEQ utilizing the DEQ Audit Template. Submit Self-Audit to DEMLR	2. Permit Year 5	2. Yes/No/Partial
		3. Certify the stormwater permit renewal application (Permit renewal application form, Self-Audit, and Draft SWMP for the next 5-year permit cycle) and submit to NCDEQ at least 180 days prior to permit expiration.	3. Permit Year 5	3. Date of permit renewal application submittal

PART 5: PUBLIC EDUCATION AND OUTREACH PROGRAM

The City of Roxboro will implement a Public Education and Outreach Program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and steps the public can take to reduce pollutants in storm water runoff.

The target audiences and identified pollutants listed in Part 3.9 of this SWMP, which will be addressed by the Public Education and Outreach Program, are summarized in Table 12 below. In addition, the City of Roxboro is required to inform businesses and the general public of the hazards associated with illicit discharges, illegal dumping and improper disposal of waste.

Table 12: Summary of Target Pollutants & Audiences

Target Pollutants/Sources	Target Audience(s)
Litter	Residents, Businesses, Schools
Sediment	Residents, Businesses
Nitrogen and Phosphorous	Fertilizer/Residents

The City of Roxboro will manage, implement, and report the following public education and outreach BMPs.

The City partners with the **Clean Water Education Partnership (CWEP)**, an education and outreach organization hosted by the **Triangle J Council of Governments**. CWEP is a cooperative group that is funded by 35 Central and Eastern municipalities. It was created to provide public education and outreach for MS4 Permittees (like Roxboro).

**Triangle J
Council of Governments
Clean Water Education Partnership (CWEP)
Maya Cough-Schulze
Water Resources Planner
4307 Emperor Blvd #110
Durham, NC 27703
919-695-3761
Email: mcough-schulze@tjcog.org**

Table 13: Public Education and Outreach BMPs

Permit Ref.	3.2.2 and 3.2.4: Outreach to Targeted Audiences Measures to identify the specific elements and implementation of a Public Education and Outreach Program to share educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and how the public can reduce pollutants in stormwater runoff. The permittee shall provide educational information to identified target audiences on pollutants/sources identified in table 12 above; and shall document the extent of exposure of each media, event or activity, including those elements implemented locally or through a cooperative agreement.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
3	Maintain a Stormwater education plan			
	Maintain education plan. Include in Plan the BMPs, schedule, targeted audiences, and measurable goals. Summarize plan and implementation progress in each annual report	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.	1. Annually Permit Years 1-5	Report target audiences identified for each target pollutant
4	Educational Stormwater Mailers, Brochures and Posters			
	Distribute Public Education Materials to identified user groups. Materials may be supplied through outside Stormwater information sources.	1. Distribute public education materials, as described in the Public Education and Engagement Plan.	1. Annually Permit Years 1-5	1. Report number of educational materials distributed.
Permit Ref.	2.1.7, 3.2.3 and 3.6.5(c): Web Site Measures to provide a web site designed to convey the program’s message(s) and provide online materials including 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 and SWMP. The web page shall also provide developers with all relevant post-construction requirements, design standards, checklists and/or other materials.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
5	City’s Stormwater Webpage			
	Update and maintain the City’s Stormwater Webpage.	1. Verify City’s stormwater webpage is current.	1. Annually Permit Years 1-5	1 Yes, No, Partial
		2. Document Number of Contacts.	2. Annually Permit Years 1-5	2. Report number of hits to website.

6	School Programs			
	Maintain school children education program. Focus on basic messages regarding clean water and the things they can do at home to help.	1. Track the number of children reached and the subject covered	1.Fall and Spring Permit Years 1-5	1. Report the number of students reached.
Permit Ref.	3.2.5: Stormwater Hotline Measures for a stormwater hotline/helpline for the purpose of public education and outreach.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
7	Helpline/ Hotline			
	All stormwater related calls will be forwarded to the City Manager who will then distribute the information to other employees.	1. Number of Calls received.	1. Continuously Permit Years 1- 5	1. Total annual number of calls
8	Festivals, Local Fairs and Events			
	Participate in local festivals annually by providing a stormwater information booth starting. Provide bilingual messages on the importance of clean water and on specific activities that can be carried out to help keep stormwater clean.	1. Distribute education information.	1. Annually Permit Years 1-5	1. Report number of Events and materials distributed.
		2. Document Number of Contacts.	2. Annually Permit Years 1-5	2. Report number of individuals contacted.

PART 6: PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM

This SWMP identifies the minimum elements and implementation of a Public Involvement and Participation Program that complies with applicable State, Tribal and local public notice requirements. The City of Roxboro will manage, implement and report the following public involvement and participation BMPs.

Table 14: Public Involvement and Participation BMPs				
Permit Ref.	3.3.1: Public Input Mechanisms for public involvement that provide for input on stormwater issues and the stormwater program.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
9	Public Stormwater Program Meeting			
	A public meeting will be held Bi -annually to discuss the implementation of the permit. This meeting will provide the public with the opportunity to be involved with the stormwater program.	1. Gather information from the public to improve the program.	1. Permit Years 2 and 4	1. The number of participants for each meeting will be reported.
Permit Ref.	3.3.2: Volunteer Opportunities Measures to provide volunteer opportunities designed to promote ongoing citizen participation.			
	A	B	C	D
BMP No.	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
10	Volunteer Stormwater Program			
	The City will promote various volunteer stormwater programs annually. These will include Big Sweep, Adopt-A-Stream programs, and Storm Drain Stenciling.	1. The number of participants for each program will be reported annually.	1. Fall and Spring Permit Years 1-5	1. The number of participants for each program will be reported annually.
11	Helpline / Hotline			
	The City will 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. The stormwater helpline will be the primary City phone number with calls routed to the City Manager or his designee.	1. Maintain the stormwater administration helpline to receive public complaints.	1. Fall and Spring Permit Years 1-5	1. Report number of calls handled by helpline by type of call

PART 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

The City of Roxboro will develop, manage, implement, document, report and enforce an Illicit Discharge Detection and Elimination Program which shall, at a minimum, include the following illicit discharge detection and elimination BMPs.

Table 15: Illicit Discharge Detection and Elimination BMPs				
Permit Ref.	3.4.1: MS4 Map Measures to develop, update and maintain a municipal storm sewer system map including stormwater conveyances, flow direction, major outfalls and waters of the United States receiving stormwater discharges.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
12.	Storm sewer system map showing outfalls and the receiving body of water.			
	Maintain system map in support of inspection program. The map will note outfalls and receiving body of water for each outfall.	1. Additional Outfalls and Storm System Piping added to mapping.	1. Annually Permit Years 1-5	1. Report number of major outfalls
		2.	2.	2. Provide overview map of receiving streams and major outfalls.
Permit Ref.	3.4.2: Regulatory Mechanism Measures to provide an IDDE ordinance or other regulatory mechanism that provides legal authority to prohibit, detect, and eliminate illicit connections and discharges, illegal dumping and spills into the MS4, including enforcement procedures and actions.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
13.	Review Illicit Discharge Ordinance			
	Maintain adequate ordinance or other legal authorities to prohibit illicit connections and discharges and enforce the approved IDDE program.	1. Maintain and enforce public ordinances. Update, if necessary, to maintain legal authority.	1. Biannually Permit Years 2 & 4	1. Report changes to IDDE program.
Permit Ref.	3.4.3: IDDE Plan Measures to maintain and implement a written IDDE Plan to detect and address illicit discharges, illegal dumping and any non-stormwater discharges identified as significant contributors of pollutants to the MS4. The plan shall provide standard procedures and documentation to: <ul style="list-style-type: none"> a) Locate priority areas likely to have illicit discharges, b) Conduct routine dry weather outfall inspections, c) Identify illicit discharges and trace sources, d) Eliminate the source(s) of an illicit discharge, and e) Evaluate and assess the IDDE Program. 			

Table 15: Illicit Discharge Detection and Elimination BMPs				
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
14.	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.	1. Implement IDDE Plan. Review and update IDDE Plan as needed	1. Annually Permit Years 1-5	1. Report number of dry weather inspections completed and results.
Permit Ref.	3.4.4: IDDE Tracking Measures for tracking and documenting the date(s) an illicit discharge, illicit connection or illegal dumping was observed, the results of the investigation, any follow-up of the investigation, the date the investigation was closed, the issuance of enforcement actions, and the ability to identify chronic violators.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
15.	Establish/ Maintain a tracking system for managing reported problem areas.			
	Document the date of investigations, any enforcement action(s) or remediation that occurred	1. Maintain IDDE inspection records, notices of violations and compliance and other program records.	1. Annually Permit Years 1-5	1. Report date of investigations, any enforcement action(s) or remediation that occurred.
Permit Ref.	3.4.5: Staff IDDE Training Measures to provide training for municipal staff and contractors who, as part of their normal job responsibilities, may observe an illicit discharge, illicit connection, illegal dumping, or spills. Training shall include how to identify and report illicit discharges, illicit connections, illegal dumping, and spills. Each staff training event shall be documented, including the agenda/materials, date, and number of staff participating.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
16.	Train employees on how to inspect for illicit connections			
	Conduct in person or virtual training for appropriate municipal staff on detecting and reporting illicit connections and discharges.	1. Conduct employee training and document attendance.	1. Annually Permit Years 1-5	1. Report number of staff who completed IDDE training and types of training provided

Table 15: Illicit Discharge Detection and Elimination BMPs				
Permit Ref.	3.4.6: IDDE Reporting Measures for the public and staff to report illicit discharges, illegal dumping and spills. The mechanism shall be publicized to facilitate reporting and shall be managed to provide rapid response by appropriately trained personnel.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
17.	Maintain Program to report discharges to personnel and the public			
	Maintain and publicize reporting mechanism(s) for the public to report illicit connections and discharges	1. Maintain reporting helpline and email address.	1. Annually Permit Years 1-5	1. Report number of calls and emails received

PART 8: CONSTRUCTION SITE RUNOFF CONTROL PROGRAM

In accordance with 15A NCAC 02H .0153, the City of Roxboro relies upon the North Carolina Sedimentation Pollution Control Act (SPCA) of 1973 as a qualifying alternative program to meet a portion of the NPDES MS4 Permit requirements for construction site runoff control measures. The SPCA requirements include reducing pollutants in stormwater runoff from construction activities that result in land disturbance of greater than or equal to one acre and includes any construction activity that is part of a larger common plan of development that would disturb one acre or more.

The contact information for the responsible party for Construction Site Runoff Controls within the City of Roxboro is:

**NC Sedimentation and Erosion Control Program
Raleigh Regional Office
Bill Denton - Regional Environmental Supervisor
3800 Barrett Drive
Raleigh, NC 27609
Phone: 919-791-4200
www.deq.nc.gov**

The City of Roxboro implements minimal BMP's regarding NC Sedimentation and Erosion Control due to lack of legal authority. All calls regarding erosion control are to be referred to NC DEQ as noted above.

Table 17: Construction Site Runoff Control BMPs				
Permit Ref.	3.5.6: Public Input Measures to provide and promote a means for the public to notify the appropriate authorities of observed erosion and sedimentation problems.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric

Table 17: Construction Site Runoff Control BMPs

18.	Municipal Staff Training			
	Train municipal staff who receive calls from the public on the protocols for referral and tracking of construction site runoff control complaints.	1. Train municipal staff on proper handling of construction site runoff control complaints.	1. Annually Permit Years 1-5	1. Number of staff trained.

PART 9: POST-CONSTRUCTION SITE RUNOFF CONTROL PROGRAM

The City of Roxboro operates a Post Construction Site Runoff Control Program that regulates stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that are located within the City of Roxboro and discharge into the MS4. These elements are designed to minimize water quality impacts utilizing a combination of structural Stormwater Control Measures (SCMs) and/or non-structural BMPs appropriate for the community and ensure adequate long-term operation and maintenance of SCMs.

The City also operates a high-density water supply watershed program that is handled similarly to its Post Construction runoff program but which includes reduced triggers and more stringent regulations.

The City's post construction ordinance is contained in Section 53-107 of its Code of Ordinances. The City maintains a stormwater design manual that is deemed equal or more stringent than the NC DEQ BMP Manual.

The annual reporting metrics for the post construction program are provided in Table 20: Post Construction Site Runoff Control BMPs below.

Table 20: Post Construction Site Runoff Control BMPs

Permit Ref.	3.6.5(a), 3.6.5(b), and 4.1.3: Minimum Post-Construction Reporting Requirements Measures to document activities over the course of the fiscal year (July 1 – June 30) including appropriate information to accurately describe progress, status, and results.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
19.	Standard Reporting			
	Implement standardized tracking, documentation, inspections and reporting mechanisms to compile appropriate data for the annual self-assessment process. Data shall be provided for each Post-Construction/Qualifying Alternative Program	1. Track number of low density and high density plan reviews performed.	1. Continuously Permit Years 1-5	1. Number of plan reviews performed for low density and high density.
2. Track number of low density and high density plans approved.		2. Continuously Permit Years 1-5	2. Number of plan approvals issued for low density and high density.	

Table 20: Post Construction Site Runoff Control BMPs

	being implemented as listed in Tables 18 and 19.	3. Maintain a current inventory of low density projects and constructed SCMs including SCM type or low density location and last inspection date.	3. Continuously Permit Years 1-5	3. Summary of number and type of SCMs added to the inventory; and number of low density projects constructed.
		4. Track number of SCM inspections performed.	4. Continuously Permit Years 1-5	4. Number of SCM inspections.
		5. Track number and type of enforcement actions taken.	5. Continuously Permit Years 1-5	5. Number of enforcement actions issued.
Permit Ref.	<p>3.6.2: Legal Authority Measures to maintain adequate legal authorities through ordinance or other regulatory mechanism to: (a) review designs and proposals for new development and redevelopment to determine whether adequate stormwater control measures will be installed, implemented, and maintained, (b) request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Post-Construction Stormwater Management Program, and (c) enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater discharges to determine whether there is compliance with the Post-Construction Stormwater Management Program.</p>			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
20.	Review the Post Construction Ordinance			
	Review the Post Construction Ordinance for compliance with NC DWQ guidance and local effectiveness. Phase II Post-Construction Ordinance will incorporate Jordan Lake Nutrient Strategy Regulations in conjunction with NC Session Law and DWQ regulations.	1. Add additional Measures as needed	1. Annually Permit Years 1-5	1. Report any ordinance revisions added annually.

Table 20: Post Construction Site Runoff Control BMPs

Permit Ref.	3.6.3: Plan Review and Approval Measures to maintain plan review and approval authority, standards and procedures to: (a) Require Federal, State, and local government projects to comply with Post-Construction Program requirements throughout the entire MS4 permitted area, unless the entity is subject to its own NPDES MS4 permit or a qualifying alternative program, (b) Conduct site plan reviews of all new development and redeveloped sites that disturb greater than or equal to one acre, and sites that disturb less than one acre that are part of a larger common plan of development or sale for compliance with 15A NCAC 02H .1017 and the qualifying alternative programs that apply within your jurisdiction, (c) Ensure that each project has an Operation and Maintenance Agreement that complies with 15A NCAC 02H .1050(12), (d) Ensure that each project has an Operation and Maintenance Plan that complies with 15A NCAC 02H .1050(13), (e) Ensure that each project has recorded deed restrictions and protective covenants, that require the project to be maintained consistent with approved plans, and (f) Ensure that each SCM and associated maintenance accesses be protected in a permanent recorded easement per 15A NCAC 02H 1050 (9) and (10).			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
21.	Review standards and policies that ensure structural BMPs continue to be in conformance with the state’s Stormwater Management Design Manual			
	Review local standards to remain in compliance with the NC DWQ BMP Manual. Additional measures and techniques may be added to the local ordinance as they are investigated.	1. Add additional Measures as needed	1. Annually Permit Years 1-5	1. Report any BMP manual measures added annually.
22.	Review maintenance standards and inspection program to ensure that on-site controls continue to function as designed.			
	Review the maintenance standards and inspection program for local on-site controls.	1. Add additional Measures as needed	1. Annually Permit Years 1-5	1. Report the number of inspections annually
23.	Maintain the education program created for land developers and the public.			
	Provide educational materials and training for developers.	1. Maintain stormwater permitting guidance document for developers and designers.	1. Continuous Permit Years 1-5	1. Report changes to the permitting guidance document made annually.

Table 20: Post Construction Site Runoff Control BMPs

Permit Ref.	3.6.4: Inspections and Enforcement Measures to maintain inspection and enforcement authority, standards and procedures to: (a) Conduct post-construction inspections prior to issuing a Certificate of Occupancy or a Temporary Certificate of Occupancy. Alternatively, the project owner may provide a surety bond to guarantee compliance with the approved plan(s), (b) Ensure that the project has been constructed in accordance with the approved plan(s), (c) Ensure annual inspection of each permitted SCM to ensure compliance with the approved Operation and Maintenance Agreement, (d) Ensure inspection of low-density projects at least once during the permit term, and (e) Require that inspections be conducted by a qualified professional.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
24.	Inspections and long-term maintenance of Stormwater Control Measures (SCMs)			
	Maintain an inspection and maintenance plan for SCM's. Annual SCM Inspections performed by a qualified professional. SCM maintenance and inspections will be reviewed by the City during the permit cycle.	1. Maintain and receive SCM inspection reports and follow up on the functioning status of SCM's	1. Annually Permit Years 1-5	1. Report number of sites with SCMs Report number of sites where SCM inspections have been received Report SCM enforcement activities
25.	Operation and Maintenance Plan			
	Require submittal of operation and maintenance plan(s) prior to certificate of occupancy and maintain records of each plan.	1. Require submittal of operation and maintenance plan(s) prior to certificate of occupancy and maintain records of each plan.	1. Continuously Permit Years 1-5	1. Report number of sites with newly approved operation and maintenance plan(s).

Permit Ref.	3.6.6: Fecal Coliform Reduction Measures to control, to the maximum extent practicable, sources of fecal coliform per 15A NCAC 02H .1017(7). At a minimum, the program shall include: (a) A pet waste management component, which may be achieved by revising an existing litter ordinance, and (b) An on-site domestic wastewater treatment system component, if applicable, which may be coordinated with local county health department, to ensure proper operation and maintenance of such systems.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
26.	Pet Waste Stations at Parks			
	Provide Pet waste stations at City owned parks as needed	1. Maintain Pet Waste Stations in City owned parks	1. Continuously Permit Years 1-5	1. Report the number of Waste stations the City maintains.
27.	Coordinate with the county health department on fecal coliform contamination caused by onsite wastewater treatment systems.			
	Coordinate with the county health department on a program to minimize the potential for fecal coliform contamination by ensuring proper operation and maintenance of on-site wastewater treatment systems.	1. Contact County Health Department to inquire about failing systems	1. Annually Permit Years 1-5	1. Report the number of failed systems connected to the City's wastewater system.

PART 10: POLLUTION PREVENTION AND GOOD HOUSEKEEPING PROGRAMS

This SWMP provides a comprehensive pollution prevention and good housekeeping strategy for the City of Roxboro municipal facilities and operations. Pollution prevention and good housekeeping is accomplished through the implementation of seven required programs, which collectively address the ultimate goal of preventing or reducing pollutant runoff from municipal operations such as parks and open space maintenance, fleet and building maintenance, new construction and land disturbances, and municipal storm sewer system maintenance.

Pollution prevention and good housekeeping for municipal operations includes the following programs:

1. Municipal Facilities Operation and Maintenance Program
2. Spill Response Program
3. MS4 Operation and Maintenance Program
4. Municipal SCM Operation and Maintenance Program
5. Pesticide, Herbicide and Fertilizer Management Program
6. Vehicle and Equipment Maintenance Program
7. Pavement Management Program

The City of Roxboro will manage, implement and report the pollution prevention and good housekeeping BMPs as specified in Table 21 below for each required program.

Table 21: Pollution Prevention and Good Housekeeping BMPs

Permit Ref.	3.7.1: Municipal Facilities Operation and Maintenance Program Measures to manage facilities that are owned and operated by the permittee and have the potential for generating polluted stormwater runoff. The permittee shall maintain a current inventory of municipal facilities; perform facility inspections and routine maintenance; establish specific frequencies, schedules, and standard documentation; provide staff training on general stormwater awareness and implementing pollution prevention and good housekeeping practices.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
28.	Maintain Inventory and O&M Manual of Municipal Facilities and Operations			
	Document the existing inspection and maintenance program for municipal facilities and operations that are determined to be potential sources of polluted runoff.	1. Inspect and document municipal facility inspections, including any corrective action.	1. Annually Permit Years 1-5	1. Report number of facilities inspected.
				2. Report corrective actions taken at municipal facilities or operations

Permit Ref.	3.7.2: Spill Response Program Measures for facilities and operations that store and/or use materials that have the potential to contaminate stormwater runoff if spilled. The permittee shall maintain written spill response procedures and train staff on spill response procedures.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
29.	Spill Response Procedures			
	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.	1. Review and modify City-wide spill response procedures as needed	1. Annually Permit Years 1-5	1. Report number of spill response procedures developed/maintained
		2. Review and modify site-specific spill response procedures as needed	2. Annually Permit Year 1-5	2. Report number of spill response procedures developed/maintained
30.	Staff Training			
	Train Staff on proper procedures and protocol to handle spills	1. Conduct employee training and document attendance.	1. Annually Permit Years 1-5	1. Report types of training provided and number of staff who completed PPGH training

Permit Ref.	3.7.3: MS4 Operation and Maintenance Program Measures to minimize pollutants in the stormwater collection system. The permittee shall provide operation and maintenance staff training on stormwater awareness and pollution prevention, perform MS4 inspections, maintain the collection system including catch basins and conveyances; and establish specific frequencies, schedules, and standard documentation.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
31.	O&M for municipally owned or maintained catch basins and conveyance systems			
	Continue to implement/and maintain the O&M Program for the municipal storm sewer system including catch basins, and the conveyance system.	1. Inspect and maintain MS4 to verify they function as conduits of stormwater.	1. Annually Permit Years 1-5	1. Report number of pie and culvert replacements completed annually.
		2. Review the MS4 Plan, and revise, if necessary. Implement inspection and maintenance programs documented in the MS4 Plan.	2. Annually Permit Years 1-5	2. Review plan annually and report any changes.
Permit Ref.	3.7.4: Municipal SCM Operation and Maintenance Program Measures to manage municipally owned, operated, and/or maintained structural stormwater control measures (SCMs) that are installed for compliance with the permittee's post-construction program. The permittee shall maintain a current inventory of SCMs, perform SCM inspections and maintenance, and shall establish specific frequencies, schedules, and documentation.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric

32.	O&M for municipally owned or maintained structural stormwater controls			
	Maintain and implement an inspection and maintenance program for SCMs owned and operated by the municipality	1. Inspect and maintain SCMs so that they are function properly as designed	1. Annually Permit Years 1-5	1. Report number of municipal SCMs Inspected
		2. Review the SCM Plan, and revise, if necessary. Implement inspection and maintenance programs documented in the MS4 Plan and the SCM Plan.	2. Annually Permit Years 1-5	2. Report changes to SCM plan.
			3. Report major maintenance and repair actions	
Permit Ref.	3.7.5: Pesticide, Herbicide and Fertilizer Management Program Measures to minimize water quality impacts from the use of landscape chemicals. The permittee shall provide routine pollution prevention and chemical use, storage and handling training, and shall ensure compliance with permits and applicator certifications.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
33.	Pesticide, Herbicide and Fertilizer Application Management			
	Manage Staff Pesticide license and follow all requirements to safely handle and apply pesticides, herbicides, and fertilizers.	1. Review staff license that they are up to date	1. Annually Permit Years 1-5	1. Report number of staff with license
		2. Provide training for staff on the use of chemicals	2. Annually Permit Years 1-5	2. Report number of staff that attended training and type of training.
Permit Ref.	3.7.6: Vehicle and Equipment Maintenance Program Measures to prevent and minimize contamination of stormwater runoff from areas used for municipal vehicle and equipment maintenance and/or cleaning. The permittee shall ensure that municipal industrial facilities subject to NPDES industrial permitting comply with those permit requirements, provide routine pollution prevention training to staff, perform routine inspections, and establish specific frequencies, schedules, and documentation.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
34.	Vehicle Washing and Maintenance Program			
	Prevent or minimize contamination of stormwater runoff from all areas used for vehicle and equipment cleaning	1. Review procedures for vehicle and equipment cleaning operations and update, if necessary.	1. Annually Permit Years 1-5	1. Report number of facilities performing vehicle and equipment cleaning operations
				2. Report actions taken to prevent or minimize stormwater runoff from vehicle and equipment cleaning, if needed.

Permit Ref.	3.7.7: Pavement Management Program Measures to reduce pollutants in stormwater runoff from municipally owned streets, roads, and parking lots within the permittee’s corporate limits. The permittee shall implement measures to control litter, leaves, debris, particulate and fluid pollutants associated with vehicles, and establish specific frequencies, schedules, and documentation.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
35.	Streets, Roads, and Public Parking Lots Maintenance Program			
	The permittee shall implement BMPs to reduce polluted stormwater runoff from municipally owned streets, roads, and public parking lots within the corporate limits as fiscally feasible.	1.Evaluate options to implement BMPs to reduce polluted stormwater runoff from municipally owned streets, roads, and public parking lots. Factors for evaluation are water quality benefits, technical feasibility, safety, and fiscal responsibility.	1. Permit Year 1.	1. Summarize options in annual report.
		2.Create program for reducing polluted stormwater runoff from municipally owned streets, roads, and public parking lots.	2. Permit Year 2.	2.Outline report in annual report.
		3.Implement program for reducing polluted stormwater runoff from municipally owned streets, roads, and public parking lots.	3.Permit Years 3-5.	3. Report on program implementation.