

Stormwater Quality Management Program

Permit No. NCS000395
November 2024 (Version 15.0)



Prepared by:

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Prepared for:

NPDES Phase II Stormwater Permit No. NCS000395 for Mecklenburg County; Charlotte-Mecklenburg Schools; Central Piedmont Community College; and the Towns of Cornelius, Davidson, Huntersville, Matthews, Mint Hill and Pineville

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Acronyms:

- BMP: Best Management Practice
- CMS: Charlotte Mecklenburg Schools
- CPCC: Central Piedmont Community College
- CMSWS: Charlotte Mecklenburg Stormwater Services – County Water Quality Program
- EDMS: Environmental Data Management System
- FY: Fiscal Year
- GIS: Geographic Information System
- GPS: Global Positioning System
- IDDE: Illicit Discharge Detection and Elimination
- LUESA: Land Use and Environmental Services Agency
- MEP: Maximum Extent Practicable
- MS4: Municipal Separate Storm Sewer System
- NCAC: North Carolina Administrative Code
- NCDEQ: North Carolina Department of Environmental Quality
- NPDES: National Pollutant Discharge Elimination System
- SWAC: Stormwater Advisory Committee
- S.W.I.M.: Surface Water Improvement and Management
- Stormwater Plan: Stormwater Management Program
- SCM: Stormwater Control Measure
- Stormwater Plan Storm Water Quality Management Program Plan (aka Stormwater Plan)
- TMDL: Total Maximum Daily Load
- WLA: Waste Load Allocation
- WQRP: Water Quality Recovery Program



SECTION 1: CERTIFICATION & STORMWATER PLAN REVIEW LOG


1.1 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 Section 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>	
<i>Print Name:</i>	Don Ceccarelli
<i>Title:</i>	Division Director, Storm Water Services
Signed this <u>22nd</u> day of <u>November</u> 2024.	

1.2 Stormwater Quality Management Program Document Review & Update Log

The Stormwater Quality Management Program contained in this document, herein referred to as the Stormwater Plan, is required under Part I, Section A of Mecklenburg County’s Stormwater Permit Number NCS000395. The permit requires that the Stormwater Plan detail the permittee’s stormwater management program for the five-year term of the stormwater permit including, for each of the measures identified in the permit, a narrative description of the program, a table that

identifies each best management practice (BMP) used, the frequency of the BMP, the measurable goals for each BMP, the implementation schedule, funding and the responsible person or position for implementation. The permit further requires under Part II, Section A, #4 that the permittee evaluate the performance and effectiveness of the Stormwater Plan components at least annually and modify them as necessary to ensure the discharge of pollutants to the Municipally Separate Storm Sewer System (MS4) are reduced to the maximum extent practicable for the protection of water quality, and to satisfy the applicable water quality requirements of the Clean Water Act. Table 1 below describes the dates and responsible staff for the performance of these annual reviews for Mecklenburg County since Permit Number NCS000395 was first issued in 2005. The changes made to develop this most recent version of the Stormwater Plan document are provided in Table 15 located in Section 4.6. Changes made to other versions are available by contacting Rusty Rozzelle at 980-314-3217 or rusty.rozzelle@mecklenburgcountync.gov.

Table 1: Annual Reviews of the Stormwater Plan

Version	Review Date	Responsible Staff	Title
1.0	August 2006	Rusty Rozzelle	Water Quality Program Manager
2.0	November 2009	Rusty Rozzelle	Water Quality Program Manager
3.0	January 2010	Rusty Rozzelle	Water Quality Program Manager
3.1	August 2010	Rusty Rozzelle	Water Quality Program Manager
4.0	June 2012	Rusty Rozzelle	Water Quality Program Manager
4.1	August 2012	Rusty Rozzelle	Water Quality Program Manager
4.2	November 2012	Rusty Rozzelle	Water Quality Program Manager
5.0	March 2014	Rusty Rozzelle	Water Quality Program Manager
6.0	August 2015	Rusty Rozzelle	Water Quality Program Manager
7.0	April 2016	Rusty Rozzelle	Water Quality Program Manager
8.0	August 2017	Rusty Rozzelle	Water Quality Program Manager
9.0	October 2018	Rusty Rozzelle	Water Quality Program Manager
10.0	November 2019	Rusty Rozzelle	Water Quality Program Manager
11.0	October 2020	Rusty Rozzelle	Water Quality Program Manager
12.0	March 2021	Rusty Rozzelle	Water Quality Program Manager
12.1	May 2021	Rusty Rozzelle	Water Quality Program Manager
12.2	July 2021	Rusty Rozzelle	Water Quality Program Manager
12.3	October 2021	Rusty Rozzelle	Water Quality Program Manager
13.0	November 2022	Rusty Rozzelle	Water Quality Program Manager
14.0	November 2023	Rusty Rozzelle	Water Quality Program Manager
15.0	November 2024	Rusty Rozzelle	Water Quality Program Manager

SECTION 2: INTRODUCTION

The purpose of this Stormwater Plan is to establish and define the means by which the Mecklenburg County Phase II jurisdictions/entities will comply with their National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit number NCS000395 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. The following nine (9) Mecklenburg County Phase II jurisdictions/entities are covered by this Stormwater Plan:

1. Mecklenburg County (unincorporated)
2. Charlotte-Mecklenburg Schools (CMS)
3. Central Piedmont Community College (CPCC)
4. Town of Cornelius
5. Town of Davidson
6. Town of Huntersville
7. Town of Matthews
8. Town of Mint Hill
9. Town of Pineville

This Stormwater Plan identifies the specific elements and minimum measures that the Mecklenburg County Phase II jurisdictions/entities 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 NCS000395 as issued by NCDEQ. This permit covers activities associated with the discharge of stormwater from the MS4 as owned and operated by the Mecklenburg County Phase II jurisdictions/entities and located within the corporate limits or areas under their control. This Stormwater Plan also includes in Section 11 the Water Quality Recovery Program developed for compliance with the Permit requirement for reducing levels of the pollutant of concern in accordance with approved Waste Load Allocation assigned to stormwater in an approved TMDL.

In preparing this Stormwater Plan, the Mecklenburg County Phase II jurisdictions/entities have evaluated their MS4s and the Permit requirements to develop a comprehensive 5-year Stormwater Plan that will meet the community's needs, address local water quality issues, and provide the minimum measures necessary to comply with the Permit. The Stormwater Plan 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 Stormwater Plan is approved by NCDEQ, all provisions contained and referenced in this Stormwater Plan, along with any approved modifications of the Stormwater Plan, are incorporated by reference into the Permit and become enforceable Sections of the Permit. Any major changes to the approved Stormwater Plan will require resubmittal and approval by NCDEQ and may require a new public comment period depending on the nature of the changes.

SECTION 3: MS4 INFORMATION

3.1 Permitted MS4 Area

This Stormwater Plan includes all regulated activities associated with the discharge of stormwater from the MS4s throughout the corporate limits of the Towns of Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville as well as the unincorporated area of Mecklenburg County outside these corporate limits and the cooperate limits for the City of Charlotte, which is a Phase I jurisdiction (NCS000240). This Stormwater Plan also applies to properties owned and/or controlled by Charlotte-Mecklenburg Schools (CMS) and Central Piedmont Community College (CPEC). Figure 1 below shows the corporate limits of the jurisdictions as of November 2023.

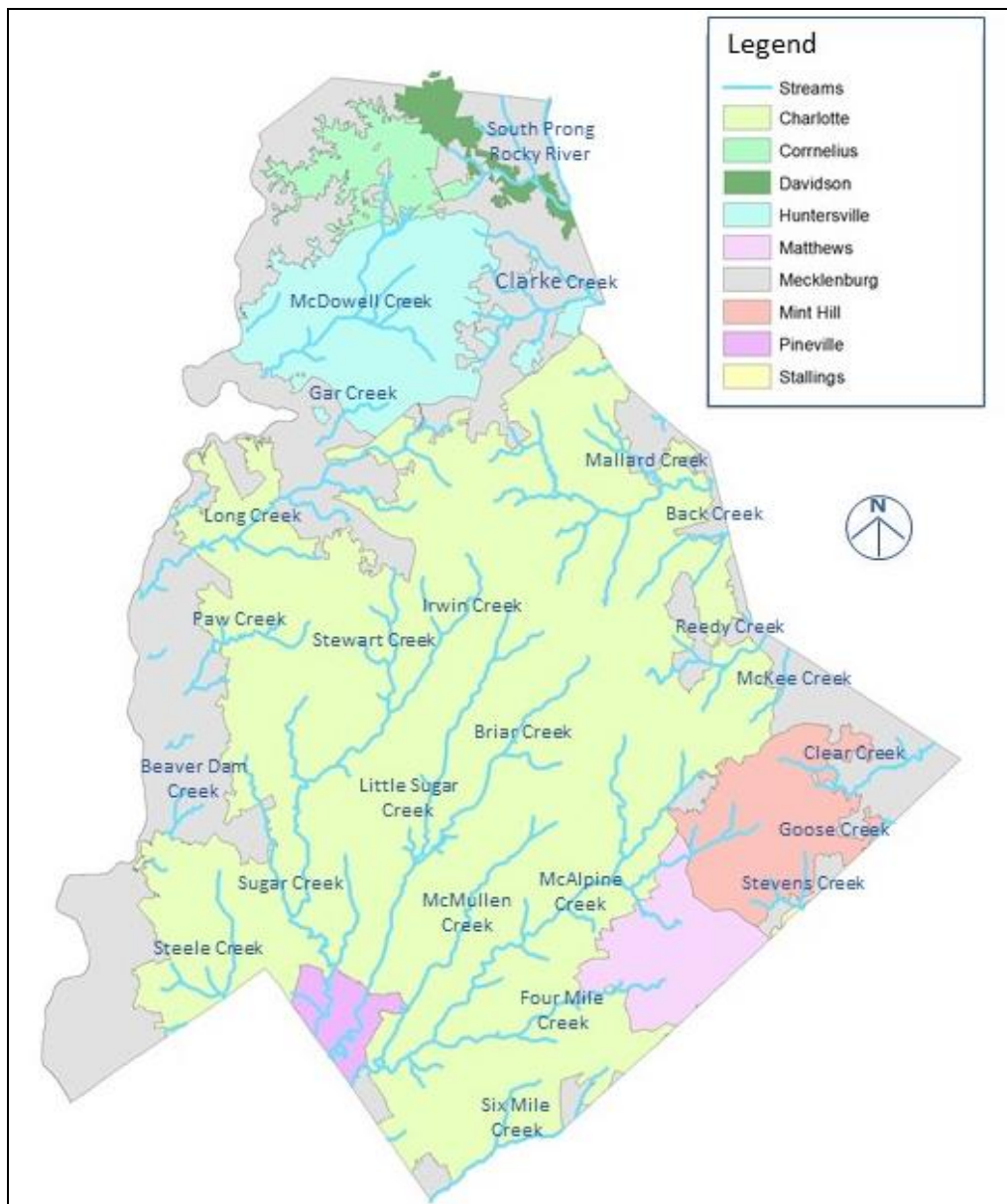


Figure 1: Mecklenburg County Phase II MS4 Jurisdictions

3.2 Existing MS4 Mapping

The current MS4 map includes inlets, outlets and receiving streams stored in the County’s ESRI ArcGIS SDE Geodatabase. New inlets and outlets are added to the system as new development/redevelopment occurs and existing outlet structures are re-inspected at least every 5-years as part of CMSWS’s Stream Walk Program. Inlet and outlet structures are viewable to staff through the Cityworks and ESRI applications. Figure 2 represents the data available in the system. Table 2 provides a summary of the MS4 inventory by jurisdiction. During FY2024, 49 new inlets and 276 new outfalls, including 186 major outfalls and 71 industrial outfalls were added to the MS4 inventory.

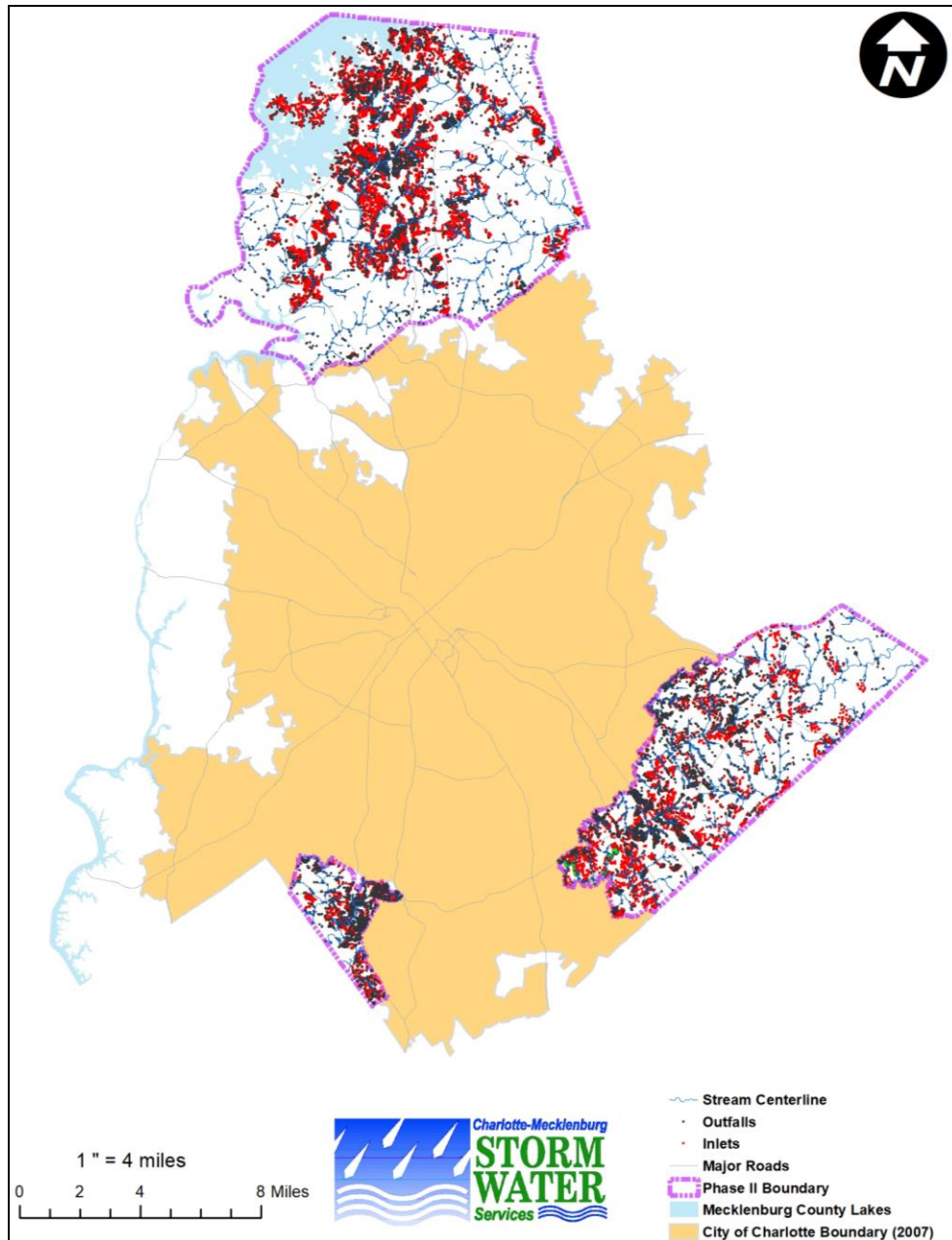


Figure 2: MS4 Mapping

Table 2: Summary of MS4 Mapping (FY2024)

Jurisdiction	Inlets	All Outfalls (≥12")	Major Outfalls (≥36")	Industrial Outfalls	Totals
Cornelius	6,271	900	53	46	7,254
Davidson	3,172	446	64	0	3,674
Huntersville	13,446	2,013	268	45	15,587
Matthews	6,230	858	64	74	7,190
Mint Hill	4,360	1,184	113	32	5,609
Pineville	3,685	631	52	88	4,425
Mecklenburg (unincorporated)	10,461	2,188	197	128	12,901
CMS	5,505	939	41	0	6,334
CPCC	343	74	4	0	419
Totals	53,473	9,233	856	413	63,393

3.3 Receiving Waters

The Mecklenburg County Phase II jurisdictions/entities discharge directly into 112 named receiving waters in the Catawba (80) and Yadkin Pee-Dee (32) River Basins as described in Table 3. The applicable receiving water names and classifications were obtained from the first bulleted link below. This data was downloaded to an Excel spreadsheet located on the LAN at the following location: Z:\23-24 City Works Server Attachments\PD-3\Stream Classifications 2023. The impairment and TMDL status were obtained from the second and third bulleted links below. This data was downloaded to an Excel spreadsheet located on the LAN at the following location: Z:\23-24 City Works Server Attachments\IW-1\NC 2022 Integrated Report.

- N.C. Surface Water Classifications:
https://experience.arcgis.com/experience/7073e9122ab74588b8c48ded34c3df55/page/Page-1/?data_id=dataSource_1-SurfaceWaterClassifications_6584_4677%3A1101&views=Layers
- 2022 Final NC Integrated Report Dashboard:
<https://ncdenr.maps.arcgis.com/apps/dashboards/3fcab644130640b4bb80fcbbc91f917d/>
- Draft and Approved TMDLs:
[NCDEQ Modeling & Assessment Unit web page.](#)

Table 3: Summary of MS4 Receiving Waters

Receiving Water Name	Stream Index / AU Number	Water Quality Classification	Parameter Exceeded	TMDL Status
CATAWBA				
Mountain Island Lake	11-(112)	WS-IV (CA); B	PCB Fish Tissue	Pending
Mountain Island Lake	11-(114)	WS-IV (CA); B	PCB Fish Tissue	Pending
Lake Wylie	11-(117)	WS-IV (CA)	PCB Fish Tissue	Pending
Lake Wylie	11-(122)	WS-IV (CA); B	PCB Fish Tissue	Pending
Lake Wylie	11-(123.5)a	WS-V, B	PCB Fish Tissue	Pending
Lake Norman	11-(75)	WS-IV (CA); B	PCB Fish Tissue, Turbidity	Pending

Receiving Water Name	Stream Index / AU Number	Water Quality Classification	Parameter Exceeded	TMDL Status
Gambles Creek (Cathey Creek)	11-107	WS-IV (CA)	Not Assessed	N/A
Knox Creek	11-108	WS-IV (CA); B	Not Assessed	N/A
Hager Creek	11-109	WS-IV (CA); B	Not Assessed	N/A
Ramsey Creek	11-111	WS-IV	Not Assessed	N/A
McDowell Creek	11-115-(1)	C	Fish Community	Not Required
McDowell Creek	11-115-(1.5)a	WS-IV	Fish Community	Not Required
McDowell Creek	11-115-(1.5)b	WS-IV	None/Inconclusive	Not Required
McDowell Creek	11-115-(5)	WS-IV (CA)	None/Inconclusive	Not Required
Caldwell Station Creek	11-115-2-(1)	C	Not Assessed	N/A
Caldwell Station Creek	11-115-2-(2)	WS-IV	Not Assessed	N/A
Torrence Creek	11-115-4	WS-IV	Not Assessed	N/A
Gar Creek	11-116-(1)	WS-IV	None/Inconclusive	Not Required
Gar Creek	11-116-(2)	WS-IV (CA)	None/Inconclusive	Not Required
Harwood & Brinkley Twin Lakes	11-118	WS-IV (CA)	Not Assessed	N/A
Long Creek	11-120-(0.5)	C	None/Inconclusive	Not Required
Long Creek	11-120-(2.5)	WS-IV (CA)	None/Inconclusive	Not Required
Dixon Branch	11-120-1	C	Not Assessed	N/A
Vances Twin Lakes	11-120-1-1	C	Not Assessed	N/A
Swaringer Lake	11-120-2	C	Not Assessed	N/A
McIntyre Creek	11-120-3-(1)	C	Not Assessed	N/A
McIntyre Creek	11-120-3-(2)	WS-IV	Not Assessed	N/A
Gutter Branch	11-120-4-(1)	C	Not Assessed	N/A
Gutter Branch	11-120-4-(2)	WS-IV	Not Assessed	N/A
Gum Branch	11-120-5	WS-IV	Not Assessed	N/A
Thomas Pond	11-120-6	WS-IV	Not Assessed	N/A
Long Creek	11-120-(7)	WS-IV (CA)	None/Inconclusive	Not Required
Paw Creek	11-124	C	Not Assessed	N/A
Ticer Branch (Tiser Branch)	11-124-1	C	Not Assessed	N/A
Little Paw Creek (Danga Lake)	11-125	C	Not Assessed	N/A
Unnamed Triutary to Little Paw Creek (Friday Lake)	11-125-1	B	Not Assessed	N/A
Beaverdam Creek	11-126	C	Not Assessed	N/A
Legion Lake and Shoaf Lake	11-126-1	C	Not Assessed	N/A
Stowe Branch	11-127	C	Not Assessed	N/A
Neal Branch (Armour Creek)	11-128	C	Not Assessed	N/A
Long Cove	11-132	C	Not Assessed	N/A
Porter Branch	11-133	C	Not Assessed	N/A
Studman Branch	11-134	C	Not Assessed	N/A
Torrence Branch	11-136	B	Not Assessed	N/A
Sugar Creek	11-137	C	Benthos, Fish	Pending
			Fecal, Turbidity, TSS	Implemented
Irwin Creek	11-137-1	C	Benthos, Fish	Pending
			Fecal; Turbidity	Implemented
Dillons Twin Lakes	11-137-1-1	C	Not Assessed	N/A
Steele Creek	11-137-10	C	Not Assessed	N/A
Walker Branch	11-137-10-1	C	Not Assessed	N/A

Receiving Water Name	Stream Index / AU Number	Water Quality Classification	Parameter Exceeded	TMDL Status
Polk Ditch	11-137-10-1-1	C	Not Assessed	N/A
Blankmanship Branch	11-137-10-2	C	Not Assessed	N/A
Clems Branch	11-137-11	C	Not Assessed	N/A
Stewart Creek	11-137-1-2	C	Not Assessed	N/A
Taggart (Taggard) Creek	11-137-2	C	Not Assessed	N/A
Greenwood Lake	11-137-3	C	Not Assessed	N/A
Coffey Creek	11-137-4	C	Not Assessed	N/A
Eagle Branch (Watt Lake, Eagle Lake)	11-137-4-1	B	Not Assessed	N/A
Whippoorwill Lake	11-137-4-2-(1)	C	Not Assessed	N/A
Eagle Branch	11-137-4-2-(2)	C	Not Assessed	N/A
Maynard Lake	11-137-4-3	C	Not Assessed	N/A
Moody Lake	11-137-4-4	C	Not Assessed	N/A
Johnson Lake	11-137-4-5	C	Not Assessed	N/A
Spratt Lake	11-137-5	C	Not Assessed	N/A
McCullough Branch	11-137-7	C	Not Assessed	N/A
Little Sugar Creek	11-137-8	C	Benthos, Fish	Pending
			Fecal, Turbidity, TSS	Implemented
Dairy Branch	11-137-8-1	C	Not Assessed	N/A
Brier Creek	11-137-8-2	C	Not Assessed	N/A
Little Hope Creek	11-137-8-3	C	Not Assessed	N/A
McAlpine Creek	11-137-9a	C	Benthos	Pending
			Fecal	Implemented
McAlpine Creek	11-137-9b	C	Benthos, Fish	Pending
			Fecal	Implemented
McAlpine Creek	11-137-9c	C	Benthos, Fish	Pending
			Fecal	Implemented
McAlpine Creek	11-137-9d	C	Benthos, Fish	Pending
			Fecal	Implemented
Campbell Creek	11-137-9-1	C	Not Assessed	N/A
Irwins Creek (McEwen Lake)	11-137-9-2	C	Not Assessed	N/A
Lake Windermere and Chillis Lake	11-137-9-3	C	Not Assessed	N/A
Fourmile Creek	11-137-9-4	C	Not Assessed	N/A
McMullen Creek	11-137-9-5	C	Benthos	Pending
West Fork Twelve Mile Creek	11-138-1	C		
Sixmile Creek	11-138-3	C	Fish	Pending
Flat Branch	11-138-3-2	C	Not Assessed	N/A
YADKIN PEE-DEE				
Rocky River	13-17a	C	Benthos, Turbidity	Pending
			Fecal	Implemented
Clear Creek	13-17-17	C		
Sherman Branch	13-17-17-1	C	Not Assessed	N/A
Wiley Branch	13-17-17-2	C	Not Assessed	N/A
Long Branch	13-17-17-3	C	Not Assessed	N/A
Goose Creek	13-17-18a	C	Benthos	Implemented

Receiving Water Name	Stream Index / AU Number	Water Quality Classification	Parameter Exceeded	TMDL Status
Stevens Creek	13-17-18-1	C	Not Assessed	N/A
Duck Creek	13-17-18-3	C	Benthos	Implemented
North Fork Crooked Creek	13-17-20-1	C	Benthos, Turbidity	Pending
West Branch Rocky River	13-17-3	C	None/Inconclusive	Not Required
S. Prong W. Branch Rocky River	13-17-3-1	C	None/Inconclusive	Not Required
Clarke Creek	13-17-4	C	Fish Community	Pending
N. Prong Clarke Creek	13-17-4-1	C	None/Inconclusive	Not Required
S. Prong Clarke Creek	13-17-4-2	C	None/Inconclusive	Not Required
Cane Creek	13-17-4-2-1	C	Not Assessed	N/A
Ferreltown Creek (Ferreltown Lake)	13-17-4-3	C	Not Assessed	N/A
Ramah Creek	13-17-4-4	C	None/Inconclusive	Not Required
Griffith Lakes	13-17-5-1	C	Not Assessed	N/A
Clarks Creek	13-17-5-2	C	Benthos	Pending
Doby Creek	13-17-5-3	C	Benthos	Pending
Toby Creek	13-17-5-4	C	Benthos	Pending
Stony Creek	13-17-5-5	C	Benthos	Pending
Mallard Creek	13-17-5a	C	Benthos, Fish, Turbidity	Pending
Mallard Creek	13-17-5b	C	Benthos, Fish	Pending
Back Creek	13-17-7	C	Benthos	Pending
Fuda Creek	13-17-7-1	C	Not Assessed	N/A
Reedy Creek	13-17-8a	C	Benthos	Pending
Delta Lake	13-17-8-1	C	Not Assessed	N/A
Crozier Branch	13-17-8-2	C	Not Assessed	N/A
McKee Creek	13-17-8-4	C	Benthos	Pending
			Fecal	Implemented
Caldwell Creek	13-17-8-5a	C	Benthos	Pending
Reedy Creek	13-17-8	C	Not Assessed	N/A

The following definitions apply to Table 3 above. Additional definitions are provided on page vi of the Table of Contents.

- **Stream Index / AU Number:** NCDEQ identifies waters by index numbers and assessment unit numbers (AU#) that are used to track defined stream segments or waterbodies.
- **Water Quality Classification (Class):** Designations applied to surface water bodies by NCDEQ that define the best uses to be protected within these waters as required by the Clean Water Act, including water supply use (WS), recreation activities (B), and aquatic life (C).
- **TMDL:** Calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. A TMDL identifies pollutant reduction targets and allocates load reductions necessary to the source(s) of the pollutant to restore waterbodies where water quality criteria are exceeded.

3.4 MS4 Interconnections

The MS4s in Mecklenburg County are interconnected and directly exchange stormwater flow along with the NCDOT MS4. The Phase II MS4 maps do not show the locations of these interconnections.

3.5 Total Maximum Daily Loads (TMDLs)

All surface waters with approved TMDLs in Mecklenburg County flow through both Phase I and Phase II jurisdictions except for Goose Creek and the Rocky River, which lie entirely in Phase II. To ensure effective coordination, the City of Charlotte, which holds a Phase I Permit, and Mecklenburg County and the Towns, which hold a joint Phase II Permit, have agreed that the City of Charlotte will serve as the lead jurisdiction for compliance with TMDL requirements when the majority of the TMDL watershed lies within the Phase I jurisdiction. When most of the watershed lies within Phase II, Mecklenburg County will serve as the lead. The lead jurisdiction is responsible for coordinating and implementing all required TMDL compliance efforts and submitting all the required plans and reports to the State. They are also responsible for coordinating with the other jurisdictions as necessary to implement compliance efforts. Table 4 identifies the receiving waters for MS4 discharges in Mecklenburg County that have a TMDL approved by EPA. The table also indicates the lead jurisdiction responsible for compliance with TMDL requirements. Figure 3 shows the locations of these receiving waters in relation to the Phase I and Phase II jurisdictions in Mecklenburg County. Table 5 identifies those receiving waters in Mecklenburg County that are subject to an approved management strategy instead of a TMDL. The data for Tables 4 and 5 was derived from the second and third bulleted links above Table 3.

Table 4: Approved TMDLs for Mecklenburg County’s Phase I and Phase II Jurisdictions

AU Name	AU Number	Class	TMDL Pollutant	IR Category	EPA Approval	MS4 WLA?	Lead Jurisdiction
Irwin Creek	11-137-1	C	DO	1t	2/5/1996	No	Charlotte
			Fecal Coliform	4t	3/28/2002	No	
			Turbidity	4i	2/8/2005	Yes	
Long Creek	11-120-(0.5)	C	Turbidity	3i	2/8/2005	Yes	Charlotte
Long Creek	11-120-(2.5)	WS-IV	Turbidity	3i	2/8/2005	Yes	Charlotte
Little Sugar	11-137-8	C	DO	4t	2/5/1996	No	Charlotte
			Fecal Coliform	4t	3/28/2002	No	
			Turbidity	4i	2/8/2005	Yes	
McAlpine Creek	11-137-9	C	DO	1t	2/5/1996	No	Charlotte
			Fecal Coliform	4t	3/28/2002	No	
			Turbidity	1i	2/8/2005	Yes	
Sugar Creek	11-137	C	DO	4t	2/5/1996	No	Charlotte
			Fecal Coliform	4t	3/28/2002	No	
			Turbidity	4i	2/8/2005	Yes	
McKee Creek	13-17-8-4	C	Fecal Coliform	4t	8/1/2003	Yes	Charlotte

AU Name	AU Number	Class	TMDL Pollutant	IR Category	EPA Approval	MS4 WLA?	Lead Jurisdiction
Rocky River	13-17a	C	Fecal Coliform	4t	9/19/2002	Yes	Mecklenburg
Lake Wylie	11-122	C	TP & TN	1	2/5/1996	No	Mecklenburg
Lake Wylie	11-(123.5)a	C	TP & TN	1	2/5/1996	No	Mecklenburg
Goose Creek	13-17-18a	C	Fecal Coliform	4t	7/8/2005	Yes	Mecklenburg

Table 5: Approved Management Strategies for Mecklenburg County’s Phase II Jurisdictions

AU Name	AU Number	Class	Pollutant	IR Category	State Approval	MS4 Addressed	Lead Jurisdiction
McDowell Creek	11-115-(1)	C	Fish Community	4b	2006	Yes	Mecklenburg
McDowell Creek	11-115-(1.5)a	WS-IV	Fish Community	4b	2006	Yes	Mecklenburg
McDowell Creek	11-115-(1.5)b	WS-IV	Benthos	1b	2006	Yes	Mecklenburg
Goose Creek	13-17-18a	C	Fish Community	1b	2010	Yes	Mecklenburg
			Benthos	4b	2010	Yes	

The definitions for AU Number, Class, and TMDL used in Tables 4 and 5 above are provided below Table 3 above. The definition for IR Category in Tables 4 and 5 above is provided below.

- IR (Integrated Report) Category: Levels of water quality criteria attainment as defined in the NCDEQ Integrated Report as follows:
 - Meeting Criteria
 - 1b Meeting Criteria - a management strategy in place for parameter.
 - 1f Meeting Criteria - Fish tissue collected in Assessment Unit with no advisories other than statewide Mercury advice.
 - 1i Meeting Criteria - Parameter assessed is addressed by a TMDL for a different parameter.
 - 1nc Meeting Criteria - Parameter assessed was exceeding criteria but due to natural conditions (documentation required).
 - 1r Meeting Criteria - Parameter assessed as part of restoration project.
 - 1t Meeting Criteria - Parameter assessed has an approved TMDL.
 - 3a Data Inconclusive
 - 3b Data Inconclusive - management strategy in place for parameter.
 - 3c Data Inconclusive - Parameter is a non-pollutant - TMDL not required.
 - 3i Data Inconclusive - Parameter assessed is addressed by a TMDL for a different parameter.
 - 3r Data Inconclusive - Parameter assessed as part of restoration project.
 - 3t Data Inconclusive - Parameter assessed has an approved TMDL.
 - 3v Data Inconclusive - Parameter is part of permit variance.
 - 3z1 Data Inconclusive - Data not assessed against a NC water quality standard.
 - 4i Exceeding Criteria - Parameter assessed is addressed by a TMDL for a different parameter. 4t Exceeding Criteria - Parameter assessed has an approved TMDL.
 - 4t Exceeding Criteria - Parameter assessed has an approved TMDL.
 - 4b Exceeding Criteria - a management strategy in place for parameter.
 - 4c Exceeding Criteria – Parameter is non-pollutant – TMDL not required.

- 4cr Exceeding Criteria - recreational advisory postings greater than 61 days in the assessment period.
- 4cs Exceeding Criteria - Shellfish growing area - not approved. Approved fecal coliform bacteria TMDL assessed in category 4t.
- 4r Exceeding Criteria - ongoing restoration activities in place to address parameter. Also, for restoration parameters without water quality standards.
- 4v Exceeding Criteria - Parameter is part of permit variance.
- 5 Exceeding Criteria - TMDL or other management strategy required.
- 5r Exceeding Criteria - ongoing restoration activities in place to address parameter.

Table 6 provides information applicable to TMDLs and management strategies in Mecklenburg County derived from the same source as Table 3 above.

Table 6: Information Regarding TMDLs and Management Strategies in Mecklenburg County

# Lake Acres Assessed	37,492.01
# Lake Acres Identified as Impaired	37,492.01
% of Assessed Lake Acres Identified as Impaired	100%
# Stream Miles Assessed	285.46
# Stream Miles Identified as Impaired	225.74
% of Assessed Stream Miles Identified as Impaired	79.08%
# Stream Miles Identified as Impaired in Catawba Basin	91.83
% Stream Miles Identified as Impaired in Catawba Basin	40.68%
# Stream Miles Identified as Impaired in Yadkin Basin	133.91
% Stream Miles Identified as Impaired in Yadkin Basin	59.32%
% Stream Miles with Benthos Identified as Impairment Parameter	38.72%
% Stream Miles with Fecal Coliform Identified as Impairment Parameter	20.36%
% Stream Miles with Turbidity Identified as Impairment Parameter	19.89%
% Stream Miles with Fish Community Identified as Impairment Parameter	15.42%
% Stream Miles with TSS Identified as Impairment Parameter	5.61%
% Lake Acres with Approved TMDL or Management Strategy	0%
% Stream Miles with Approved TMDL or Management Strategy	39%

The City of Charlotte and Mecklenburg County have developed and are currently implementing strategies and tailored BMPs within the scope of the six (6) minimum Permit measures for the TMDL watersheds identified in Table 4 that have a Waste Load Allocation (WLAs) assigned to stormwater. The purpose of these initiatives, which are incorporated into a TMDL Water Quality Recovery Program (WQRP), is to reduce levels of the pollutant of concern to the maximum extent practicable (MEP) in accordance with approved WLAs assigned to stormwater in the approved TMDL. Section 11 of this document includes the WQRP for those waters where Mecklenburg County is the lead, including portions of the Rocky River, Lake Wylie, and Goose Creek as identified in Table 4 above. The implementation of the BMPs included in this Program are ongoing. Table 7 describes the activities implemented by Mecklenburg County when new TMDLs are approved for waters within the Phase II jurisdiction. No new TMDLs have been developed for Mecklenburg County since 2014; therefore, all Mecklenburg County TMDLs have been in effect more than 36 months and all the requirements in Table 7 apply. These requirements are currently being met for all existing TMDLs with the required TMDL Annual

Report submitted in August 2024. The City of Charlotte develops and implements BMPs for those waters where they are the lead through the implementation of their Phase I Permit, which includes portions of Irwin, Long, Little Sugar, McAlpine, Sugar, and McKee Creeks. Information regarding these BMPs is included in Charlotte’s NPDES MS4 TMDL Watershed Plan, which is available through their Phase I contact. These BMPs are applied within the Phase I jurisdiction of the watershed. For the Phase II jurisdictions, the BMPs described in Section 11 of this document are applied.

Table 7: New TMDL Requirements

Requirement	Schedule
1. Submit a TMDL annual report to NCDEQ including a description of existing programs, controls, partnerships, projects, and strategies to address impaired waters and a brief explanation as to how the programs, controls, partnerships, projects and strategies address impaired waters.	12 months of the final EPA approval of a TMDL
2. Submit a TMDL annual report to NCDEQ including an assessment of whether additional structural and/or non-structural BMPs are necessary to address impaired waters and a brief explanation as to how the programs, controls, partnerships, projects and strategies address impaired waters.	24 months of the final EPA approval of a TMDL
3. Submit a TMDL annual report to NCDEQ including a description of activities expected to occur and when the activities are expected to occur.	36 months of the final EPA approval of a TMDL

As stated in the Permit, if subject to an approved TMDL, the Permittee is in compliance with the TMDL if the permittee complies with the conditions of the Permit, including developing and implementing appropriate BMPs to reduce non-point source pollutant loading to the MEP. While improved water quality is the expected outcome, the NPDES MS4 Permit obligation is to reduce non-point source pollutant loading to the MEP. The MS4 Permittee is not responsible for attaining the water quality standards (WQS) at the ambient monitoring stations. NCDEQ expects attaining the WQS will only be achieved through reduction from the MS4, along with reductions from other nonpoint source contributors.

Charlotte-Mecklenburg Storm Water Services (CMSWS) has reviewed the FINAL 2022 303(d) list and integrated 305(b) and 303(d) reports and determined that no new TMDLs were approved in Mecklenburg County; therefore, no changes were made to the TMDL Water Quality Recovery Program. CMSWS also reviewed the DRAFT 2024 303(d) list and integrated 305(b) and 303(d) reports and provided the following comments to NCDEQ in a letter dated April 26, 2024:

The following reaches should be listed as Category 5 (impaired) for benthos and are not currently listed as such:

- Paw Creek (11-124)
- Beaverdam Creek (11-126)
- Briar Creek (11-137-8-2) – this reach is also spelled incorrectly as “Brier”
- Coffey Creek (11-137-4)
- Fourmile Creek (11-137-9-4)
- Steele Creek (11-137-10)
- Mallard Creek (13-17-5a)
- West Branch Rocky River (13-17-3)
- Clarke Creek (13-17-4)

Additionally, Clarke Creek (13-17-4) is listed as Category 5 for Fish on the draft 2024 303(d) list while the data submitted by CMSWS shows that the latest fish sample in 2022 was Category 1 (good-fair).

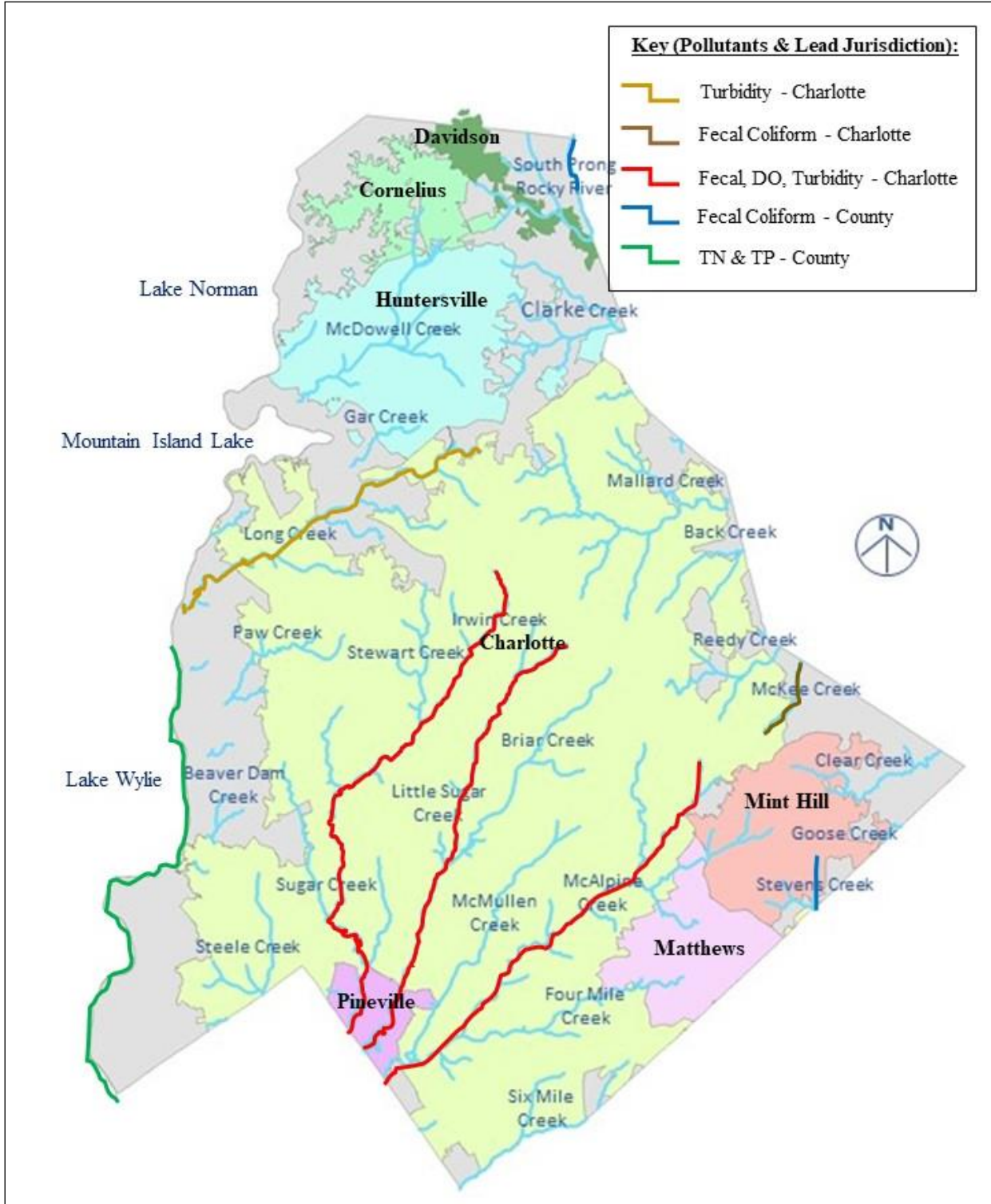


Figure 3: Surface Waters in Charlotte-Mecklenburg with Approved TMDLs

3.6 Endangered and Threatened Species and Critical Habitat

Populations of threatened or endangered species and/or critical habitat are identified within the regulated MS4 urbanized area as determined by 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](#). Of those species listed, Table 8 summarizes the species that may be impacted by the quality of surface waters within their habitat.

Table 8: Summary of Federally Listed Species/Habitat Impacted by Surface Water Quality

Scientific Name	Common name	Species Group	Federal Listing Status
<i>Haliaeetus leucocephalus</i>	Bald eagle	Vertebrate	BGPA
<i>Etheostoma collis collis</i>	Carolina darter	Vertebrate	FSC
<i>Myotis septentrionalis</i>	Northern long-eared bat	Vertebrate	T
<i>Villosa vaughaniana</i>	Carolina creekshell	Invertebrate	FSC
<i>Lasmigona decorata</i>	Carolina heelsplitter	Invertebrate	E
<i>Bombus affinis</i>	Rusty-patched bumble bee	Invertebrate	E
<i>Tsuga caroliniana</i>	Carolina Hemlock	Vascular Plant	ARS
<i>Symphyotrichum georgianum</i>	Georgia aster	Vascular Plant	C
<i>Rhus michauxii</i>	Michaux's sumac	Vascular Plant	E
<i>Eurybia mirabilis</i>	Piedmont aster	Vascular Plant	FSC
<i>Helianthus schweinitzii</i>	Schweinitz's sunflower	Vascular Plant	E
<i>Echinacea laevigata</i>	Smooth coneflower	Vascular Plant	E

Definitions applicable to the Federal Listing Status in Table 8 above are provided below.

- BGPA: Bald and Golden Eagle Protection Act.
- FSC: Federal Species of Concern. FSC is an informal term. It is not defined in the federal Endangered Species Act. In North Carolina, the Asheville and Raleigh Field Offices of the US Fish and Wildlife Service (Service) define Federal Species of Concern as those species that appear to be in decline or otherwise in need of conservation and are under consideration for listing or for which there is insufficient information to support listing at this time. Subsumed under the term "FSC" are all species petitioned by outside parties and other selected focal species identified in Service strategic plans, State Wildlife Action Plans, or Natural Heritage Program Lists.
- T: Threatened. A taxon "likely to become endangered within the foreseeable future throughout all or a significant portion of its range."
- E: Endangered. A taxon "in danger of extinction throughout all or a significant portion of its range."
- ARS: At Risk Species. Species that are Petitioned, Candidates or Proposed for Listing under the Endangered Species Act. Consultation under Section 7(a)(2) of the ESA is not required for Candidate or Proposed species; although a Conference, as described under Section 7(a)(4) of the ESA is recommended for actions affecting species proposed for listing.
- C = candidate. A taxon under consideration for official listing for which there is sufficient information to support listing. (Formerly "C1" candidate species.)

3.7 Industrial Facility Discharges

The Phase II MS4 jurisdictional areas for Mecklenburg County include the industrial facilities in Table 9, which hold NPDES Industrial Stormwater Permits as determined from the NCDEQ Active NPDES Stormwater Permit List and Active Stormwater Permit Map. Inspections of these facilities are performed when they are suspected as a potential pollution source based on responses to service requests, results from water quality monitoring, and other general water

quality activities, including the Illicit Discharge Detection and Elimination Program (IDEP) described in Section 7.7.2.1.

Table 9: NPDES Stormwater Permitted Industrial Facilities

Permit Number	Owner Name	Facility Name	Address	City
NCGNE1319	3m Company	3M Pineville Warehouse	9504 Rodney St Ste 200	Pineville
NCG060422	Amazon Com Services LLC - Fulfillment/Sort Ctrs	Amazon Com Services LLC - CLT6	12220 Carolina Logistics Dr	Pineville
NCGNE0600	Belk Printing Inc	Belk Printing Technologies	11240 Rivers Edge Rd	Pineville
NCG160040	Blythe Construction Inc	Blythe Construction, Inc.-East Plant	1021 Sam Newell Rd	Matthews
NCG120109	C&D Management Company LLC/Greenway Waste Solutions at North Meck LLC	North Meck C&D Landfill	15300 Holbrooks Rd	Huntersville
NCGNE1286	Caribou Specialty Materials	Caribou Specialty Materials	10401 Southern Loop Blvd	Pineville
NCG110011	Charlotte Water	McDowell Creek WWTP	4901 Neck Rd	Huntersville
NCG110010	Charlotte Water	McAlpine Creek WWTP	12701 Lancaster Hwy	Pineville
NCG030596	Controls Southeast Inc	Controls Southeast, Inc	12201 Nations Ford Rd	Pineville
NCG080235	D M Bowman Inc	D M Bowman Incorporated	12801 Mt Holly-Huntersville Rd	Huntersville
NCS000020	Duke Energy Carolinas LLC	McGuire Nuclear Power Plant	NC Hwy 73	Huntersville
NCG050430	Essentra Packaging	Essentra Packaging	10500 Industrial Dr	Pineville
NCGNE1160	Fedex Express Corp	FedEx Express - PNVA	626 Eagleton Downs Dr	Pineville
NCG050218	Fxi Inc	FXI, Inc. – Cornelius	Hwy 115 And Bailey Rd	Cornelius
NCGNE1404	Gpi Converting LLC	Graphic Packaging International - Pineville	8800 Crump Rd	Pineville
NCG130106	Greenway Recycling at North Meck LLC	Greenway Recycling at North Meck	15330 Holbrooks Rd	Huntersville
NCG210191	Huntersville Hardwoods Inc	Huntersville Hardwoods Incorporated	11701 McCord Rd	Huntersville
NCG050139	Ipex USA LLC	IPEX USA LLC	10100 Rodney St	Pineville
NCG030727	Kelly Pipe Co LLC	Kelly Pipe	11024 Nations Ford Rd	Pineville
NCGNE0789	Kings Point Marina Inc	Kings Point Marina Incorporated	17939 Kings Point Dr	Cornelius
NCGNE0235	Maclean Curtis LLC	MacLean Curtis LLC	20401 N Zion St	Cornelius
NCG020202	Martin Marietta Materials Inc	Martin Marietta-Matthews Q	1215 Sam Newell Rd	Matthews
NCG050253	Mexichem Specialty Compounds Inc	Mexichem Specialty Compounds, Inc.	9635 Industrial Dr	Pineville
NCGNE0937	Microban Products Company	Microban Products Company	11400 Vanstory Dr	Huntersville
NCG080959	Migway Inc	Migway, Inc.	9349 China Grove Church Rd	Pineville
NCGNE1407	Oerlikon Am US Inc	Oerlikon Additive	12021 Vanstory Dr	Huntersville

Permit Number	Owner Name	Facility Name	Address	City
		Manufacturing		
NCGNE0679	Pactiv LLC	Pactiv LLC NC RMC	12801 Jamesburg Dr	Huntersville
NCG050087	Polyone Corporation	Rutland Group, Inc.	10021 Rodney St	Pineville
NCGNE1479	Prime Now LLC	Amazon.com Services LLC - SNC2	10622 Bryton Corporate Center Dr	Huntersville
NCG080990	Reeves Construction Company	Sloan Construction Co - Granite Shop	18606 Northline Dr	Cornelius
NCG050373	Reynolds Consumer Products LLC	Reynolds Consumer Products- Huntersville Plant	14201 Meacham Farm Rd	Huntersville
NCGNE1480	Shm Pyc LLC	Safe Harbor Peninsula Yacht Club	18501 Harbor Light Blvd	Cornelius
NCG210367	Soil Supply, Inc.	Soil Supply, Inc.	10219 Hagars Rd	Huntersville
NCG030664	Southwire Company LLC	Southwire Huntersville Plant	12331 Commerce Station Dr	Huntersville
NCGNE0147	Stronghaven Containers	Stronghaven Warehouse	433 E Johns St	Matthews
NCG140323	Thomas Concrete Of Carolina Inc	Thomas Concrete of Carolina, Inc.- Huntersville Plant	11531 McCord Rd	Huntersville
NCG050150	Transcontinental Ac US LLC	Transcontinental Matthews	700 Crestdale Rd	Matthews
NCGNE1401	Trend Offset Printing Services Inc	Trend Offset Printing Services Inc	10519 Industrial Dr	Pineville
NCG240013	Wallace Farm Inc	Wallace Farm Inc	14410 Eastfield Rd	Huntersville

3.8 Non-Stormwater Discharges

The water quality impacts of non-stormwater discharges have been evaluated by the Mecklenburg County Phase II jurisdictions/entities as summarized in Table 10 below. These evaluations were based on responses to service requests, results from water quality monitoring and other general water quality program activities. The unpermitted, non-stormwater flows listed as incidental in Table 10 have been determined based on this evaluation to be insignificant contributors of pollutants to the MS4; therefore, according to Part I paragraph H 2 of NPDES Permit No. NCS000395 these discharges are authorized through the MS4s of the co-permittees. The street washing discharges included in Table 10 are addressed in more detail under Section 10.7 of this Stormwater Plan. Based on the evaluation, individual residential (noncommercial) car washing was determined to be incidental with no significant impact to water quality provided washing activities do not occur at designated vehicle wash areas that are connected, directly or indirectly to the stormwater system or surface waters as is sometimes observed at multi-family residential complexes. With regard to charity car washing, the evaluation revealed no significant negative water quality impacts provided washing is not performed by the same organization or at the same location on a routine basis (more than one time in a thirty-day period). The key to the designation of these car washing activities as incidental with no significant impact to water quality is that they are all noncommercial in nature and occur infrequently over a dispersed area. Car washing activities other than those described above are identified as having significant impacts to water quality and are prohibited by local surface water pollution control ordinances. These pollutants are primarily addressed through responses to requests for service and investigations associated with the Illicit Discharge Elimination Program (IDEP) as described in Sections 7.7.1.1 and 7.7.2.1 of this document, respectively. NCDEQ has not required that non-

stormwater flows other than those listed in Table 10 be specifically controlled by the Mecklenburg County Phase II jurisdictions/entities. These other non-stormwater flows are considered a significant impact to water quality and are addressed through the implementation of the programs described in this Stormwater Plan.

Table 10: Non-Stormwater Discharges

Non-Stormwater Discharge	Water Quality Impacts
water line and fire hydrant flushing;	Insignificant
landscape irrigation;	Insignificant
diverted stream flows;	Insignificant
rising ground waters;	Insignificant
uncontaminated ground water infiltration;	Insignificant
uncontaminated pumped ground water;	Insignificant
discharges from potable water sources;	Insignificant
foundation drains;	Insignificant
air conditioning condensation;	Insignificant
irrigation water;	Insignificant
springs;	Insignificant
water from crawl space pumps;	Insignificant
footing drains;	Insignificant
lawn watering;	Insignificant
individual residential and charity car washing	Insignificant (1)
flows from riparian habitats and wetlands;	Insignificant
dechlorinated swimming pool discharges;	Insignificant
street wash water; and	Insignificant
flows from firefighting activities	Insignificant

(1) Except for car washing that occurs at designated vehicle wash areas that are connected, directly or indirectly to the stormwater system or surface waters and recurring charity car washes.

3.9 Targeted Pollutants and Sources

Table 11 provides important information regarding the targeted pollutants for Mecklenburg County’s Phase II jurisdictions/entities, including the various Stormwater Plan Programs tailored to address these pollutants. General data and information obtained from water quality monitoring and inspection activities as well as responses to service requests were considered in the development of this table. These same considerations are made each year when this table is evaluated and modified as necessary as part of the annual review process for the Stormwater Plan. Although additional pollutants not in this table are sometimes targeted by the public education program, the pollutants in this table are considered the primary target pollutants. A more detailed description of the targeted audiences and why they were selected is provided in Section 3.10. Additional detail regarding the Public Education and Outreach Program is provided in a document referred to as the “Umbrella” Plan developed and implemented by CMSWS to coordinate public education efforts between the Phase I and Phase II jurisdictions in Mecklenburg County. The Umbrella Plan is updated regularly to meet the changing needs of the community. A copy of this plan is available upon request to the Environmental Manager for Mecklenburg County’s Water Quality Program.

Table 11: Targeted Pollutants, Potential Impacts/Physical Attributes, Pollutant Sources, Audience and Contributing Issues

Targeted Pollutants	Potential Impacts/Physical Attributes	Likely Pollutant Sources	Targeted Audiences	Issues Contributing to the Pollutant Source	BMPs in Stormwater Plan Addressing Target Pollutant(s)/Audience(s)
Bacteria (fecal coliform bacteria is the indicator)	High levels cause low oxygen which leads to fish kills, stressed aquatic life and can cause negative human health impacts. May appear in stream as a fungus which is white and fluffy or may have normal appearance. Sewage odor sometimes present.	Human Waste	Residential & Commercial	<ul style="list-style-type: none"> • Illicit connections to surface waters and storm drains. • Illegal dumping, spills and leaks. • Discharges from sewer collection and treatment systems. 	<ul style="list-style-type: none"> • Public Education & Outreach • Public Involvement & Participation • IDDE • Construction Site Runoff Control • Post-Construction Site Runoff Control • Pollution Prevention/Good Housekeeping • TMDL WQ Restoration Program
		Pet Waste	Residential & Commercial	<ul style="list-style-type: none"> • Failure to collect and properly dispose of pet waste. • Discharges from kennels and other commercial pet facilities. 	<ul style="list-style-type: none"> • Public Education & Outreach • Public Involvement & Participation • IDDE • TMDL WQ Restoration Program
Sediment	Typically measured as Turbidity and can destroy aquatic habitat, smother fish eggs and bottom dwelling organisms. Will give water an orange appearance due to the soil types in our region.	Eroding stream banks, erosion from construction activity	Residential & Commercial (with a focus on the Construction Industry)	<ul style="list-style-type: none"> • Improper erosion control measures at land development sites. • Inadequate post-construction stormwater controls. • Inadequate buffers and unstable stream channels. 	<ul style="list-style-type: none"> • Public Education & Outreach • Public Involvement & Participation • IDDE • Construction Site Runoff Control • Pollution Prevention/Good Housekeeping

3.10 Targeted Audiences

Provided below is a description of the targeted audiences selected for the Public Education and Outreach Program for Mecklenburg County’s Phase II jurisdictions/entities. These audiences were targeted based on their ability to impact the issues contributing to the likely pollutant sources described in Table 11. In addition, the targeted audiences were selected based on their potential for expanding our volunteer programs for protecting and restoring water quality conditions.

Residential Communities: This group has the ability to positively impact both targeted pollutants identified in Table 11 above. They also have a significant potential to increase participation in volunteer programs for protecting and restoring water quality conditions. This is a large, targeted audience composed of many subsets, including but not limited to homeowners, renters, multi-family communities, pet owners, etc. CMSWS has developed educational materials for reaching residential groups and will develop and implement outreach initiatives on an as needed basis to address specific water quality issues as they arise.

Commercial: This group, like the residential group, has a significant potential to positively impact water quality and has several subsets, including landscapers, grading contractors, construction industry, building maintenance companies, mobile washers, automotive repair shops, etc. CMSWS has developed educational messages for reaching these subsets and will develop and implement outreach initiatives on an as needed basis to address specific water quality issues as they arise.

SECTION 4: STORMWATER MANAGEMENT PROGRAM ADMINISTRATION

A program has been developed and is currently being implemented for administering the Phase II Permit for Mecklenburg County’s Phase II jurisdictions/entities for the purpose of ensuring that all Permit requirements are effectively and efficiently fulfilled by co-permittees in accordance with the Stormwater Plan and that the administration requirements specified in the Permit are being met. The program is administered by CMSWS’s Water Quality Program as described in the following Sections.

4.1 Program Goal

The goal of Program Administration is to implement, manage and oversee the provisions of the Stormwater Plan to control to the maximum extent practical the discharge of pollutants from the municipal storm sewer system associated with stormwater runoff and illicit discharges, including spills and illegal dumping and to ensure that all Phase II Permit requirements are effectively and efficiently fulfilled.

4.2 BMP Summary Table

Table 12 summarizes efforts undertaken for Stormwater Management Program Administration. Column A describes the BMPs identified in the Storm Water Plan for the Stormwater Management Program Administration. The specific actions (i.e., Measurable Goals) undertaken for implementation of these BMPs are described in Column B with the schedule provided in Column C. Column D includes the Annual Reporting Metric, indicating whether the Measurable Goals were completed and whether compliance with the Storm Water Plan and Permit was achieved. Column E describes the co-permittees’ responsibilities for fulfilling the BMP.

Table 12: BMP Summary Table for Stormwater Management Program Administration

BMP Summary Table for Stormwater Management Program Administration					
Program Development (Permit Ref. Part II Section A.4, 5 and 6; Part III Sections A,B,C,D; Part IV Sections A,B,D,E,F,G) Performing activities necessary to fulfill the administrative requirements for permit compliance.					
BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
#1 PD-1	Permit Development				
	Developing and submitting the annual assessment report required by the Phase II Permit to document compliance with the Phase II Storm Water Management Program.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Meet and coordinate with CMSWS as requested as well as provide data and information as requested for inclusion in reports, audits, Permit applications, etc.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
		d. Implement Recommendations for Improvement	Annually beginning July 1	Completed/Compliant	
		e. Submit Quarterly Reports to Co-permittees	30 days of the end of the quarter	Completed/Compliant	
f. Certify and Submit Stormwater Permit		As scheduled by NCDEQ	Completed/Compliant		

BMP Summary Table for Stormwater Management Program Administration					
Program Development (Permit Ref. Part II Section A.4, 5 and 6; Part III Sections A,B,C,D; Part IV Sections A,B,D,E,F,G) Performing activities necessary to fulfill the administrative requirements for permit compliance.					
BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
		Renewal			
		g. Participate in an NPDES MS4 Permit Compliance Audit	As scheduled by NCDEQ	Completed/Compliant	
#2 PD-3	Evaluate Effectiveness of Storm Water Plan				
	Assessing the effectiveness of the Storm Water Quality Management Program Plan and updating as necessary, including all written policies and procedures.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide data and information as requested for inclusion in reports, audits, etc. as well as implement recommendations for improvement as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
		d. Implement recommendations for improvement	Annually beginning July 1	Completed/Compliant	

4.3 Organizational Structure

The Environmental Manager for CMSWS’s Water Quality Program is responsible for developing, implementing, managing, and overseeing the Stormwater Plan. The Environmental Manager reports to the Director of CMSWS who serves as the Stormwater Program Administrator as delegated by the Mecklenburg County Board of Commissioners by a resolution dated December 17, 2002. Five (5) Environmental Supervisors that report to the Environmental Manager are responsible for implementing five (5) of the seven (7) components of the Stormwater Plan. An Environmental Supervisor and Lead Project Manager in the Permitting and Compliance Program who reports to a Senior Project Manager who reports to the Director of CMSWS are responsible for implementing the other two (2) components of the Stormwater Plan. In most cases, staff under the direction of their Environmental Supervisor are responsible for completing the activities necessary for implementing the components of the Stormwater Plan. Table 13 illustrates the breakdown of responsibilities. Appendix A provides additional information regarding these responsibilities, including BMPs and measurable goals. The procedures, specific tasks, deadlines and assigned staff for fulfillment of the Stormwater Plan are described in an annual Work Plan. A copy of this Work Plan is available upon request to the CMSWS’s Environmental Manager for Mecklenburg County’s Water Quality Program. Each co-permittee is responsible for compliance with Permit requirements for the operation and maintenance of facilities, MS4s, stormwater control measures (SCMs), streets, and parking lots that they own and/or maintain. Operation and Maintenance (O&M) Plans have been developed and implemented and are available upon request. Co-permittee contact information is provided in Table 17.

Table 13: Summary of Responsible Parties

Description	Responsible Position	Staff Name	Department	Phone Number	Email
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Description	Responsible Position	Staff Name	Department	Phone Number	Email
Stormwater Plan Administration and Management					
1. Stormwater Program Administration	Director, CMSWS	Don Ceccarelli	CMSWS	980-314-3209	Don.ceccarelli@mecknc.gov
2. Stormwater Plan Management	Environmental Manager	Rusty Rozzelle	CMSWS	980-314-3217	Rusty.rozzelle@mecknc.gov
Stormwater Plan Components					
1. Public Education & Outreach	Environmental Supervisor	Ashley Smith	CMSWS	980-314-3218	Ashley.smith@mecknc.gov
2. Public Involvement & Participation	Environmental Supervisor	Ashley Smith	CMSWS	980-314-3218	Ashley.smith@mecknc.gov
3. Illicit Discharge Detection & Elimination (includes Spill Response)	Environmental Supervisor (IDDE Program Activities, MS4 Mapping & Spill Response)	Ryan Spidel	CMSWS	980-314-3219	Ryan.spidel@mecknc.gov
	Environmental Supervisor (Monitoring)	Olivia Edwards		980-314-3213	Olivia.edwards@mecknc.gov
4. Construction Site Runoff Control (1)	Lead Project Manager (Permitting)	Tom Hodge	CMSWS	980-314-3203	Tom.hodge@mecknc.gov
	Environmental Supervisor (Inspections)	Corey Priddy		980-314-3221	Corey.priddy@mecknc.gov
5. Post-Construction Site Runoff Control (1)	Environmental Manager (Administrator)	Rusty Rozzelle	CMSWS	980-314-3217	Rusty.rozzelle@mecknc.gov
	Lead Project Manager (Permitting)	Tom Hodge		980-314-3203	Tom.hodge@mecknc.gov
	Environmental Supervisor (Inspections)	Corey Priddy		980-314-3221	Corey.priddy@mecknc.gov
6. Pollution Prevention/Good Housekeeping for Municipal Operations (2)	Environmental Supervisor	Julianna Hawley	CMSWS	980-314-3215	Julianna.hawley@mecknc.gov
7. Municipal Facilities Operation & Maintenance Program (2)	Environmental Supervisor	Julianna Hawley	CMSWS	980-314-3215	Julianna.hawley@mecknc.gov
8. Spill Response Program (2)	Environmental Supervisor	Ryan Spidel	CMSWS	980-314-3219	Ryan.spidel@mecknc.gov
9. MS4 Operation & Maintenance Program (2)	Environmental Supervisor	Julianna Hawley	CMSWS	980-314-3215	Julianna.hawley@mecknc.gov
10. Municipal SCM Operation & Maintenance Program (2)	Environmental Supervisor	Corey Priddy	CMSWS	980-314-3221	Corey.priddy@mecknc.gov
11. Pesticide, Herbicide	Environmental	Julianna	CMSWS	980-314-3215	Julianna.hawley@mecknc.gov

Description	Responsible Position	Staff Name	Department	Phone Number	Email
& Fertilizer Management Program (2)	Supervisor	Hawley			
12. Vehicle & Equipment Cleaning Program (2)	Environmental Supervisor	Julianna Hawley	CMSWS	980-314-3215	Julianna.hawley@mecknc.gov
13. Pavement Management Program (2)	Environmental Supervisor	Julianna Hawley	CMSWS	980-314-3215	Julianna.hawley@mecknc.gov
14. Total Maximum Daily Load (TMDL)	Environmental Manager	Rusty Rozzelle	CMSWS	980-314-3217	Rusty.rozzelle@mecknc.gov

- (1) In the Town of Huntersville and its ETJ, Town staff are responsible for plan reviews and issuing land development permits as well as conducting inspections during construction to ensure compliance with Permit requirements. Kevin Fox, Public Works Director, is the responsible party for the Town of Huntersville (see Table 18 for contact information). CMSWS serves as the administrator of Huntersville’s Post-Construction Ordinance.
- (2) CMSWS is responsible for implementing the BMPs described in the summary tables contained in this document unless otherwise indicated as well as coordinating with County staff regarding operation and maintenance of County owned facilities and operations. Co-permittees are responsible for Permit compliance at the facilities that they own and/or operate with guidance from CMSWS. Table 17 provides the contact names for the responsible co-permittees.

4.4 Standard Operating Procedures (SOPs)

Written Standard Operating Procedures (SOPs) and Standard Administrative Procedures (SAPs) have been developed to identify specific action steps, schedules, resources, and responsibilities for implementing the six (6) minimum measures for controlling pollution sources. Written procedures can be free standing, or where appropriate, integrated into the Stormwater Plan. They adhere to a standard format and include an approval page and revision history. SOPs are included in the SWPPPs for facilities when applicable and are made available to staff for dissemination as appropriate for vehicle washing, fueling, etc. These SOPs also follow a standard format but do not typically include an approval page or revision history.

4.5 Documentation

The following summarizes CMSWS’s documentation of Phase II Permit compliance activities.

1. The specific actions and deadlines implemented by CMSWS in the execution of the BMPs and measurable goals for compliance with Permit requirements and the Stormwater Plan are maintained in an annual Work Plan.
2. Annual Work Plans are maintained in a database referred to as Time Pro. Time Pro is also used to track staff time toward completion of Work Plan assignments.
3. The Cityworks database maintains documentation of the completion of Work Plan activities except for water quality monitoring activities that are documented in the Water Quality Database.
4. The LAN folder at [\\hmcfs01\attachments\WQ](#) serves as the backup destination for Cityworks documentation generated by the Water Quality Program.
5. The LAN folder at [G:\Water Quality\WQ_Xfer\WQ\Phase II Permit](#) maintains annual reports, co-permittee information, Permit applications, Permit audits, Phase II Permits,

presentations, State correspondence, Stormwater Plans, TMDL documentation, and other information relating to the Phase II Permit.

6. The Environmental Data Management System (EDMS) serves as the reporting mechanism for data relating to services requests and notices of violation, including repeat offenders as required by the Permit.
7. The Emerald System maintains documentation of stormwater drainage service requests.
8. The Accela system maintains documentation of plan and plat reviews for compliance with Erosion Control and Post-Construction Programs.
9. Co-permittees are responsible for maintaining documentation for compliance activities that are their responsibility as described in Appendix F.

CMSWS's staff are required to document all activities performed for compliance with Phase II Permit requirements and the Stormwater Plan as summarized above. CMSWS maintains these records for a minimum of five (5) years. The annual Work Plan maintained in Time Pro informs staff of their assigned activities and deadlines and provides them with tools for tracking the completion of assignments. It is the responsibility of the lead staff for each activity as identified in the Work Plan to complete the necessary documentation. Procedures have been developed for the proper completion of this documentation and are available to staff in the Water Quality Program Policies and Procedure Manual. Cityworks is the primary mechanism used to document the completion of Work Plan activities except for water quality monitoring activities, which are documented in the Water Quality Database. The Cityworks Server Attachments folder on the LAN at \\hmcfs01\attachments\WQ that corresponds to the current fiscal year is the back-up destination for most documentation. The Activity Report in Cityworks is used for maintaining documentation for most activities. Some of these activities have templates in Cityworks for more effective documentation, including responses to service requests, issuance of notices of violation and various routine inspections (i.e., erosion control, industrial and municipal facilities, and SCMs). CMSWS's staff are required to provide the information described below for all completed activities. A template in Word format referred to as a Work Plan Log is used by staff to capture this information.

- Specific date(s) when work was performed.
- Names of individual(s) that performed the work.
- Description of the work that was performed.
- Description of how the work was performed.
- Locations/areas where the work was performed.
- Persons or groups contacted for completion of the work.
- Description of all compliance activities, including notices of violation issued, fines, etc.
- Specific outcomes resulting from the completion of the assigned task.

4.6 Annual Program Report and Program Assessment

Part I, G of Mecklenburg County's Phase II Permit specifies that the implementation of the BMPs consistent with the provisions of the Stormwater Plan constitutes Permit compliance and is therefore indicative of the overall success of the Program. The Stormwater Plan identifies specific actions that must be undertaken for implementation of these BMPs, which are referred to as Measurable Goals. The BMPs and Measurable Goals for Mecklenburg County's Stormwater Plan are provided in this document in Tables 12, 18, 19, 20, 21, 22, 25, and 33 as well as in

Appendix A. These BMPs and Measurable Goals are also incorporated into an annual Work Plan that guides the work performed by the Water Quality Program. Documentation of completion of annual Work Plan activities is performed by CMSWS staff in its Cityworks database. CMSWS’s annual Program Report consists of verification of the completion of this documentation as an assessment of Permit compliance and measure of program success. In accordance with Part III, D of Mecklenburg County’s Phase II Permit, the annual Program Report also includes the following:

1. A detailed description of the status of implementation of the Stormwater Plan as a whole. This will include information on development and implementation of each major component of the Stormwater Plan for the reporting period and schedules and plans for the year following each report as well as a fiscal analysis.
2. A summary of data accumulated as part of the Stormwater Plan throughout the year, an example of which is provided in Appendix B. If the data has any relevance to the overall implementation of the Stormwater Plan, this information will be provided in the annual Program Assessment summary section of the annual Program Report.
3. An assessment of compliance with the permit, information on the establishment of appropriate legal authorities, inspections, and enforcement actions.
4. A description of existing efforts to address TMDLs and a brief explanation as to how they function toward achieving Permit compliance.

In addition to an annual Program Report, an annual Program Assessment is also completed that includes but is not limited to the following:

1. Description of the effectiveness of each program component, including BMPS and Measurable Goals as well as ordinances and other legal mechanisms.
2. Description of how the previous year’s activities fulfilled the Stormwater Plan and achieved compliance with the Permit requirements.
3. A description and justification of any proposed changes to the Stormwater Plan. This will include descriptions and supporting information for the proposed changes and how these changes will impact the Stormwater Plan (results, effectiveness, implementation schedule, etc.). These changes typically result in changes to the annual Work Plan contained in the Time Pro database which contains additional detail and more finite deadlines compared to what is provided in the Stormwater Plan and serves as a guide for employee job activities.
4. Status of implementation of changes identified in the previous fiscal year.
5. Assessment of the effectiveness of existing efforts to address TMDLs and whether additional structural and/or non-structural BMPs are necessary for the next fiscal year, including a description of activities expected to occur and their schedule for implementation.

The above-described annual Program Report and Program Assessment are submitted to NCDEQ no later than September 30 of each year. The list of improvements incorporated into the 2025 Work Plan contained in the Time Pro database resulting from the FY2024 Annual Program Report and Program Assessment are provided in Table 14 below. The FY2024 assessment of the Stormwater Plan document was completed in November 2024 by supervisors and lead staff working with the program manager. Changes made to the Stormwater Plan document to improve its overall effectiveness for implementation in FY2025 are described in Table 15 below.

Assessments of the Stormwater Plan document completed for previous fiscal years is provided in Table 1.

Table 14: Improvements Incorporated into Annual Work Plans for Implementation in FY2025

#	Identified Improvement	Justification for Change & Desired Result	Program Element	Responsible Staff	Schedule
Public Education and Outreach Program					
1.	Explore opportunities for public presentations in all six towns.	Improve educational outreach	PE-10	Audrey Sykes-Meyer	End of fiscal year
2.	Reach students through presentations at schools in all six towns.	Improve educational outreach	PE-10	Audrey Sykes-Meyer	End of fiscal year
3.	Investigate options for bilingual content on social media channels.	Improve educational outreach	PE-10	Audrey Sykes-Meyer/Taylor Mebane	End of fiscal year
4.	Discontinue the use of increasing awareness and increasing extent of exposure as measures of success and continuing the use of documentation of completion of Stormwater Program activities (see Section 5.8 of SWMP).	Improve measure of success	PE-9	Audrey Sykes-Meyer/Taylor Mebane	End of fiscal year
Public Involvement and Participation Program					
5.	Expand the Adopt-A-Drain program in all six towns.	Increase public involvement	PI-2	Ashley Smith	End of fiscal year
6.	Increase storm drain marking efforts in all six towns.	Increase public involvement	PI-3	Audrey Sykes-Meyer	End of fiscal year
7.	Investigate ways to increase participation in the Storm Drain Marking Competition.	Increase public involvement	PI-3	Audrey Sykes-Meyer	End of fiscal year
8.	Discontinue the use of increasing number of volunteers as a measure of success and continuing the use of documentation of completion of Stormwater Program activities (see Section 6.6 of SWMP)..	Improve measure of success	PE-I(14)	Audrey Sykes-Meyer	End of fiscal year
Illicit Discharge Detection and Elimination (IDDE) Program					
9.	Discontinue the use of increasing pollution problems identified and decreasing repeat violators as measures of success and continuing the use of documentation of completion of Stormwater Program activities (see Section 7.10 of SWMP).	Improve measure of success	ID-10	Ryan Spidel	End of fiscal year
Construction Site Storm Water Runoff Control Program					
10.	Increase the total number of erosion control inspections from the previous fiscal year at 627 inspections.	Improve compliance	CS-1	Chanell Hatch	End of fiscal year
11.	Update the current, 2008 Soil Erosion and Sedimentation Control Ordinance.	Stay up to date with the state’s ordinance	CS-1	Chanell Hatch	End of fiscal year
12.	Make the state a vendor to be able to collect erosion control penalties that we are collecting.	Update the process with the state	CS-1	Chanell Hatch	End of fiscal year

#	Identified Improvement	Justification for Change & Desired Result	Program Element	Responsible Staff	Schedule
13.	Discontinue the use of improving erosion control compliance as a measure of success and continuing the use of documentation of completion of Stormwater Program activities (see Section 8.11 of SWMP).	Improve measure of success	CS-3	Corey Priddy	End of fiscal year
Post-Construction Site Storm Water Runoff Control Program					
14.	Increase number of 3 rd party inspections completed by owners from previous year (FY2024 = 480).	Improve compliance	PC-2	Jeff Zambanini	End of fiscal year
15.	Increase follow-up inspections following a Notice of Maintenance Required and/or a Notice of Violation (FY2024 = 24).	Improve compliance	PC-2	Jeff Zambanini	End of fiscal year
16.	Increase the number of SCM educational material distributed (FY2024 = 23)	Improve awareness and compliance	PC-2	Jeff Zambanini	End of fiscal year
17.	Discontinue the use of improving BMP compliance as a measure of success and continuing the use of documentation of completion of Stormwater Program activities (see Section 9.14 of SWMP).	Improve measure of success	PC-5	Corey Priddy	End of fiscal year
Pollution Prevention & Good House Keeping Program					
18.	Work with the Pollution Prevention team to incorporate deficiencies, repeat recommendations, and other notable recommendations from facility inspections into site-specific training.	Improve awareness and compliance	PP-1 and PP-2	Julianna Hawley and Matthew Peine	End of fiscal year
19.	Review, update, and redistribute O&M Plans.	Improve compliance	PP-2	Julianna Hawley	End of fiscal year
20.	Discontinue the use of improving pollution prevention and good housekeeping as a measure of success and continuing the use of documentation of completion of Stormwater Program activities (see Section 10.16 of SWMP).	Improve measure of success	PP-9	Julianna Hawley	End of fiscal year

Table 15: Changes Made to the Stormwater Plan Document for implementation in FY2025

Reference from FY24 Version	Description of the Modification
Section 3	Updated Table 2 with current MS4 Mapping information. Included information regarding CMSWS’s review of the DRAFT 2024 303(d) list and integrated 305(b) and 303(d) reports and summarized comments provided to NCDEQ.
Section 4.5	Added statement that documentation of program activities will be maintained for a minimum of five (5) years.
Section 4.6	Updated to better describe the annual Program Report and Program Assessment to take the place of the Annual Assessment sections at the end of Sections 5 through 11, which were eliminated from the Plan.
Tables 14 and 15	Updated to include changes from the FY2025 annual assessment.
Table 16	Updated to include new budgets for FY2025.
Section 5.8	Eliminated Stormwater Public Opinion Survey and Media Campaign from Measures of Success.
Section 6.6	Eliminated Number of Volunteers from Measures of Success.
Section 7.7	Minor changes made in the methodology for finding and eliminating illicit discharges.
Section 7.8	Updated the description of the training program developed and implemented for

Reference from FY24 Version	Description of the Modification
	appropriate municipal staff, who as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge or illicit connection.
Section 7.10	Eliminated increase in percentage of notices of violation issued to the number of Phase II inspections conducted and decrease in percentage of repeat violations from Measures of Success.
Section 8.11	Eliminated decrease in percentage of notices of violation issued to the number of erosion control inspections conducted from Measures of Success.
Section 9.14	Eliminated decrease in percentage of notices of violation issued to the number of BMP inspections conducted from Measures of Success.
Section 10.16	Eliminated decrease in percentage of notices of violation issued to the number of facility inspections conducted from Measures of Success.
Table 10	Updated the BMP Summary table to be consistent with the new annual report format.
Table 16	Updated the BMP Summary table to be consistent with the new annual report format.
Table 17	Updated the BMP Summary table to be consistent with the new annual report format.
Table 19	Updated the BMP Summary table to be consistent with the new annual report format.
Table 20	Updated the BMP Summary table to be consistent with the new annual report format.
Table 23	Updated the BMP Summary table to be consistent with the new annual report format.
Table 10	Updated the BMP Summary table to be consistent with the new annual report format.
Appendix A	Updated the BMP Summary table to be consistent with the new annual report format.
Appendix B	Add to provide an example of data typically collected through the implementation of the Plan and included in the annual Program Report.
Appendix C	Eliminated organizational charts because they have become outdated.

4.7 Program Budget and Funding

For FY2025, the total estimated budget for compliance with Phase II Permit requirements in Mecklenburg County is estimated at \$1,934,503.44. A total of \$1,227,381.52 or 63% of the total budget is associated with plan reviews, permitting and inspections for compliance with erosion control and post-construction ordinance requirements, which includes components 4 and 5 from Table 13 for both Mecklenburg County and the Town of Huntersville. Funding for these services is provided through land development fees. A total of \$707,121.92 is associated with work performed by CMSWS for compliance with the other components of the Stormwater Plan, including 1, 2, 3, 6, and 7 in Table 13. Funding for these services is shared among all co-permittees as indicated in Table 16 based on methodology described in the Mecklenburg County Water Quality Program Funding Strategy, which is available from the Environmental Manager upon request. Funding from the Towns and County for these services is provided by stormwater fees, which represents approximately 34% of the total Phase II budget for FY2024. For CMS and CPCC, funding is provided through their general budgets since they do not receive revenue from storm water fees, which represents approximately 3% of the total Phase II budget.

Table 16: Estimated Cost Breakdown by Jurisdiction/Entity for FY2025

Jurisdiction/Entity	FY20 Budget
CMS	\$38,050.76
CPCC	\$13,557.77
Town of Cornelius	\$67,854.81
Town of Davidson	\$29,372.83
Town of Huntersville	\$173,423.00
Town of Matthews	\$83,021.40

Jurisdiction/Entity	FY20 Budget
Mecklenburg County	\$179,941.39
Town of Mint Hill	\$83,031.06
Town of Pineville	\$38,868.90
TOTAL	\$707,121.92

4.8 Co-Permittees

A total of nine (9) jurisdictions/entities are covered as co-permittees under the NPDES MS4 Permit number NCS000395, including Mecklenburg County, Charlotte-Mecklenburg Schools, and Central Piedmont Community College as well as the Towns of Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville. Section 4.9 describes the responsibilities for Permit compliance that are shared by all co-permittees. Table 17 below provides contact information for each co-permittee. This table is provided instead of organizational charts for each jurisdiction/entity, which are highly subject to change. Typically, the Manager is the highest ranking local, nonelected official followed by the Deputy Manager and then the Public Works Director. Interlocal agreements have been entered into between CMSWS and the co-permittees, which are available from the Environmental Manager upon request.

Table 17: Co-Permittee Contact Information

Jurisdiction/Entity	Manager	Deputy Manager	Public Works Director	Phone #	Mailing Address	Email
Cornelius	Andrew Grant	Wayne Herron	Tyler Beardsley	704-892-6031	PO Box 399, Cornelius, NC 28031	tbeardsley@cornelius.org
Davidson	Jamie Justice	Austin Nance	Jesse Bouk	704-892-7591	PO Box 579, Davidson, NC 28036	jbouk@townofdavidson.org
Huntersville	Anthony Roberts	Jackie Huffman	Kevin Fox	704-766-2220	PO Box 664 Huntersville, NC 28270	kfox@huntersville.org
Matthews	Becky Hawke	Melia James	CJ O'Neill	704-708-1242	1600 Tank Town Rd., Matthews, NC 28105	cjoneill@matthewsnc.gov
Mecklenburg County	Dena Diorio	Leslie Johnson	Don Ceccarelli	980-314-3209	2145 Suttle Avenue Charlotte, NC 28208	Don.ceccarelli@mecknc.gov
Mint Hill	Brian Welch	Lee Bailey	Steve Frey	704-545-9726	4430 Mint Hill Village Ln., Mint Hill, NC 28227	sfrey@admin.minthill.com
Pineville	Ryan Spitzer	N/A	Chip Hill	704-889-7467	PO Box 249, Pineville, NC 28134	chill@pinevillenc.gov
CMS	Dr. Crystal Hill	Dr. Melissa Balknight	Kesha Porter	980-343-9447	3301 Stafford Drive, Charlotte, NC 28208	keshad.porter@cms.k12.nc.us

CPCC	Dr. Kandi Deitemeyer	Jessica Boyce	Vickie Saville	704-330-6316	PO Box 35009 Charlotte, NC 28235-5009	vicki.saville@cpcc.edu
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4.9 Shared Responsibilities

As specified in the Phase II Permit, each co-permittee is responsible for compliance with the terms and conditions of the Permit for stormwater activities and Permit requirements applicable to their jurisdictional area. The Permit further specifies that the State can administer and enforce the Permit requirements with respect to individual co-permittees found in non-compliance with the Permit. The Interlocal Agreements entered into between Mecklenburg County and all the co-permittees provides further clarification by stating that each co-permittee is responsible for taking the actions necessary within their respective jurisdictions/entities as described by CMSWS staff to ensure compliance with Permit requirements. For example, CMSWS staff is responsible for inspecting municipal facilities under the Pollution Prevention and Good Housekeeping Program and providing written notification to the responsible jurisdiction/entity regarding inspection results, including all deficiencies. The jurisdiction/entity and not CMSWS is responsible for implementing the actions necessary to correct all deficiencies. Each co-permittee is responsible for performing all activities related to the maintenance and repair of their property and infrastructure for compliance with Permit requirements, including facility maintenance as well as inlet, pipe, parking lot, and street cleaning. A list of co-permittee responsibilities for Phase II Permit compliance is provided in Appendix F. A description of co-permittee responsibilities for each Permit requirement is also provided in Appendix A

4.10 Coordination Between Co-Permittees

Proper coordination between all co-permittees is essential for ensuring success at fulfilling Permit requirements. CMSWS undertakes specific actions for proper coordination as described below.

1. A Funding Strategy is developed by CMSWS annually describing the methodology to be used to equitably share costs associated with compliance with Phase II Permit requirements during the fiscal year (July 1 through June 30).
2. By May 31st of every year, CMSWS prepares a draft Work Plan and submits to all co-permittees for review and comment. This Work Plan describes what activities CMSWS will perform during the next fiscal year to comply with Permit requirements and includes a list of co-permittee responsibilities as described in Appendix F. The Work Plan also includes a budget for each co-permittee based on the Funding Strategy developed in #1 above. Comments are received and addressed, and a final Work Plan is developed and implemented effective July 1 of every year.
3. Quarterly reports are submitted to all co-permittees (referred to as Statements) listing the activities performed for Permit compliance, time involved, and associated costs.
4. Meetings are held with co-permittees as necessary, which are oftentimes virtual, to provide updates regarding Work Plan implementation and Permit compliance as well as to give co-permittees an opportunity to ask questions.
5. Inspections are conducted annually at the public works facilities owned and operated by the co-permittees to ensure compliance with Permit requirements. As part of these inspections, information is obtained from the co-permittees regarding the activities being

performed for MS4 operation and maintenance as well as street and parking lot cleaning. Annual inspections are also performed by CMSWS of SCMs owned and/or operated by co-permittees for compliance with post-construction ordinance requirements.

6. By October 31st of every year, a detailed annual report is provided to all co-permittees describing the specific Permit compliance activities completed and a status of the measures of success.

SECTION 5: PUBLIC EDUCATION AND OUTREACH PROGRAM

A Public Education and Outreach Program has been developed and is currently being implemented for Mecklenburg County’s Phase II jurisdictions/entities to inform the community of the physical attributes of stormwater runoff, including the pollutants typically contained in runoff and their likely sources, as well as the impacts of these pollutants on surface water quality. The Program also describes the steps that the public can take to reduce pollutants in stormwater runoff and protect water quality. The program is administered by CMSWS’s Water Quality Program as described in the following Sections.

5.1 Program Goals and Objectives

CMSWS’s establishes its goals and objectives for its Public Education and Outreach Program, which are evaluated and updated annually as necessary, based on the actions necessary to effectively address the targeted pollutants and pollutant sources identified in Table 11. The current goals of the Public Education and Outreach Program are as follows:

1. Change public behaviors to reduce sources of water pollution and improve water quality.
2. Promote participation in activities aimed at restoring water quality conditions.

The current objectives of the Public Education and Outreach Program are as follows:

- a. Develop, distribute, and advertise public educational and outreach messages to the community and conduct outreach activities to inform the public of the negative impacts that stormwater discharges have on water quality by promoting the following concepts:
 - All storm drains flow directly to creeks and lakes without treatment.
 - Storm drains are only for rain.
 - Anything other than rain that enters a storm drain becomes stormwater pollution.
 - Buffers around lakes and streams act to filter pollutants and are important for protecting water quality.
- b. Develop, distribute, and advertise public educational and outreach messages to inform the public of the steps they can take to reduce the negative impacts from stormwater discharges and restore water quality conditions by promoting the following concepts:
 - Do not pour anything down a storm drain or in a creek or lake.
 - Volunteer to mark storm drains, adopt streams, and participate in the annual Big Spring Clean event.
 - Report pollution to 311.
 - Maintain a vegetated buffer around lakes and streams.

5.2 BMP Summary Table

Table 18 summarizes the activities undertaken to fulfill the above described goals and objectives of the Public Education and Outreach Program. Column A describes the BMPs identified in the Storm Water Plan for the Program. The specific actions (i.e., Measurable Goals) undertaken for implementation of these BMPs are described in Column B with the schedule provided in Column C. Column D includes the Annual Reporting Metric, indicating whether the Measurable Goals were completed and whether compliance with the Storm Water Plan and Permit was achieved. Column E describes the co-permittees’ responsibilities for fulfilling the BMP.

Table 18: BMP Summary Table for the Public Education and Outreach Program

BMP Summary Table for the Public Education and Outreach Program					
Public Education and Outreach (Permit Ref. Part II Section B; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing a Public Education and Outreach Program for Mecklenburg County’s Phase II jurisdictions/entities.					
BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
#3 PE-10	Public Education and Outreach				
	Distributing educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to ensure an effective outreach.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Coordinate with City and Co-Permittees, Review and Update SOPs, Review and Update Target Pollutants, Audiences, Residential/ Commercial Issues	Annually beginning July 1	Completed/Compliant	
		d. Develop, Update, Distribute, and Make Available Educational Materials	Annually beginning July 1	Completed/Compliant	
		e. Develop and Send Newsletters	Annually beginning July 1	Completed/Compliant	
		f. Develop and Implement Public Education Media Campaign	Annually beginning July 1	Completed/Compliant	
		g. Develop and Conduct Outreach for Schools	Annually beginning July 1	Completed/Compliant	
		h. Develop and Conduct Outreach for Industrial/Commercial Sector	Annually beginning July 1	Completed/Compliant	
#4 PE-2	Educational Outreach and Involvement for CMS and CPCC				
	Coordinating with CMS and CPCC staff to provide brochures, create web links, and coordinate participation in educational events.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to ensure an effective outreach.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Develop and Distribute Educational Messaging	Annually beginning July 1	Completed/Compliant	
		d. Maintain Links	Annually beginning July 1	Completed/Compliant	
e. Promote Adopt-A-Stream and Storm Drain Marking		Annually beginning July 1	Completed/Compliant		
#5 PE-9	Evaluate the Public Education and Outreach Program				
	Assessing the effectiveness of the storm water	a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide feedback and suggestions regarding
b. Annual Assessment		Annually	Completed/Compliant		

BMP Summary Table for the Public Education and Outreach Program					
Public Education and Outreach (Permit Ref. Part II Section B; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing a Public Education and Outreach Program for Mecklenburg County’s Phase II jurisdictions/entities.					
BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
	education/outreach program at changing the public’s awareness.		beginning July 1		program effectiveness and implement improvements as necessary.
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
		d. Implement Recommendations for Improvement	Annually beginning July 1	Completed/Compliant	
		e. Review Public Opinion Survey	Annually beginning July 1	Completed/Compliant	

5.3 Stormwater Helpline

Charlotte-Mecklenburg maintains a phone helpline at 311 from 7 a.m. to 7 p.m. Monday through Friday except recognized holidays. This stormwater helpline receives citizen requests for service that are forwarded to CMSWS for response, provides general water quality information, and promotes public involvement and participation through established volunteer programs. To ensure effectiveness, CMSWS has provided the staff at 311 with a “key word” index that is used to trigger select responses to water quality related questions and requests. These key words are reviewed and updated annually as necessary and provided to 311 for implementation. For example, if a caller uses the key word “Stream Cleanup” 311 staff has been provided with a select response that refers the caller to the appropriate staff contact at CMSWS for more information. Various media, including television, radio, print ads, brochures, social media, etc., are used to promote 311 as the number to contact to report suspected pollution problems and sign-up for volunteer programs. 311 has been in use since September 8, 2008 and has proven to be an effective helpline service, resulting in CMSWS receiving an average of over 100 reports of potential water quality problems annually in the Phase II jurisdictions and an additional 600 reports in Charlotte’s Phase I jurisdiction as well as numerous requests to participate in volunteer programs. CMSWS maintains a 24-hour a day, 7 days a week response status for all water quality problems, spills, emergencies, etc. by working in close cooperation with 311 as well as the Charlotte-Mecklenburg Fire and Police Departments, including all the Towns. Emergency spill response services are available through 911. Residents can also request services through the Storm Water Services webpage online and through the use of the mobile CLT Plus app at the following link: <https://charlottenc.gov/Pages/CLTplus.aspx>.

5.4 Outreach Program

The outreach strategy for the Mecklenburg County Phase II jurisdictions/entities includes the mechanisms described in this Section, which are estimated to result in over 6,600,000 contacts for the protection and restoration of water quality conditions in the Charlotte-Mecklenburg area during the five (5) year Permit term. Contacts outside the Phase II jurisdictions are included in this calculation, which is unavoidable due to the fact that the program is administered countywide. For each media, event or activity included in the outreach program, the extent of exposure is estimated and recorded.

5.4.1 Utility Bill Inserts

Utility Bill Inserts (UBIs) with educational stormwater topics are placed inside utility bills (water, sewer, and stormwater) eight (8) times per year for distribution to over one million customers in Charlotte-Mecklenburg. These UBIs reach the entire target audience described in Section 3.10 with general water quality messages such as how to report suspected pollution problems and measures for reducing stormwater pollution, as well as messages associated with targeted pollutant sources and volunteer opportunities. Figure 4 is the utility bill insert distributed in October 2022.



Figure 4: Utility Bill Insert

5.4.2 Brochures and Environmental Notices

This outreach mechanism involves the development and distribution of printed brochures, Environmental Notices, and Newsletters to select members of the targeted audience described in Section 3.10, including but not limited to adults, homeowners, pet owners, non-English speaking residents, businesses, and industries. This outreach includes general water quality messages regarding pollution prevention, reporting, and regulatory compliance as well as messages associated with specific pollution sources from Table 11 and information regarding water quality volunteer opportunities. Printed brochures are distributed during responses to citizen requests for service, inspections, and at event displays. Environmental Notices containing specific information for protection of water quality and compliance with water quality regulations are typically distributed during responses to citizen requests for service and inspections for identifying and eliminating pollution sources. For those jurisdictions that do not utilize social media as described in Section 5.4.5, newsletter articles are sent to residents to inform them of the measures they should take to eliminate pollution sources.

5.4.3 Articles and Newsletters

This outreach mechanism involves the development and publication of articles in local newspapers, newsletters, and online sources available to residents in the Phase II jurisdictions.

These sources include but are not limited to the Charlotte Observer, The Recycler, Hola magazine, Axios Charlotte, and Charlotte Five. These sources reach the target audience, which is described in Section 3.10. The articles seek to educate residents about the impacts of stormwater discharges on water bodies and the steps they can take to reduce pollution, participate in volunteer programs and events, sign up for swim advisories, as well as report suspected pollution problems.

5.4.4 Media Campaign

This outreach mechanism involves the use of radio and television ads to reach the entire targeted audience described in Section 3.10 with messages regarding the measures that can be taken to reduce stormwater pollution as well as messages associated with specific pollutant sources. This outreach mechanism is also used to promote participation in water quality volunteer activities. TV and radio ads run throughout the fiscal year with a very wide circulation.

5.4.5 Social Media

This outreach method includes, but is not limited to, Facebook, Twitter, Instagram, and Web Banners to engage citizens in activities for protecting and restoring water quality conditions in Mecklenburg County. Posts include a variety of stormwater-related topics. Figure 5 is a Web Banner that was posted on numerous high-profile websites starting in FY2022.



Figure 5: Web Banner

5.4.6 Targeted Outreach

Targeted educational outreach efforts are initiated when responses to service requests, monitoring results or other program activities reveal pollution sources isolated to specific target areas. Educational brochures and/or door hangers are the outreach mechanisms of choice in such situations; however, a very targeted social media campaign could also be conducted. For example, if elevated fecal coliform levels were detected as a result of water quality monitoring activities and field investigations revealed a large concentration of dogs registered in homes upstream, then a door-to-door educational campaign would be conducted in the area to promote the proper disposal of dog waste, including the distribution of various educational materials. Targeted outreach is also performed on a watershed level based on specific issues such as

TMDLs or a specific pollutant of concern. Figure 6 is an example of a targeted education mailer used in the Reedy Creek Watershed.

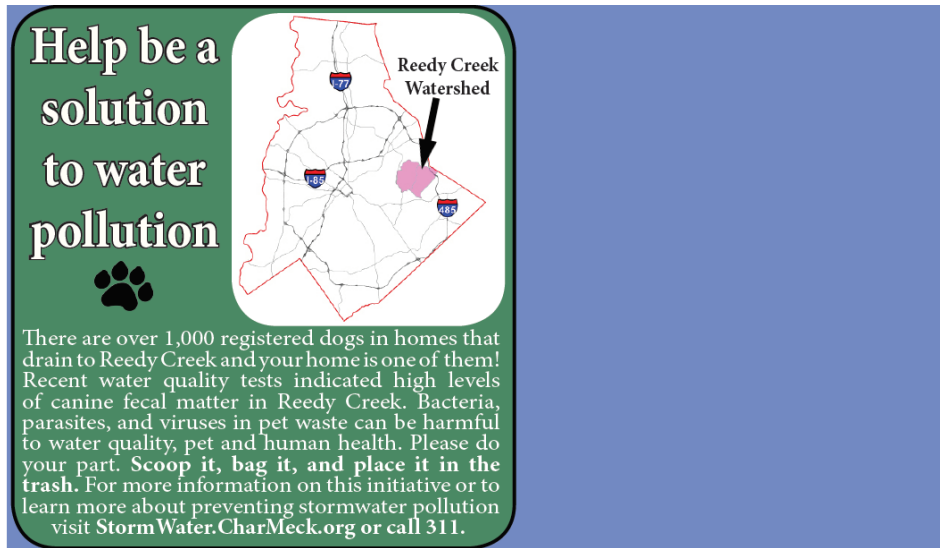


Figure 6: Targeted Education Mailer

5.4.7 Workshops and Video Taped Messages

This outreach mechanism involves the use of workshops and/or video taped messages to reach a wide segment of the targeted audience described in Section 3.10. At least two (2) workshops and/or video taped messages will be provided during the five (5) year Permit term reaching an estimated 1,000 persons. To date, several pollution prevention video taped messages have been developed and are available on YouTube. In 2015, CMSWS developed a video entitled “Water Pollution: What to Do?” that describes sources of water pollution, the importance of clean water to the community and the impacts of water pollution as well as how to detect and report illicit discharges. Each of the Phase II jurisdictions/entities is responsible for ensuring that its staff watches this video if, as part of their normal job responsibilities, they may come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer. This video is available on the County’s MeckEdu website.

5.4.8 Web Pages

This outreach mechanism involves the use of web pages focused on specific water quality topics maintained on the CMSWS website located at <http://stormwater.charmeck.org>. Web pages describe the specific actions necessary to prevent water pollution and instructions for reporting suspected pollution sources. The web pages also target specific business sectors with best management practices relating to pollution prevention. In addition, the web pages include a description of all the volunteer programs with instructions on how to register for participation. Web pages are also available that describe water quality monitoring activities in Mecklenburg County and general water quality conditions. This website is promoted through utility bill inserts, print ads, brochures, Environmental Notices, Newsletters, media campaigns, social media posts, workshops, and by displays on giveaway materials. The website also appears on all emails generated by staff with CMSWS as well as on their business cards. The stormwater website is

also available through a link on the websites maintained by Mecklenburg County and the other co-permittees.

5.4.9 Educational Presentations and Public Events

This outreach mechanism involves the combination of educational presentations, displays, educational materials, handouts, and/or promotional items to reach a very select segment of the targeted audience described in Section 3.10, including adults, dog owners, civic groups, students, landscapers, realtors, and land developers. The messages focus on controlling one or more of the pollutant sources in Table 11 as well as promoting volunteerism. These activities occur throughout the year and are tracked in the annual report. In addition, CMSWS has developed age-specific educational information for use in schools and for presentations to school age children.

5.4.10 Regional Stormwater Partnership of the Carolinas

CMSWS is a member and active participant in the Regional Stormwater Partnership of the Carolinas (RSPC). The RSPC is a non-profit organization whose mission is to work together to educate and bring awareness of stormwater issues and their impact on water quality throughout the Charlotte region. The partnership not only promotes a strong network of stormwater professionals, but it allows multiple municipalities to share various resources, especially in the area of public education and outreach.

5.5 Reaching Mecklenburg County's Diverse Population

Mecklenburg County is recognized as having one of the most diverse populations in the State. This diversity is taken into careful consideration when developing and implementing all activities involved in the Public Education and Outreach and Public Involvement and Participation Programs. For example, CMSWS is careful to ensure that all media outlets and educational materials are designed to reach a broad range of languages. In addition, CMSWS partnered with the Regional Stormwater Partnership of the Carolinas and Johnson C. Smith University on a WRRRI grant, which involved improving public education/outreach and public involvement in three (3) low-income communities in west Charlotte. This is an area identified for needing additional outreach and involvement. Plans are underway to continue to engage the citizens in these communities. In FY2023, an Underserved Communities Reach Plan was developed using data from the 2020 Census. This plan conducted a thorough review of all public education and public participation programs in relation to underserved communities and outlined recommendations for improvement. This plan will be updated annually and will guide our education and outreach programs in underserved communities.

5.6 Communication Plan

Beginning in FY2021, a Communication Plan was developed and implemented in the Phase II jurisdictions. The purpose of this Plan is to describe the methodology and tools that will be used to promote public education and involvement as well as to communicate information regarding incidents responded to by CMSWS such as fuel spills, sewage discharges, fish kills and other impacts to surface waters. The Plan establishes four (4) tiers of communication, including Tier I

– Major Environmental Incident with Immediate Public Health Concern; Tier II – Environmental Incident with Potential Public Health Concern; Tier III - Environmental Incident with Little to No Public Health Concern; and Tier IV - Stormwater Public Education and Public Involvement Message. The Plan describes each of these tiers and provides examples of incidents/situations where the tier would apply. The Plan provides a description of the step-by-step process to be followed to communicate the necessary information under each of the tiers. The Plan also describes the guidelines and communication tools to be used with the public (external) and with key staff (internal) to ensure clear, factual, and transparent communication in all situations. The Plan is maintained in CMSWS’s shared folder as follows and is available upon request to the Environmental Manager: G:\Water Quality\WQ_Xfer\WQ\Communication Plan.

5.7 Decision Process

The targeted audience for the Public Education Program for the Mecklenburg County Phase II jurisdictions/entities include a wide range of age, ethnic and economic groups. These groups rely on varying mechanisms for receiving information; therefore, a multifaceted educational program was designed to achieve effective communication. The individual BMPs identified in Table 18 reflect this approach as do the measurable goals associated with each BMP. Emails, utility bill inserts, Environmental Notices, brochures, Newsletters, and newspaper ads use the printed word to disseminate information and focus on specific pollutants as well as general water quality issues. This information can be distributed to a broad audience via mailings as well as handed out to individuals when responding to citizen requests for service, conducting inspections, or attending public events. Web pages provide a variety of specific information to a broad audience including the general public, commercial and industrial facilities. Workshops and presentations focus on a relatively small audience but are an effective tool for addressing specific pollution sources and gaining volunteer participation. Television, radio, and social media campaigns broaden the approach to a wide audience and typically convey a more general pollution prevention message. The staff responsible for conducting this public education program for the Mecklenburg County Phase II jurisdictions/entities as identified in Table 13 were selected for their expertise in the development and implementation of a multifaceted public outreach campaign.

SECTION 6: PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM

A Public Involvement and Participation Program has been developed and is currently being implemented for Mecklenburg County’s Phase II jurisdictions/entities to comply with the State and local public notice requirements and to engage the community in program development and implementation. The program is administered by CMSWS’s Water Quality Program as described in the following Sections.

6.1 Program Goals and Objectives

CMSWS establishes its goals and objectives for its Public Involvement and Participation Program, which are evaluated and updated annually as necessary, based on the actions necessary to effectively address the targeted pollutants and pollutant sources identified in Table 11. The current goal of the Public Involvement and Participation Program is to create opportunities for the public to participate in Phase II program development and implementation, as well as to get involved in activities aimed at protecting and restoring water quality conditions. The current objectives of the program are as follows:

1. Make a minimum of one (1) presentation annually to the Charlotte-Mecklenburg Stormwater Advisory Committee (SWAC) to describe the activities performed to comply with Phase II Permit requirements and receive feedback. All SWAC meetings are open to the public. A minimum of one (1) of these presentations during the five (5) year Permit term will be advertised for public comment.
2. Develop and implement volunteer programs to involve the public in activities aimed at protecting and restoring water quality conditions.

6.2 BMP Summary Table

Table 19 summarizes the activities undertaken to fulfill the above described goals and objectives of the Public Involvement and Participation Program. Column A describes the BMPs identified in the Storm Water Plan for the Program. The specific actions (i.e., Measurable Goals) undertaken for implementation of these BMPs are described in Column B with the schedule provided in Column C. Column D includes the Annual Reporting Metric, indicating whether the Measurable Goals were completed and whether compliance with the Storm Water Plan and Permit was achieved. Column E describes the co-permittees’ responsibilities for fulfilling the BMP.

Table 19: BMP Summary Table for the Public Involvement and Participation Program

BMP Summary Table for the Public Involvement and Participation Program					
Public Involvement & Participation (Permit Ref. Part II Section C; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing a program to comply with the State and local public notice requirements and to provide opportunities for the public, including major economic and ethnic groups, to participate in efforts to protect and restore surface water quality. (Note: SOPs are the same for Phases I and II. Documentation for revising these SOPs and performing training is contained under the Phase I program.)					
BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
#6	Phase II Public Meeting				

BMP Summary Table for the Public Involvement and Participation Program

Public Involvement & Participation (Permit Ref. Part II Section C; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing a program to comply with the State and local public notice requirements and to provide opportunities for the public, including major economic and ethnic groups, to participate in efforts to protect and restore surface water quality. (Note: SOPs are the same for Phases I and II. Documentation for revising these SOPs and performing training is contained under the Phase I program.)

BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
PI-1	Meeting with the Storm Water Advisory Committee (SWAC) in a public forum to provide information regarding activities performed to comply with Phase II requirements and to receive input from the public regarding storm water issues and the storm water program.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Keep governing bodies up to date.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Conduct Meeting with SWAC	Annually beginning July 1	Completed/Compliant	
		d. Update and Implement the Storm Water Plan	Annually beginning July 1	Completed/Compliant	
#7 PI-2	Adopt-A-Stream Implementing the Adopt-A-Stream Program for the Phase II jurisdictions/entities.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to maximize volunteer participation. Assist with trash removal as requested.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Conduct Daily Operations of Program	Annually beginning July 1	Completed/Compliant	
		e. Update Volunteer Database	Annually beginning July 1	Completed/Compliant	
		f. Ensure Related Water Quality Problems Are Investigated	Annually beginning July 1	Completed/Compliant	
#8 PI-3	Storm Drain Marker Implementing the Storm Drain Marker Program for the Phase II jurisdictions/entities.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to maximize volunteer participation. Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Conduct Daily Operations of Program	Annually beginning July 1	Completed/Compliant	
		e. Update Volunteer Database	Annually beginning July 1	Completed/Compliant	
		f. Update Storm Drain Marking	Annually beginning July 1	Completed/Compliant	

BMP Summary Table for the Public Involvement and Participation Program

Public Involvement & Participation (Permit Ref. Part II Section C; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing a program to comply with the State and local public notice requirements and to provide opportunities for the public, including major economic and ethnic groups, to participate in efforts to protect and restore surface water quality. (Note: SOPs are the same for Phases I and II. Documentation for revising these SOPs and performing training is contained under the Phase I program.)

BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
		Feature			
		g. Ensure Related Water Quality Problems Are Investigated	Annually beginning July 1	Completed/Compliant	
#9 PE-I(4)	Volunteer Big Spring Clean				
	Conducting Annual Cleanup Event (Big Spring Clean) for the Phase II jurisdictions/entities.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to maximize volunteer participation. Assist with trash removal as requested.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Plan and Conduct Annual Stream Cleanup	Annually beginning July 1	Completed/Compliant	
#10 VM	Volunteer Monitoring				
	Implementing volunteer monitoring program for the Phase II jurisdictions/entities.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to maximize volunteer participation.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Conduct Daily Operations of Program	Annually beginning July 1	Completed/Compliant	
		e. Update Volunteer Database	Annually beginning July 1	Completed/Compliant	
		f. Ensure Related Water Quality Problems Are Investigated	Annually beginning July 1	Completed/Compliant	
#11 PE-I(13)	Educate Media Campaign				
	Developing and implementing the Public Involvement Media Campaign for the Phase II jurisdictions/entities.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to maximize volunteer participation through media campaign.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Develop Public Involvement Volunteer Education Campaign	Annually beginning July 1	Completed/Compliant	
		d. Implement Public Involvement Volunteer Education Campaign	Annually beginning July 1	Completed/Compliant	
#12	Volunteer Recognition				

BMP Summary Table for the Public Involvement and Participation Program					
Public Involvement & Participation (Permit Ref. Part II Section C; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing a program to comply with the State and local public notice requirements and to provide opportunities for the public, including major economic and ethnic groups, to participate in efforts to protect and restore surface water quality. (Note: SOPs are the same for Phases I and II. Documentation for revising these SOPs and performing training is contained under the Phase I program.)					
BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
PE-I(14)	Performing activities to recognize and promote volunteers for the Phase II jurisdictions/entities.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to facilitate volunteer appreciation as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Plan Volunteer Recognition Events	Annually beginning July 1	Completed/Compliant	
		d. Implement Volunteer Recognition Events	Annually beginning July 1	Completed/Compliant	
#13 PE-I(16)	Creek Week Performing annual Creek Week Events for the Phase II jurisdictions/entities.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to maximize volunteer participation.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Plan Creek Week Events	Annually beginning July 1	Completed/Compliant	
		d. Implement Creek Week Events	Annually beginning July 1	Completed/Compliant	
#14 PI-6	Evaluate Public Involvement Program Evaluating the effectiveness of the Public Involvement & Participation Program.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
		d. Implement Recommendations for Improvement	Annually beginning July 1	Completed/Compliant	

6.3 Targeted Audience

The targeted audience for the Public Involvement and Participation Program includes all age, ethnic and economic groups in Mecklenburg County as described in Section 3.10. Participation in the Program will be promoted through the Public Education and Outreach Program described in Section 5. Volunteer opportunities will be made available to all stakeholder groups, including commercial and industrial facilities, environmental groups, homeowners’ associations, civic groups, educational organizations, and interested citizens.

6.4 Mechanisms for Public Involvement and Participation

The Mecklenburg County Phase II jurisdictions/entities utilize the Charlotte Mecklenburg Stormwater Advisory Committee (SWAC) to provide and promote a mechanism for public involvement, including receiving input on stormwater issues and the development and implementation of the Stormwater Plan. The public is also actively involved in ongoing efforts to restore water quality conditions through volunteer participation in a variety of events, including Adopt-A-Stream, Storm Drain Marking, Volunteer Monitoring, and The Big Spring Clean. The following Sections provide additional information concerning these mechanisms for public involvement and participation.

6.4.1 Charlotte Mecklenburg Stormwater Advisory Committee (SWAC)

The City of Charlotte, Mecklenburg County and the six (6) Towns established SWAC as its local stormwater management panel in 1994 with the development of their stormwater utility (Charlotte-Mecklenburg Stormwater Services). SWAC reviews stormwater management policies and long-range plans and budgets to make recommendations or offer comments to elected officials. The advisory committee also hears appeals and decides on water quality penalties, service charges, credits, and adjustments. SWAC members are appointed by the Mecklenburg Board of County Commissioners, Charlotte City Council, Charlotte Mayor and Town Boards. SWAC includes representation from all the Phase II jurisdictions in Mecklenburg County. All SWAC meetings are open to the public. Effective January 1, 2003, SWAC began serving as the mechanism for obtaining public involvement in development and implementation of the Phase II Permit in Mecklenburg County. In addition, meetings are held with co-permittees at a minimum of twice a year (oftentimes these meetings are virtual) to provide updates regarding Work Plan implementation and Permit compliance as well as to give co-permittees an opportunity to ask questions.

6.4.2 Public Meetings

Public meetings are the mechanism used to comply with the State and local public notice requirements and to engage the community in program development and implementation. Public meetings are held before SWAC each year in the spring to obtain support for the upcoming budget submittal. The meetings include a presentation of the activities performed to fulfill Permit requirements and a request for comments. An advertised public meeting is held before SWAC prior to the submittal of the Permit renewal application every five (5) years. The purpose of this meeting is to provide the public with an opportunity to review and provide comments regarding the Permit application and Stormwater Plan. On July 15, 2021, a public meeting was held prior to the submittal of the application for the Permit term ending February 16, 2027. This public meeting was advertised in the Charlotte Observer on June 22 and July 1, 2021. During the meeting, a presentation was given by CMSWS staff describing the measures implemented to control stormwater pollutant sources in the Phase II jurisdictions/entities and the various activities performed to fulfill Phase II Permit requirements as described in the Stormwater Plan. Staff informed SWAC that no substantial changes were planned for the new Permit or Stormwater Plan. No member of the public provided comments. A vote by SWAC members at the end of the meeting indicated support of the Stormwater Plan and submittal of the Permit application. On March 17, 2023, a presentation was made to SWAC that included slides regarding efforts for compliance with Phase II Permit requirements in Mecklenburg County. The

meeting was open to the public for comment. Approximately 25 persons were in attendance. No comments were received. No actions were taken.

6.4.3 Adopt-A-Stream Program

Mecklenburg County developed a countywide Adopt-A-Stream Program as part of the Surface Water Improvement and Management (S.W.I.M.) initiative beginning in 1998. This program was significantly expanded with the implementation of the Phase I and Phase II Stormwater Programs by the City of Charlotte and Mecklenburg County, respectfully. The Adopt-A-Stream Program engages volunteers in removing trash and locating pollutant sources in Mecklenburg County streams. Adoption groups include Scout troops, environmental interest groups, homeowners’ associations, schools, families, garden clubs, businesses, industries, etc. Training is offered to Adopt-A-Stream groups upon request. The purpose of this training is to familiarize the volunteers with methods for detecting common water quality problems, proper stream walk techniques, and important safety measures. Typically, volunteer groups will adopt a one (1) mile long stream segment. Groups walk their assigned stream segment at least twice a year. The groups are also encouraged to clean their stream segment during The Big Spring Clean event. The groups keep records of their Adopt-A-Stream activities. These records are submitted to CMSWS following the completion of stream cleanup activities. All records are input by staff into the Volunteer Database, which is maintained as part of EDMS. CMSWS follows up on identified pollution problems to ensure that they are eliminated, and water quality is restored as well as coordinates the proper disposal of all trash and debris removed from streams by adoption groups.

6.4.4 Storm Drain Marking Program

Mecklenburg County developed a countywide Storm Drain Marking Program as part of the S.W.I.M. initiative beginning in 1998. This program was significantly expanded with the implementation of the Phase I and Phase II Stormwater Programs by the City of Charlotte and Mecklenburg County, respectfully. The Storm Drain Marking Program uses volunteers to place

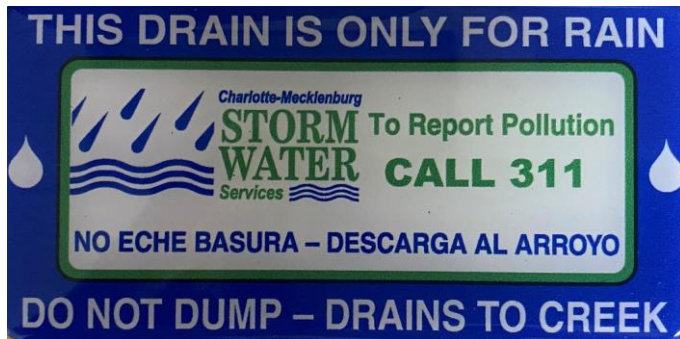


Figure 7: Storm Drain Marker

decals on storm drains with the message “Do Not Dump – Drains to Creek” (see Figure 7). Volunteer groups include Scout troops, environmental interest groups, homeowners’ associations, schools, garden clubs, families, businesses, industries, etc. Typically, volunteer groups will select several streets within a neighborhood for marking. CMSWS provides the groups with decals, adhesive, safety vests, gloves, and information forms. Following the

completion of storm drain marking activities, the groups submit a completed information form to CMSWS that includes the street names and number of drains that were marked as well as information concerning the condition of storm drains and whether any pollutants were detected. All information is input by staff into the Volunteer Database, which is maintained as part of

EDMS. CMSWS follows up to ensure the elimination of illegal dumping activities and maintains records of storm drains that have been marked.

6.4.5 Surface Water Clean Up

From 1993 through 2014, CMSWS held an annual surface water cleanup day working in cooperation with N.C. Big Sweep. In March 2015, N. C. Big Sweep was dissolved as a non-profit organization. CMSWS now sponsors an annual clean up event called The Big Spring Clean. The purpose of the event is to use volunteers to remove trash and debris from streams and lakes. During the event, Adopt-A-Stream groups are encouraged to clean up their assigned stream segments and additional volunteers are used to expand the effort to include un-adopted stream segments. The event has typically been held on the Saturday following the end of Creek Week. The event is advertised, and volunteers are solicited through the various media outlets previously listed. Records are kept concerning the number of volunteers and tons of trash and recycling removed. The event is coordinated county-wide by CMSWS.

6.4.6 Volunteer Monitoring

CMSWS maintains a volunteer monitoring program to assess general water quality conditions in streams located in the Phase II jurisdictions. There are three (3) types of volunteer monitoring programs available. The traditional program includes the use of chemical test kits which can be checked out and used to collect data on stream quality that is submitted to CMSWS for review and follow up. The second program which is called Streamside Visual Assessment involves visually assessing streams and completing a field data sheet to document current conditions. The third program is called Streamside Snapshot which encourages volunteers to submit photos of the stream at select sites which are identified with signs. This program has also been expanded to lake coves where volunteers can submit pictures of a cove to report potential algae blooms. Data is used to identify potential water quality problems that are referred to staff for follow up action.

6.4.7 Volunteer Appreciation Campaign

An annual appreciation campaign is held to acknowledge the achievements of volunteers toward restoring the quality and usability of Mecklenburg County's surface water resources. The campaign includes a variety of methods to recognize volunteers. For example, volunteer groups of the year are selected and recognized via social media and provided prizes. Special events for volunteers may also be held as part of the campaign.

6.5 Decision Process

Mecklenburg County's Public Involvement and Participation Program focuses on the use of multiple mechanisms for getting the public involved in efforts to restore the quality of Mecklenburg County's surface water resources as well as to comply with the State and local public notice requirements and to engage the community in program development and implementation. The rationale for the development of such a program is that multiple approaches are needed in order to involve all age, ethnic and economic groups in Mecklenburg

County. Some individuals will prefer more passive involvement through participation in public meetings whereas others may elect to become more actively involved through participation in the Adopt-A-Stream, Storm Drain Marking and Volunteer Monitoring Programs. The Adopt-A-Stream Program is more physically challenging and is popular among the age group ranging from 15 to 50 years of age. The Storm Drain Marking Program appeals to volunteers who are not interested in walking streams but who are willing to place markers on storm drains in their neighborhoods. This is particularly popular among volunteers greater than 50 years of age. Volunteer Monitoring is typically performed by schools whereas tree planting events and The Big Spring Clean appeal to all age groups and is a popular volunteer event for families and large groups. The individual BMPs identified in Table 19 reflect this approach as do the measurable goals associated with each BMP.

SECTION 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

An Illicit Discharge Detection and Elimination (IDDE) Program has been developed and is currently being implemented in Mecklenburg County’s Phase II jurisdictions/entities for the purpose of detecting and eliminating illicit discharges into the MS4. The program is administered by CMSWS’s Water Quality Program as described in the following Sections.

7.1 Program Goals and Objectives

CMSWS establishes its goals and objectives for its IDDE Program, which are evaluated and updated annually as necessary, based on the actions necessary to effectively address the targeted pollutants and pollutant sources identified in Table 11. The current goal of the IDDE Program is to detect and eliminate illicit discharges into the MS4, which are defined in 40 CFR 122.26(b)(2)) as discharges that are not composed entirely of stormwater except discharges pursuant to a NPDES Permit (other than the NPDES Permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities as well as incidental non-stormwater discharges or flows that are not significant contributors of pollutants as described in Section 7.7 of this document. The details regarding this program are described in CMSWS’s “Illicit Discharge Detection and Elimination Manual” available at the following website: <http://stormwater.charmeck.org> (select “Regulations”, select “Mecklenburg County”, select “Manuals & Guidelines”, select “Illicit Discharge Detection & Elimination Policies and Procedures”). The objectives of the program are as follows:

1. Develop, implement, and enforce a program to detect and eliminate illicit discharges into the MS4, including appropriate policies, procedures, form letters and enforcement guidance.
2. Maintain a storm sewer system map, showing the location of all major outfalls and the names and location of all waters of the United States that receive discharges from those outfalls.
3. Prohibit, through ordinances, or other regulatory mechanisms, non-stormwater discharges except incidental non-stormwater discharges or flows that are not significant contributors of pollutants as described in Section 7.7 and implement appropriate enforcement procedures and actions.
4. Implement a plan to detect and address non-stormwater discharges, including illegal dumping, to the MS4.
5. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste and the method of reporting.
6. Address the following categories of non-stormwater discharges or flows (i.e., illicit discharges) only if identified as significant contributors of pollutants to the MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from firefighting activities are excluded from the effective prohibition against non-stormwater and need only be addressed where they are identified as significant sources of pollutants to waters of the United States).

7.2 BMP Summary Table

Table 20 summarizes the activities undertaken to fulfill the above described goals and objectives of the IDDE Program. Column A describes the BMPs identified in the Storm Water Plan for the Program. The specific actions (i.e., Measurable Goals) undertaken for implementation of these BMPs are described in Column B with the schedule provided in Column C. Column D includes the Annual Reporting Metric, indicating whether the Measurable Goals were completed and whether compliance with the Storm Water Plan and Permit was achieved. Column E describes the co-permittees’ responsibilities for fulfilling the BMP.

Table 20: BMP Summary Table for the IDDE Program

BMP Summary Table for the IDDE Program					
Illicit Discharge Detection and Elimination (IDDE) (Permit Ref. Part II Section D; Part III Sections A,B,C,D; Part IV Sections B,F): Developing, implementing, and enforcing a program to detect and eliminate illicit discharges. (Note: The IDDE Manual and SOPs are the same for Phases I and II. Documentation for revising these documents and performing training is contained under the Phase I program element.)					
BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
#15 ID-1	Storm Sewer System Mapping				
	Maintaining and updating maps of the Phase II storm sewer system showing the locations of inlets, outlets, and receiving waters.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
d. GIS to Report Newly Collected Storm Sewer System Features		Annually beginning July 1	Completed/Compliant		
#16 ID-2	Outfall Inspection				
	Conducting field investigations for identifying dry weather flows to the storm sewer system including sampling and elimination of identified pollution sources.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Develop and Implement QA/QC Procedures	Annually beginning July 1	Completed/Compliant	
e. Assess and Eliminate Problems in Areas with High Potential for Illicit Discharges		Annually beginning July 1	Completed/Compliant		
#17 ID-3	Notices of Violation (NOVs) & Enforcement				
	Enforcing the Surface Water Pollution Control Ordinances in the Phase II jurisdictions to eliminate the	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to update and adopt ordinances as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
d. Train CMSWS Staff		Annually	Completed/Compliant		

BMP Summary Table for the IDDE Program

Illicit Discharge Detection and Elimination (IDDE) (Permit Ref. Part II Section D; Part III Sections A,B,C,D; Part IV Sections B,F): Developing, implementing, and enforcing a program to detect and eliminate illicit discharges. (Note: The IDDE Manual and SOPs are the same for Phases I and II. Documentation for revising these documents and performing training is contained under the Phase I program element.)

BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
	discharge of pollutants to storm sewers and surface waters.	e. Prepare and Issue NOVs	beginning July 1 Annually beginning July 1	Completed/Compliant	
#18 ID-4.1 (Fixed Interval) ID-4.3 (Benthic); ID-4.4 (Fish); ID-4.10 (Continual); QA/QC; QAPP	Water Quality Monitoring Program				
	Maintaining a monitoring program to assess water quality conditions for identification and elimination of illicit discharges and other pollution sources.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Conduct Monitoring Activities	Annually beginning July 1	Completed/Compliant	
		e. Review Data for Exceedances	Annually beginning July 1	Completed/Compliant	
f. Conduct Follow-Up Actions		Annually beginning July 1	Completed/Compliant		
#19 ID-5	Pollution Prevention Education				
	Developing and implementing a public outreach program to inform public employees, businesses and the general public of illicit discharges and improper waste disposal and how they threaten the environment as well as provide instructions concerning proper reporting.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Ensure Messages Inform Citizens	Once during 5-year permit term	Completed/Compliant	
		d. Review 311 Keywords	Annually beginning July 1	Completed/Compliant	
		e. Conduct Presentations Regarding Illicit Discharges and Improper Waste Disposal	Annually beginning July 1	Completed/Compliant	
f. Ensure Co-permittees and County Departments are Trained		Annually beginning July 1	Completed/Compliant		
#20 ID-6	Follow up Inspections and Responding to Citizen Requests and Emergencies				
	Responding to citizen requests for service and emergency situations to identify and eliminate pollution problems.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
d. Maintain Roster for Emergency Response Program		Annually beginning July 1	Completed/Compliant		

BMP Summary Table for the IDDE Program

Illicit Discharge Detection and Elimination (IDDE) (Permit Ref. Part II Section D; Part III Sections A,B,C,D; Part IV Sections B,F): Developing, implementing, and enforcing a program to detect and eliminate illicit discharges. (Note: The IDDE Manual and SOPs are the same for Phases I and II. Documentation for revising these documents and performing training is contained under the Phase I program element.)

BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
		e. Receive, Respond, and Investigate Citizen Requests for Service	Annually beginning July 1	Completed/Compliant	
#21 ID-8	Stream Walk				
	Inspecting the creek systems in the Phase II jurisdictions for the purpose of identifying and eliminating illicit discharges and collecting outfall and stream channel data and information.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Revise and Implement Program Plan	Annually beginning July 1	Completed/Compliant	
		d. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		e. Train CMSWS Staff	Annually beginning July 1	Completed/Compliant	
		f. Conduct Assessments, Inventory, Inspections, and Monitoring	Annually beginning July 1	Completed/Compliant	
g. Review Data for Exceedances		Annually beginning July 1	Completed/Compliant		
#22 ID-9	Illicit Discharge Elimination Program (IDEP)				
	Investigating and monitoring select locations on a regular, recurring schedule for the identification and elimination of pollution problems using physical observations.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Conduct Fecal Coliform Sampling	Annually beginning July 1	Completed/Compliant	
		e. Field Validate Outfall Data and Input Additional Attributes	Annually beginning July 1	Completed/Compliant	
f. Implement IDEP		Annually beginning July 1	Completed/Compliant		
#23 ID-U	Used Oil Inspection				
	Conducting inspections of vehicle maintenance facilities to prevent the discharge of pollutants.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Complete, Prepare, and Submit Inspection Reports	Annually beginning July 1	Completed/Compliant	
e. Maintain Database		Annually	Completed/Compliant		

BMP Summary Table for the IDDE Program					
Illicit Discharge Detection and Elimination (IDDE) (Permit Ref. Part II Section D; Part III Sections A,B,C,D; Part IV Sections B,F): Developing, implementing, and enforcing a program to detect and eliminate illicit discharges. (Note: The IDDE Manual and SOPs are the same for Phases I and II. Documentation for revising these documents and performing training is contained under the Phase I program element.)					
BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
			beginning July 1		
#24 ID-10	Evaluate Effectiveness of the IDDE Program				
	Assessing the effectiveness of the IDDE program at detecting and eliminating illicit discharges.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
d. Implement improvements in the next fiscal year.		Annually beginning July 1	Completed/Compliant		

7.3 Illicit Discharge Detection & Elimination Manual

CMSWS maintains a written document describing its IDDE Program that is referred to as the IDDE Manual. All written procedures and forms for the execution of the IDDE Program are contained in this document, including links to Standard Operating Procedures (SOPs) that include detailed implementation procedures. The Manual is reviewed and updated every five (5) years whereas the more detailed SOPs are reviewed and updated annually. The IDDE Manual includes information regarding the following:

- Legal authority, including right of entry.
- Coordination with other agencies.
- Identification of priority areas likely to have illicit discharges.
- Methods used to identify illicit discharges and connections.
- Written procedures for conducting investigations of identified illicit discharges and connections.
- Written procedures for conducting dry weather flow field observations.
- Tracking illicit discharges and connections to a source.
- Eliminating sources of illicit discharges and connections.
- Sanitary sewer failures.
- Documentation.
- Employee training.
- Provisions for program assessment and evaluation.

7.4 Storm Sewer System Mapping

On August 31, 2006, CMSWS completed the storm sewer maps for all the Phase II jurisdictions in Mecklenburg County. These maps show the locations of inlets, outlets and receiving waters as well as identify the corresponding six-square mile drainage areas. As part of this mapping program, CMSWS also identified dry weather flows to the storm sewer system and initiated the measures necessary to eliminate pollution sources. The source of information for the

development of these storm sewer maps was 2002 digital aerial photography (1 foot per pixel resolution .tif images, compressed 50:1 into .sid format) provided by Mecklenburg County Mapping/GIS Services. The aerial photography was loaded into Hewlett-Packard iPAQ handheld computers that were equipped with both ESRI Arc Pad 6.0.3 GIS software and Trimble GPS Correct. This mapping software package was configured to store important information relevant to the storm sewer system and the water quality conditions observed. A Trimble Pathfinder Pocket GPS unit was connected to the handheld computer in order to geo-reference all data collected. CMSWS staff conducted field inspections to locate all storm sewer system inlets, outlets and receiving streams using the aerial photos loaded into the handheld computer as a reference. Once located, a geo-referenced position for the inlets and outlets was determined using the Trimble GPS unit. Other field data was also collected during the inspections including the general condition of the storm drain, the name of the receiving stream and whether dry weather flow or other potential pollution problems were observed. If such problems were detected, additional information was collected including estimated flow rate, odors, and coloration. All observed dry weather flows were sampled for fecal coliform bacteria, surfactants, fluoride, and oil and grease. Follow up field investigations were performed to identify and eliminate all pollution sources. All follow up activities were documented in a report maintained in CMSWS’s computer database. Following the field inspections, the digital data was downloaded by CMSWS staff and stored in an ESRI shapefile format (with attributes). CMSWS staff post-processed the data to include the corresponding six-mile sub-basin identification number as an added attribute. After the inventory was completed, storm sewer system maps were created for use in the implementation of the IDDE Program. Staff conduct field investigations to identify dry weather flows to the storm sewer system during responses to citizen requests for service and various other inspection activities. The necessary follow up actions are performed to identify and eliminate pollution sources as described in Section 7.7. All data is maintained in a GIS database and is available in the Cityworks database for use by staff in the identification and elimination of discharges (see Figure 8).



Figure 8: Screen Shot from Cityworks of Storm Drain Inlets, Outlets, and Receiving Streams The storm sewer system map is updated daily by Mecklenburg County’s GIS Department in order to capture inlets and outlets added by new development. This is completed as part of their

ongoing process to update the impervious area coverage that is included in the stormwater billing process. GIS staff use “Nearmap Aerial Imagery” to locate the new inlets and outlets. These high-resolution, aerial maps are widely used by both the public and private sector to rapidly identify features on the ground with a very high degree of accuracy. Mecklenburg County collects aerial imagery twice a year during “leaf off” conditions, which is typically in February and October. EagleView Pictometry is used to enhance images that are difficult to identify due to shadows and other distortions. This patented high-resolution aerial image capture process uses low-flying airplanes to photograph locations on the ground, depicting up to 12 oblique perspectives (shot from a 40-degree angle) as well as an orthogonal (overhead) view to produce a 360-degree view making objects easier to recognize and interpret. Once the inlets and outlets are identified, a new point is created in ESRI’s ArcGIS, including an object ID number, date collected, feature type (inlet or outlet), and collection method. GIS provides CMSWS with a list of the newly collected storm sewer system features twice a year based on their analysis of new aerial imagery. Outfall features are validated by CMSWS’s staff during the fall Stream Walk activities. Staff collect additional attribute information using the ArcGIS Collector application, including the outfall type (major or minor, FES, endwall, exposed pipe, etc.), outfall shape, outfall material, endwall material, and the diameter of the outfall. Staff also record the condition of the outfall, dry weather flows, and any other potential illicit discharges. Follow up actions are completed as necessary to ensure the elimination of identified pollution sources. SOPs have been developed for the storm sewer system mapping process, including follow up for potential pollution sources, and are available upon request.

7.5 Pollution Control Ordinance

In April 2004, the Town of Davidson adopted a “Surface Water Pollution Control Ordinance” that prohibits illicit discharges, illicit connections, and improper disposal to surface waters and storm sewers within their corporate limits as authorized by North Carolina General Statute (NCGS) 160A-174. On May 5, 2004, Mecklenburg County adopted the same ordinance for the unincorporated areas of the county as authorized by NCGS 153A-121. A separate ordinance was adopted for the Town of Davidson because they have jurisdiction in Iredell County where the County Attorney indicated that Mecklenburg County’s ordinance would not be applicable. On June 8, 2004, the Town of Pineville adopted a resolution allowing Mecklenburg County to enforce its ordinance within their corporate limits as authorized by NCGS 153A-122. On June 21, 2004, the Towns of Cornelius and Huntersville adopted the same resolution followed by the Town of Mint Hill on June 24, 2004. The Town of Matthews had adopted a separate Stormwater Pollution Control Ordinance on November 27, 2000. CMSWS has been delegated the authority to enforce these ordinances in cooperation with the respective jurisdictions. This regulatory mechanism was chosen for prohibiting illicit discharges to storm sewers and surface waters in the Phase II area due to the success of a similar ordinance in effect in the Phase I area in the City of Charlotte since November 25, 1995. These ordinances prohibit illicit discharges, illicit connections and improper disposal to the storm drain system except for the incidental non-stormwater flows that do not significantly impact water quality described in Section 3.8.

CMSWS reviews the above-described surface water pollution control ordinances and modifies them as necessary to ensure that adequate legal authority is maintained to prohibit illicit connections and discharges, and to properly enforce the provisions of the IDDE Program. Changes were made to the Town of Matthews’ and Mecklenburg County’s ordinances effective

February 12, 2018 and May 21, 2020, respectively. Enforcement procedures and Notice of Violation shells, etc. were changed to correspond to the new ordinance requirements. A list of the major changes is provided below.

1. All Sections: Various wording changes were made throughout the document without changing the regulatory requirements or overall intent of the ordinance.
2. Definitions: Definitions were added and changed as necessary in Section 4 to support ordinance revisions.
3. Prohibitions, Accidental Discharge(s): Accidental discharges were added as a violation of the ordinance.
4. Prohibitions, Use of High PAH Pavement Products Prohibited: The use of pavement products with greater than 0.1% polycyclic aromatic hydrocarbons (PAH) by weight on an asphalt or concrete surface was added as a violation of the ordinance.
5. Prohibitions, Obstruction: Obstructing, hampering, or interfering with county personnel carrying out official duties authorized by this ordinance was added as a violation.
6. Prohibitions, Allowable Incidental Discharges of Non-Storm Water: The following allowable discharges were added: diverted stream flows; and flows from riparian habitats and wetlands. Swimming pool and hot tub discharges continue to be allowed provided they do not contain chlorine, bromine, salt, or any other treatment chemicals. Backwash discharges from swimming pools and hot tubs and saltwater pool discharges are identified as prohibited in the revisions. Single-family and charity vehicle washing continues to be allowed; however, designated vehicle wash areas at multi-family residential complexes are identified as prohibited in the revisions if they connect, directly or indirectly, to the stormwater system or the waters of the state. In addition, the revisions specify that charity vehicle washing performed by the same organization or at the same location on a routine basis (more than one time in a thirty-day period) is not allowed.
7. Powers and Authority for Inspection, Search Warrants: The revisions added a provision for obtaining a search warrant to conduct inspections to the extent permitted by law.
8. Enforcement and Penalties, Remedies Not Limited: The revisions add a provision that the remedies provided in the ordinance are not exclusive and may be combined with any other remedies authorized by law.
9. Enforcement and Penalties, Notice of Violation: The revisions add a provision that any person who violates the ordinance, or allows a direct or indirect, act or acts which causes a violation of the ordinance will be issued a written notice of violation. The specific content of the notice is also described as well as how it will be served.
10. Enforcement and Penalties, Civil Penalties(c): The revisions clarify that a civil penalty may be assessed for the time period from the date the violation first occurs until the date that the violation ceases as verified by staff. The revisions also indicate that penalties may be assessed concurrent with a notice of violation when staff are hampered or obstructed from carrying out official duties; a repeat or continuing violation has occurred; and/or there is a willful or intentional violation of the ordinance. In addition, the revisions add the following factors for inclusion in determining the amount of a civil penalty: knowledge of the requirements by the violator and/or reasonable opportunity or obligation to obtain such knowledge; and technical and economic reasonableness of reducing or eliminating the violation.
11. Enforcement and Penalties, Compliance Agreement(e): The revisions add a provision for the use of a Compliance Agreement as a remedy to obtain compliance.

12. Enforcement and Penalties, Compliance Order(f): The revisions add a provision for the use of a Compliance Order to obtain compliance.
13. Enforcement and Penalties, Cease and Desist Order(g): The revisions add a provision for the use of a Cease and Desist Order to obtain compliance.
14. Enforcement and Penalties, Withholding of Inspections, Permits, or Other Approvals(h): The revisions add a provision for withholding inspections, permits, and other approvals as a means for obtaining compliance.
15. Enforcement and Penalties, Abatement by the County: The revisions include specific information regarding the process for abatement of violations by the County when the violator fails to comply.
16. Enforcement and Penalties, Emergencies: The revisions include provisions for immediate cessation and abatement of violations when there is an immediate threat to public health, safety or the environment.
17. Enforcement Remedies and Penalties, Injunctive Relief: The revisions include a provision for obtaining injunctive relief through the courts as an added compliance measure.

On August 25, 2020, changes were made to the Town of Davidson’s ordinance to ban the use of pavement products with greater than 0.1% polycyclic aromatic hydrocarbons (PAH) by weight, which is the same as the ban in Mecklenburg County’s and Matthews’ ordinances described in #4 above. On January 26, 2021, the other 16 changes listed above were made to Davidson’s ordinances. Enforcement procedures and Notice of Violation shells, etc. were changed to correspond to the new ordinance requirements.

During the week of April 26, 2021, the State audited Mecklenburg County’s Phase II Permit. During this audit, it was determined that the Town of Mint Hill had annexed area in Union County since the original adoption of Mecklenburg County’s Surface Water Pollution Control Ordinance and Mint Hill’s resolution in 2004, which raised the question as to whether a separate ordinance was necessary for Mint Hill as was done for Davidson in 2004. The County Attorney in 2004 who decided that a separate ordinance was necessary for Davidson has since retired. The new County Attorney, Tyrone Wade, was consulted. In an email dated April 29, 2021, Mr. Wade concluded that the resolution adopted by Mint Hill in 2004 granted authority to Mecklenburg County to enforce its ordinance “within the Town corporate limits” with no differentiation as to which County these corporate limits are located. Therefore, Mr. Wade concluded that a separate ordinance was not necessary because Mecklenburg County’s ordinance was enforceable in the corporate limits of Mint Hill in Union County by way of the Town’s resolution. The same determination was made by Kevin Bringewatt, Mint Hill’s attorney. This information was provided to the State auditor who was accepting of the determination.

Copies of the above ordinances are available on the following website:
<http://stormwater.charmeck.org> (select “Stormwater Regulations”, select “Stormwater Pollution Control ordinances”).

7.6 Enforcement

Enforcement guidance and procedures were developed and became effective at the same time as the ordinances described in Section 7.5. These procedures include guidelines on when a notice of violation is to be issued and the proper sections of the ordinance to cite. The procedures also provide guidance on the assessment of penalties. All appeals to the ordinances are heard by SWAC except in the Town of Matthews where appeals are heard by their Environmental Committee. Further information regarding the implementation of the ordinances and enforcement actions is contained in CMSWS’s IDDE Manual available at the following website: <http://stormwater.charmeck.org> (select “Stormwater Regulations”, select “Stormwater Pollution Control ordinances”, select “Documents & Resources”, select “Illicit Discharge Detection & Elimination Policies and Procedures”).

7.7 Detection and Elimination

CMSWS’s IDDE Manual describes the actions taken to identify and eliminate illicit discharges, which includes the following four (4) primary steps:

1. Identify priority areas likely to have illicit discharges.
2. Confirm the presence of an illicit discharge.
3. Track the discharge to its source.
4. Eliminate the source.

The following subsections briefly describe these four (4) components of the IDDE Program. More detailed information is provided in CMSWS’s IDDE Manual.

7.7.1 Identifying Priority Areas

Priority areas with a higher likelihood of illicit discharges are typically identified through:

1. Citizen requests for service regarding potential water quality problems.
2. Total number and location of Notice of Violations issued.
3. Routine water quality monitoring activities.
4. Volunteer activities.
5. GIS mapping.

7.7.1.1 Citizen Requests for Service

CMSWS has an ongoing public education campaign focusing on illicit discharges and connections for the purpose of increasing public awareness and reports from citizens of suspected problems. This campaign informs residents how to identify illicit discharges and connections, how they negatively impact their quality of life and what they can do to eliminate them, including proper reporting to the 311 stormwater helpline. A broad range of media outlets have been utilized in this campaign, including television, radio, and print. Efforts have been highly successful as indicated by the increase in the number of reports received from citizens regarding suspected illicit discharges. CMSWS considers its responses to these citizen reports or service requests to be of the utmost importance not only from a customer service standpoint, but also because this is how most illicit discharges and connections are identified. All staff members receive annual training regarding responses to service requests and proper customer service.

All service requests are forwarded to Supervisors immediately following receipt. To ensure an effective and efficient response, Supervisors place all service requests into one of the following three (3) categories based on the type of response required:

- Category 1: Health / Safety Threat
- Category 2: Spill / Illegal Discharge / Water Quality Violation
- Category 3: Request for Assistance / Information (non-emergency)

Category 1 service requests are considered a threat to the health and safety of the public and are given the highest priority. They are always responded to as soon as possible upon receipt and often include involvement by a Supervisor working closely with field staff. Examples of Category 1 service requests are as follows:

1. Sewage or other pollutant discharge to a known swimming area.
2. Sewage or other pollutant discharge to a playground or other areas where people could easily come in contact with pollutants.
3. Discharge of pollutant near a drinking water intake.

Category 2 service requests include spills, illegal discharges and water quality violations and are also considered to be a high priority. They are responded to within two (2) hours of receipt since they may easily progress to a Category 1. Examples of Category 2 service requests are as follows:

1. Any active discharge of pollutants such as sewage and fuel spills.
2. Numerous dead fish in creek.
3. Someone currently in the act of violating a water quality regulation.
4. Request from Fire or Police to respond.

Category 3 service requests include requests for assistance and information that are non-emergency in nature and do not require immediate attention. These service requests are responded to as soon as possible, but never any later than two (2) workdays from the receipt of the request. Examples of Category 3 service requests are as follows:

1. Disturbance has occurred in a stream buffer.
2. Request for water quality data.
3. Someone has routinely dumped oil on ground.
4. A person or company may be disposing of waste illegally.

For all responses to citizen requests for service, staff ensure that all pollution sources are eliminated, negatively impacted areas are restored, and the necessary actions taken to prevent recurrence, including the distribution of educational information. If violations of water quality ordinances are observed, a notice of violation will be issued (approximately within two business days) and a compliance deadline will also be established. Staff follow up to ensure compliance by this deadline. In many cases, the violator is required to submit written notification of the actions undertaken to achieve compliance and prevent recurrence. Responses to citizen requests for service are overseen by Supervisors and documented in Cityworks. All documentation is reviewed and approved by Supervisors prior to closing.

7.7.1.2 Monitoring to Detect Illicit Discharges

The monitoring activities performed by CMSWS for identifying priority areas for illicit discharges include fixed interval monitoring and the use of a Continuous Monitoring and Alert

Notification Network (CMANN). Samples for fixed interval monitoring are collected by hand (grab samples) on the second Tuesday of each month at 10 designated stream monitoring sites as shown in Figure 9, including the Rocky River (MY1B), Clear Creek (MY8), Goose Creek (MY9), Clark’s Creek (MY10), Duck Creek (MY14), McDowell Creek (MC2), McDowell Creek (MC4), Irvin’s Creek (MC36), Four Mile Creek (MC40C), and Gar Creek (MC50).

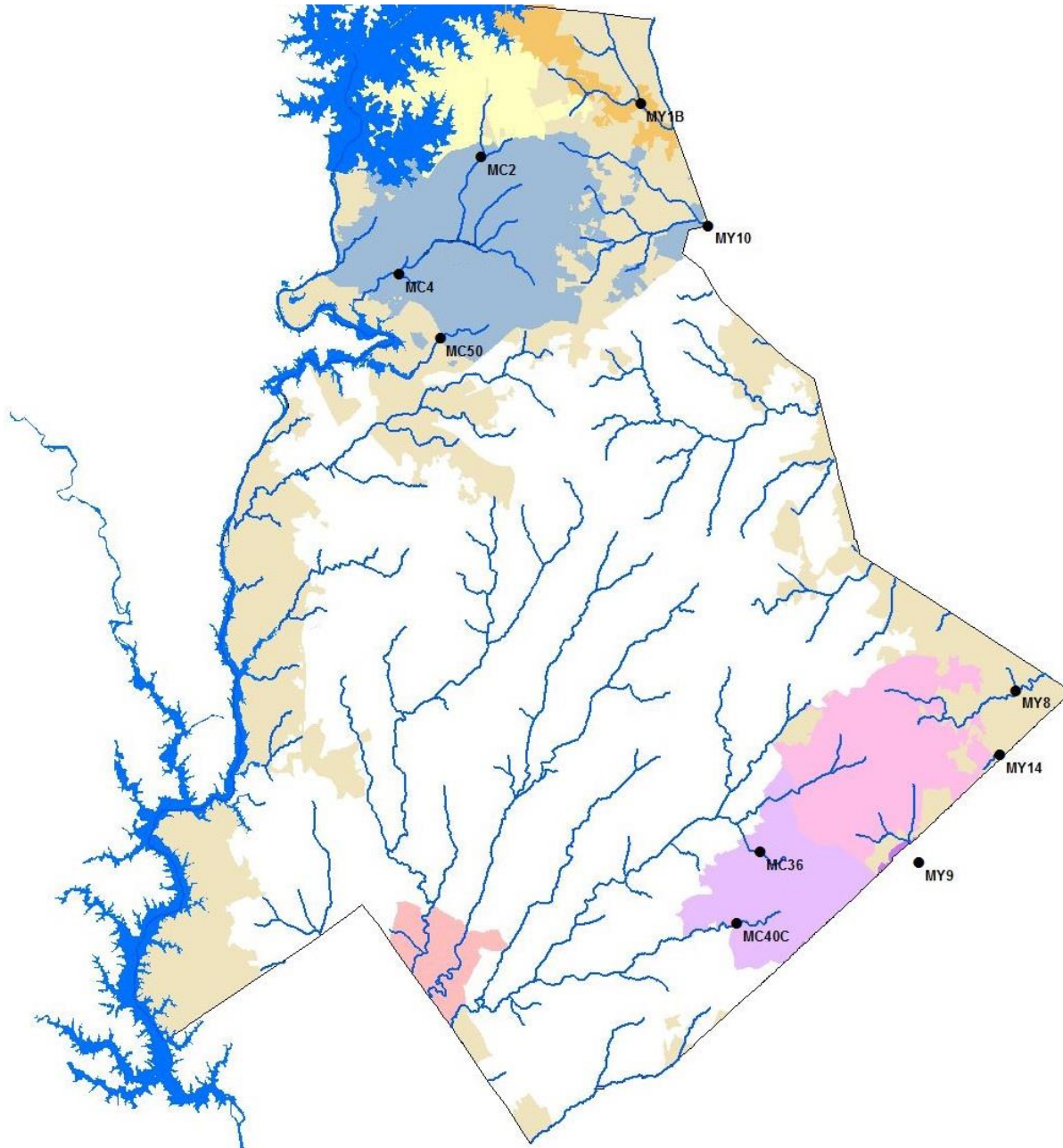


Figure 9: Phase II Stream Monitoring Sites

At each stream monitoring site, samples are collected and analyzed for 17 water quality parameters as follows: ammonia-nitrogen, fecal coliform bacteria, total kjeldahl nitrogen, nitrate/nitrite, total suspended solids, total phosphorus, enterococcus, e. coli, turbidity, suspended sediment, magnesium, calcium, hardness, and copper (dissolved). Lead (dissolved), chromium

(total), and zinc (dissolved) are collected in the first month of each quarter. The primary purpose of the fixed interval monitoring program is to assess the general water quality conditions of the streams and to identify potential pollution problems at the watershed scale. CMANN data is collected on a fixed time interval (usually every hour) using automated equipment set-up at seven (7) designated stream monitoring sites as shown in Figure 9, excluding Duck Creek (MY14), Irvin's Creek (MC36), and McDowell Creek (MC2). In addition, the CMANN monitoring site on Four Mile Creek is located at Retana Drive (MC40D) instead of Pleasant Plains Road (MC40C) used for fixed interval monitoring. CMANN is used to measure turbidity, pH, temperature, conductivity, and dissolved oxygen. All data is stored in a data logger and transmitted via a wireless modem for display on the CMANN website at <https://cmann.mecknc.gov/>. The primary purpose of the CMANN monitoring program is to assess water quality conditions for overall watershed health and identify pollution problems.

All data from the above monitoring activities is delivered electronically to a Quality Assurance and Quality Control (QA/QC) Officer (position title is Environmental Specialist IV) with CMSWS, who is responsible for the compilation, review, verification, validation, and warehousing of all water quality monitoring data products. Immediately upon receipt of this data, the QA/QC Officer identifies all exceedances of local Watch/Action Levels and State water quality standards. Within one workday from receipt of the data, the QA/QC Officer reports all observed exceedances to Supervisors who establish the area upstream of the sample location as a priority for the identification of illicit discharges. The Supervisor assigns all priority areas to staff for the initiation of immediate follow up actions for the purpose of identifying and eliminating pollution sources and restoring water quality conditions. In addition to exceedances of local Watch/Action Levels and State water quality standards, CMSWS uses an index of water quality conditions referred to as the Stream Use Support Index or SUSI to identify areas with negatively impacted water quality conditions and a high likelihood of illicit discharges as illustrated in Figure 10, which is based on monitoring performed countywide, including Phase I and Phase II jurisdictions. The figure color codes areas with Degraded and Impaired water quality conditions that may not be negatively impacted enough to trigger a follow up for an Action or Watch Level exceedance as described above. SUSI includes five (5) broad categories of parameters that were determined to be the most important indicators of pollution in Charlotte-Mecklenburg. These five (5) categories, which are called sub-indices, are as follows:

1. Bacteria (Fecal Coliform Bacteria)
2. Metals (Copper, Zinc, Lead and Chromium)
3. Biological (Macroinvertebrate and Habitat)
4. Physical (Turbidity, Dissolved Oxygen, Temperature, and pH)
5. Nutrients (Total Phosphorus and Chlorophyll-a)

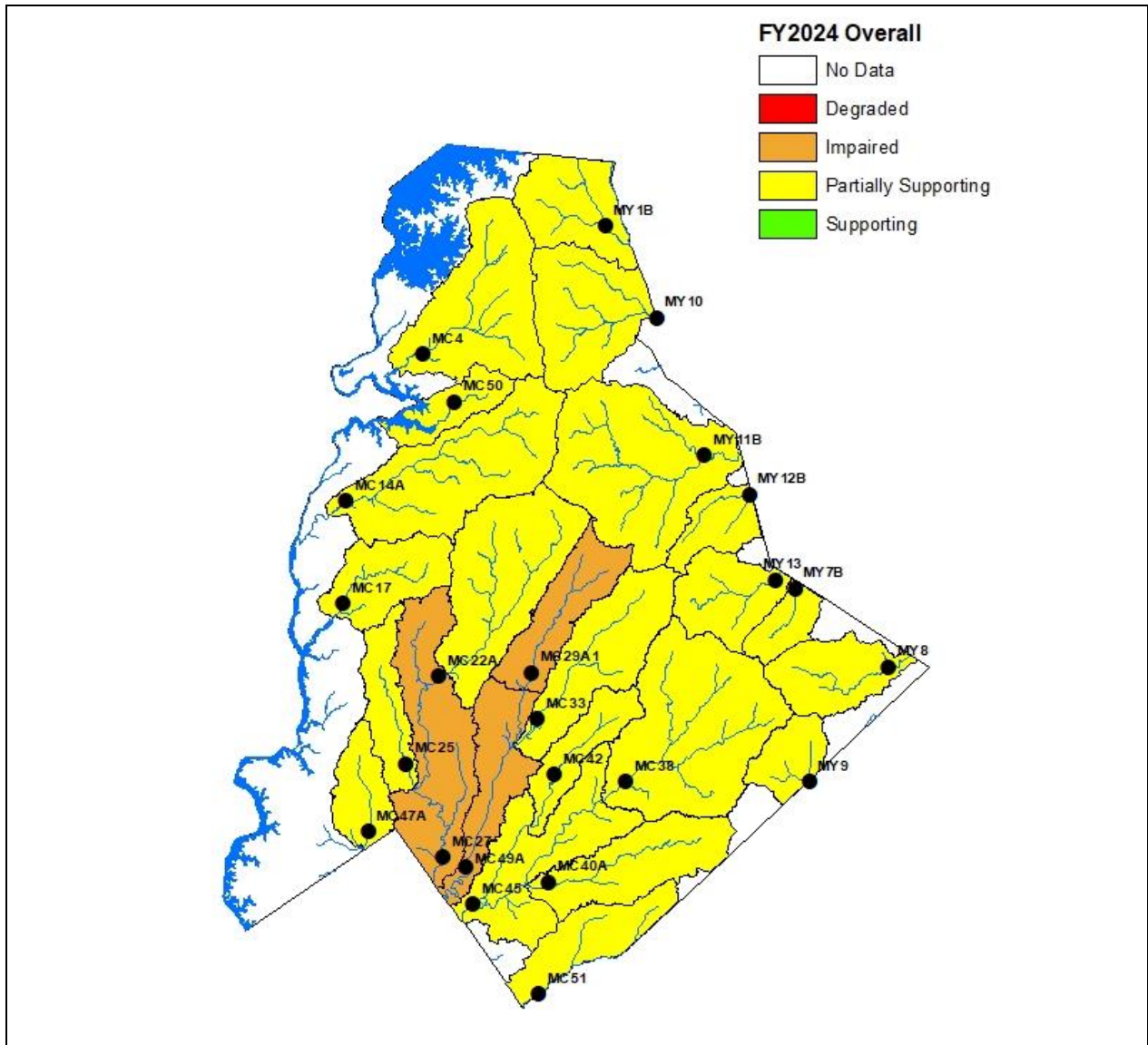


Figure 10: Overall Stream Use Support Index (SUSI) Map for FY2024

SUSI also incorporates data collected over three (3) time horizons, including short term (data from the current month), middle term (data from the past 10 to 12 months) and long term (data from the past 1 to 2 years). SUSI rates water quality conditions across Mecklenburg County using data collected over these time horizons and displays these conditions in a color-coded map as either Supporting, Partially Supporting, Impaired or Degraded as shown in Figure 10. The QA/QC Officer previously described generates SUSI maps quarterly and provides them to the Supervisors who consider areas identified with Impaired and Degraded conditions as priority areas for illicit discharges or other pollution problems. The Supervisors consider other data and information available to them in assigning these priority areas to staff for the initiation of follow up actions for the purpose of identifying and eliminating pollution sources and restoring water quality conditions.

Additional detail regarding water quality monitoring activities is available on CMSWS’s website: <http://stormwater.charmeck.org> (select “Quality of Streams & Lakes”, select “Stream Monitoring”).

7.7.1.3 Volunteer Activities

CMSWS has three (3) volunteer programs that contribute toward the identification of priority areas with a higher likelihood of illicit discharges, including Adopt-A-Stream, Storm Drain Marking and Volunteer Monitoring. The objective of these programs is to engage the citizens of Charlotte-Mecklenburg in activities for protecting and restoring surface water resources, including the identification illicit discharges. Typically, volunteers will report to the volunteer coordinator the potential presence of an illicit discharge. This report is forwarded to a Supervisor who will schedule staff activities to confirm the presence of an illicit discharge as described in Section 7.7.2.

7.7.1.4 GIS Mapping

CMSWS utilizes GIS mapping capabilities to identify priority areas for illicit discharges. CMSWS maintains all its water quality data and information, including Work Plan assignments, activity/inspection reports, asset information, etc., in its Environmental Data Management System (EDMS). EDMS contains multiple databases, including Cityworks that is used for GIS mapping, citizen requests for service, and activity and inspection reports. Cityworks is a work management tool built around the use of ESRI’s GIS environment, which tracks activities based on identified features referred to as assets. CMSWS has incorporated numerous GIS asset layers into Cityworks that are useful in prioritizing areas for illicit discharges. Figure 11 provides a screen shot from Cityworks with the GIS asset layers activated for the Phase II storm water inventory. The green dot in the center indicates the location of a suspected water quality problem reported through the receipt of a citizen request for service that has been geocoded into Cityworks. Staff can access GIS asset layers using the “Legend” tab in Cityworks, which is used for prioritizing specific locations for illicit discharges. This is one of the many techniques available to staff for identifying pollution sources using GIS.

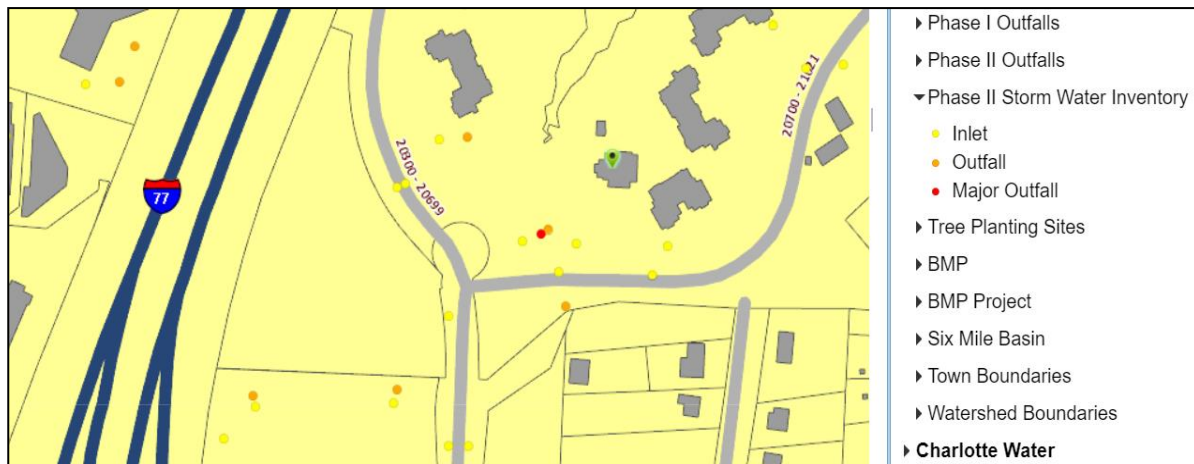


Figure 11: GIS Map Available Through Cityworks for Prioritizing Areas for Illicit Discharges

7.7.2 Identification of Illicit Discharges

Once a priority area for an illicit discharge source is identified as described in Section 7.7.1, follow up field screening activities are performed to confirm the presence of an illicit discharge, including but not limited to:

- Illicit Discharge Elimination Program (IDEP).
- Short Term Monitoring.
- Hot Spot Investigations.
- Stream Walks.
- Facility Inspections (including conducting inspections of industrial and vehicle maintenance facilities).
- Dry Weather Flow Investigations.

For the field screening activities described above, staff ensure pollution sources are eliminated, negatively affected areas are restored, and necessary actions are taken to prevent recurrence. This can be accomplished through the distribution of educational information and/or enforcement. If violations of water quality ordinances are observed, notices of violation are issued within two (2) workdays of detection and a compliance deadline is established. Staff follow up to ensure compliance by this deadline. In many cases, the violator is required to submit written notification of the actions undertaken to achieve compliance and prevent recurrence. All activities are overseen by Supervisors and documented in Cityworks. All documentation is reviewed and approved by the Supervisor prior to closing.

7.7.2.1 Illicit Discharge Elimination Program (IDEP)

IDEP involves investigating select locations in identified priority areas to confirm illicit discharges using visual observations. An example is as follows:

A Supervisor identifies a priority area for an illicit discharge from the receipt of a citizen request for service and assigns to staff for follow up action. Staff's investigation does not reveal a pollution problem during the inspection. However, based on information provided by the citizen, staff determines there is a high probability for an intermittent discharge which may warrant additional investigation of the area. One option available to the Supervisor for confirming the discharge is to establish an IDEP run in the area. This is accomplished by assigning staff to perform visual observations at specific intervals in the area, such as bridge crossings, on a short term, frequent schedule to confirm the presence of a discharge. This is particularly effective for discharges that are detectable using human senses such as a sewer overflow and surfactants from vehicle washing. Once the discharge is confirmed and the source identified, the IDEP activities are discontinued.

Industrial inspections are performed in the Phase II jurisdictions by CMSWS through IDEP. Most inspections are performed at the industrial facilities included in Table 11. Inspections are conducted and reports generate in accordance with established SOPs that are available upon request to the Environmental Manager with the Water Quality Program. Follow up actions are implemented as necessary to identify and eliminate pollution sources identified through these inspections.

Facility inspections are performed in the Phase II jurisdictions by CMSWS through IDEP. A common target for these inspections is the multi-family residential complex with a private sewer collection system that has a history of poor maintenance and sewer spills. CMSWS will conduct inspections of these systems through IDEP to identify and eliminate sewer discharges and ensure proper system maintenance. The complex is thoroughly inspected for active sewer discharges and signs of previous overflow problems such as limed areas, toilet paper, etc. Corrective actions are implemented as necessary to ensure that all problems are corrected, and the system is properly maintained to prevent recurrence.

7.7.2.2 Short Term Monitoring

Short term monitoring involves monitoring select parameters at specific stream locations and/or stormwater outfalls in identified priority areas to confirm illicit discharges. An example is as follows:

A Supervisor identifies a section of stream as a priority area for illicit discharges as a result of an Action Level exceedance from a fixed interval monitoring run. One option available to the Supervisor is to establish Short Term Monitoring along the stream section to confirm the presence of a discharge. This is accomplished by identifying sample collection locations along the stream and assigning staff to monitor these locations for select parameter(s) using field and/or laboratory analyses on a short term, frequent schedule. This is particularly effective for discharges that are typically not detectable using human senses such as discharges of organics or metals. Once the discharge is confirmed and the source identified and eliminated, the monitoring activities are discontinued.

7.7.2.3 Hot Spot Investigations

Hot spot investigations are performed at a select stream location, stormwater outfall, sewer manhole, lift station, etc. with a history of problems in priority areas to confirm illicit discharges using visual observations. Hot spot investigations are similar to IDEP runs except they involve investigations of a single location as opposed to IDEP, which usually incorporates multiple locations.

7.7.2.4 Stream Walks

This activity involves walking an entire stream reach in identified priority areas to confirm illicit discharges using visual observations and monitoring activities. Streams walks differ from IDEP and hot spot investigations because the entire stream reach is inspected as opposed to select locations along the reach. In addition, hot spot and IDEP investigations can involve locations other than streams such as a parking lot or a business corridor. CMSWS is on a schedule to walk all perennial streams in the Phase II jurisdictions within a rotating five (5) year time frame. Hot spot stream segments are walked on a more frequent basis.

7.7.2.5 Dry Weather Flow Investigations

Dry weather flow investigations involve inspecting stormwater outfalls after a minimum of 72 hours of no measurable rainfall and identifying dry weather flows. The sources of such flows are typically either groundwater infiltration into the storm drainpipe, lawn watering, air conditioning

condensate or an illicit discharge. CMSWS utilizes various data and information to identify areas where there is a high potential for illicit discharges. Staff are assigned to perform outfall inspections in these areas. During these inspections, data is collected and recorded in a GIS application in accordance with established procedures. Immediately following the identification of dry weather flows, efforts are undertaken by CMSWS to confirm an illicit discharge. Staff will physically observe the discharge for pollutant indicators such as discoloration, odor, solids, etc. and perform water quality monitoring for select parameters, including temperature, dissolved oxygen, conductivity, pH, fecal coliform bacteria, total phosphorus, and flow. Follow up actions are implemented as necessary to ensure that all pollution sources are eliminated, and recurrence prevented.

7.7.3 Tracking the Source of an Illicit Discharge

Once an illicit discharge has been confirmed, follow up procedures are performed to track the discharge to its source, including but not limited to:

- Record Reviews.
- Inspections.
- Monitoring.

7.7.3.1 Record Reviews

CMSWS staff reviews available records and information to assist in the identification of potential pollution sources, including digital information available through EDMS and the Mecklenburg County Property Ownership Land Records Information System (POLARIS) as well as other available data sources. The GIS capabilities of EDMS are a valuable component of this review process.

7.7.3.2 Inspections

An onsite inspection is conducted of the area, including upstream and downstream of the confirmed illicit discharge to identify the source. During these inspections, visible observations are often the best technique for source confirmation. In some cases, visual observations will isolate the discharge to a storm drain or sanitary sewer system. It is then necessary to inspect these systems to identify the specific source of the discharge. Standardized methods for source identification are often employed during these inspections, including but not limited to dye testing, smoke testing, and pipe videos.

7.7.3.3 Monitoring

If inspections and visual observations are unsuccessful at identifying the pollution source, water quality monitoring techniques are typically employed. Staff typically use field monitoring equipment such as a YSI Multiprobe to perform this monitoring provided the pollutant can be tracked with a parameter measured by the unit, including pH, temperature, dissolved oxygen, conductivity, and turbidity. If laboratory analyses are required to identify the pollution source, the parameters selected are dependent on the suspected source. This can include fecal coliform bacteria for a suspected sewer discharge, total petroleum hydrocarbons (TPH) for a fuel leak, and toxic metals and organics for an industrial discharge. Whether the YSI Multiprobe unit is used

or laboratory samples collected, the objective with monitoring is to continually narrow the search area until the source is confirmed.

7.7.4 Procedures for Removing the Source of the Illicit Discharge

Once the source of an illicit discharge has been confirmed, investigative activities will be conducted by CMSWS staff for eliminating the source and stopping the discharge. This process may include the issuance of a written notice of the violation for the applicable Stormwater Pollution Control Ordinance (see Section 7.5) to the party responsible for the discharge. The notice requires that the responsible party discontinue the discharge, take action to prevent recurrence, and restore all impacted areas. Staff conducts follow up activities to ensure compliance. Failure to comply could result in the assessment of civil penalties. The use of form letters and shell documents are included in the process.

7.7.5 Documentation

CMSWS uses Cityworks' Service Request and/or Activity Report forms to track all investigations and document the following:

1. Date(s) the illicit discharge was observed.
2. Results of the investigation.
3. Notices of violation issued, and enforcement actions taken.
4. Chronic violators for initiation of actions to reduce noncompliance.
5. Storm sewers inspected and dry weather flows identified.
6. Follow-up investigations.
7. Date the investigation was closed.

All documentation is reviewed and approved by a Supervisor prior to being closed in the system. GIS is integrated into the Cityworks database thus adding a very useful spatial component to data entry and retrieval. This is illustrated in Figure 12, which is a screen shot from Cityworks showing dots at each of the 50 locations where notices of violation were issued in Mecklenburg's Phase II jurisdictions from July 1, 2022 to June 30, 2024. Data is available for each location with a click of the mouse over the dot as shown in the figure. Many search options are available in Cityworks using this information. The application is also available for use in the field using a mobile device.

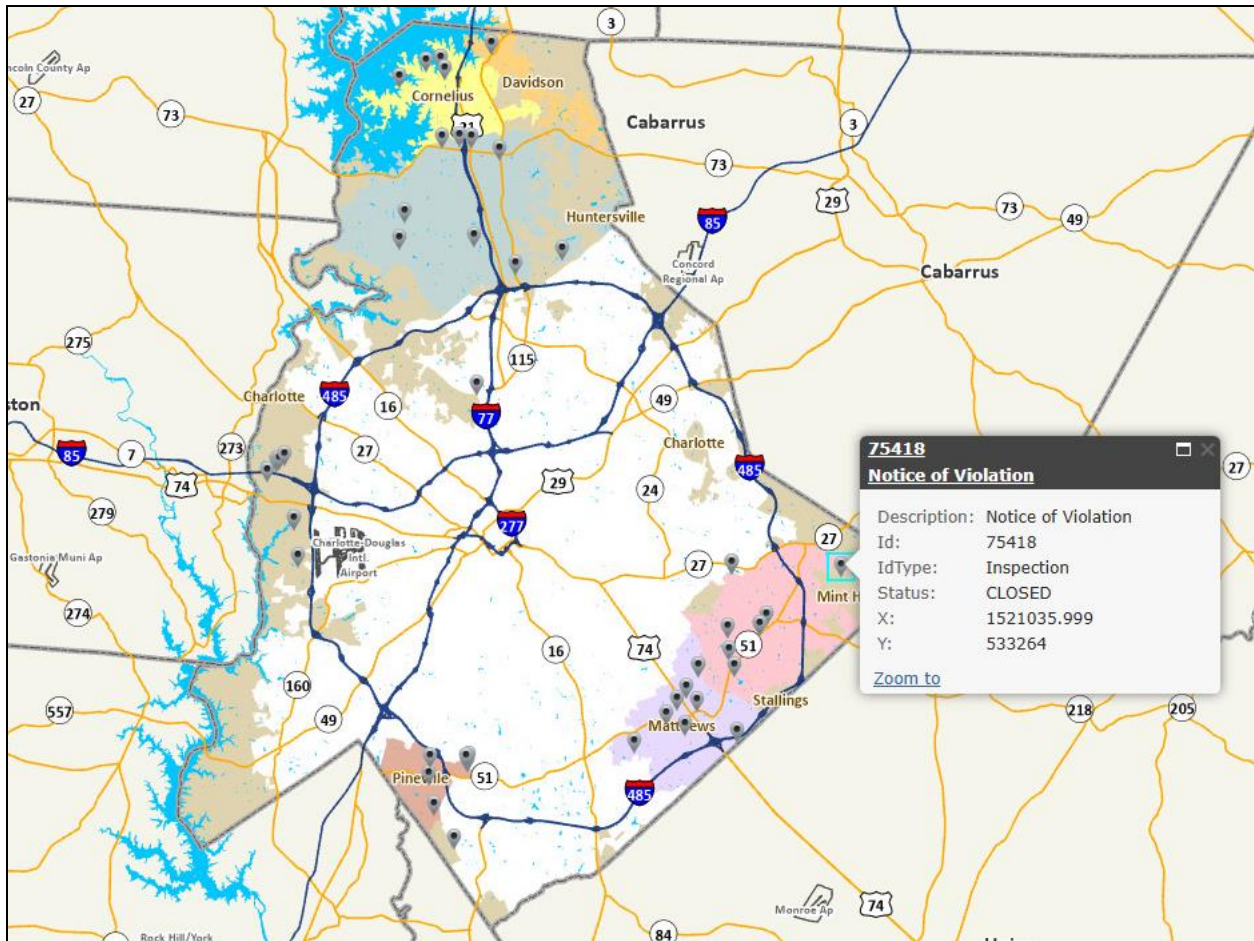


Figure 12: Notices of Violation Issued from 7-1-2022 through 6-30-2024

7.8 Outreach

CMSWS has developed and implemented a public outreach program to inform public employees, businesses, industries, and the public of the hazards associated with illicit discharges and improper disposal of wastes. This outreach campaign includes instructions for properly reporting these problems to CMSWS. Television and radio ads, as well as social media, handouts and brochures are the primary outreach mechanisms. Handouts and brochures have been developed and are typically distributed during the performance of facility inspections, when responding to citizen request for service, and at event displays. This public outreach campaign for the IDDE Program is conducted by an Environmental Specialist III with CMSWS and is included as a component of the Outreach Program described in Section 5.4.

Problem businesses and industries that have a history of illicit discharges are informed of the threat to the environment from these discharges as well as the requirements of the Stormwater Pollution Control Ordinance(s) through the use of “Environmental Notices.” These notices are distributed by staff when responding to citizen requests for service, conducting facility inspections and performing other field activities.

Section D of Mecklenburg County’s Phase II Permit requires the permittee to implement and document a training program for appropriate municipal staff, who as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge or illicit connection. CMSWS has identified County staff in the following Departments as having the greatest likelihood of observing these discharges: Air Quality, Code Enforcement, Solid Waste, Environmental Health, Social Services, Parks and Recreation, GIS, Tax Assessor Office, and the Sheriff’s Office. Since the field staff in these Departments are the most likely to make these observations and since all field staff are required to have County vehicle driving privileges, CMSWS has targeted this subset of County employees for completion of training. CMSWS has developed a two (2) minute training video to inform staff of the threat to the environment from illicit discharges or illicit connections and the proper reporting process as well as the requirements of the Stormwater Pollution Control Ordinances. Every fiscal year the subset of County staff described above is informed through the County’s MeckTalent system located on the Intranet that they are required to watch the training video, which is verified through the MeckTalent system and CMSWS is notified. On an annual basis, CMSWS also informs the Towns, CPCC and CMS that the following employees should complete this training: maintenance workers, firefighters, policemen, public works and utility workers, and parks and recreation. The same two (2) minute video is used. Every year, CMSWS staff download the list of staff completing the training and document under program element ID-5 (see Table 20 above) to verify Permit compliance.

7.9 Decision Process

The IDDE Program for the Mecklenburg County Phase II jurisdictions/entities rely primarily on public involvement and participation as well as data collected through water quality monitoring activities and field investigations to identify priority areas for illicit discharges. Standardized follow up field screening activities are employed in these identified priority areas to confirm pollution sources, which are eliminated through the enforcement of the local Stormwater Pollution Control Ordinances. The decision process followed in the development of this approach included an examination of techniques used successfully in the past by CMSWS for the identification and elimination of pollution sources as part of the City of Charlotte’s Phase I Program. Public involvement has always played a key role in the identification of problem areas. The outreach campaign included as part of the program is designed to increase public awareness of water quality issues and inform them of the correct process for reporting suspected pollution problems.

CMSWS water quality monitoring activities have been performed in the Phase II jurisdictions for over 50 years and they have proven successful at identifying water quality problem areas. This ongoing monitoring effort was expanded for the Phase II Permit. This expanded monitoring program includes the use of continuous automated water quality monitoring equipment. Water quality monitoring data is summarized using the Stream Use Support Index or SUSI at least quarterly and is used by CMSWS staff to target/direct pollution control activities.

Another tool that has proven effective in the implementation of Charlotte’s Phase I Program and thus has been applied in the Phase II Program areas is the enforcement of local Stormwater Pollution Control Ordinances. CMSWS has found these ordinances to be an effective tool for the elimination of pollution sources and for deterring future violations.

The storm sewer mapping effort has assisted in the implementation of the IDDE Program by providing a thorough examination of the inlets and outlets to the MS4s as well as identifying dry weather flows, both of which have led to the elimination of pollution sources. The availability of storm sewer maps and other data in GIS through the Cityworks database has facilitated the tracking of discharges to their source.

The selection of CMSWS staff for the execution of the measurable goals associated with the IDDE Program is based on their familiarity with the identification and elimination of pollution problems as well as their expertise in the enforcement of pollution control ordinances.

SECTION 8: CONSTRUCTION SITE RUNOFF CONTROL PROGRAM

Construction Site Runoff Control Programs have been developed and are currently being implemented for addressing the discharge of sediment and other pollutants from construction sites in Mecklenburg County 's Phase II jurisdictions that disturb 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. These are delegated programs under NCGS 113A-60. CMSWS's Permitting and Compliance Program administers the program for the County and Towns of Davidson, Cornelius, Matthews, Mint Hill, and Pineville. In November 2019, the Town of Huntersville received delegated authority from the State to administer a local erosion control program in their jurisdiction. The Town of Huntersville coordinates with the County in the completion of the activities associated with the Construction Site Erosion Control Program described in this Section. Kevin Fox, Public Works Director, serves as the responsible party for compliance with the Permit requirements for the Construction Site Storm Water Runoff Control Program in the Town of Huntersville. His contact information is as follows: 704-766-2220 and kfox@huntersville.org.

8.1 Program Goals and Objectives

CMSWS's establishes its goals and objectives for its Construction Site Runoff Control Program, which are evaluated and updated annually as necessary, based on the actions necessary to effectively address the targeted pollutants and pollutant sources identified in Table 11. The current goal of the Construction Site Runoff Control Program is to reduce pollutants in stormwater runoff from construction activities that result in a land disturbance of greater than or equal to one acre. Construction activities disturbing less than one acre are included in the program if they are part of a larger common plan of development or sale that would disturb one acre or more. The current objectives of the program are as follows:

1. Implement and enforce a program to ensure the proper permitting, installation, and maintenance of erosion control measures in compliance with local ordinances as well as the N.C. Sediment Pollution Control Act of 1973 and Chapter 4 of Title 15A of the North Carolina Administrative Code.
2. Ensure the proper control of waste at construction sites to prevent illicit discharges and negative impacts to surface water quality, including but not limited to discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste.
3. Provide and promote a means for the public to notify the Permitting and Compliance Program of observed erosion and sedimentation problems.
4. Educate contractors, developers and others engaged in land disturbing activities in the proper methods for installing and maintaining erosion control measures and preventing pollutants from discharging from construction sites.

8.2 BMP Summary Table

Table 21 summarizes the activities undertaken to fulfill the above described goals and objectives of the Construction Site Runoff Control Program. Column A describes the BMPs identified in the Storm Water Plan for the Program. The specific actions (i.e., Measurable Goals) undertaken for implementation of these BMPs are described in Column B with the schedule provided in

Column C. Column D includes the Annual Reporting Metric, indicating whether the Measurable Goals were completed and whether compliance with the Storm Water Plan and Permit was achieved. Column E describes the co-permittees’ responsibilities for fulfilling the BMP.

Table 21: BMP Summary Table for the Construction Site Stormwater Control Program

BMP Summary Table for the Construction Site Storm Water Control Program					
Construction Site Runoff Control Program (Permit Ref. Part II Section E; Part III Sections A,B,C,D; Part IV Sections B,F): Developing, implementing and enforcing a Construction Site Storm Water Runoff Control Program for addressing the discharge of sediment and other pollutants from construction sites in Mecklenburg County’s Phase II jurisdictions.					
BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
#25 CS-1	Enforce Erosion Control Ordinances				
	Enforcing erosion and sedimentation control ordinances.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Huntersville administers its own Erosion Control Program. County administers a program for the other Towns. All co-permittees ensure compliance at their construction sites.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Conduct Inspections	Annually beginning July 1	Completed/Compliant	
e. Prepare and issue NOV’s and Initiate Enforcement Actions		Annually beginning July 1	Completed/Compliant		
#26 CS-2	Erosion Control Education				
	Conducting erosion control educational activities, including Charlotte-Mecklenburg Certified Site Inspector (CMCSI) training, distribution of fliers, etc.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Participate in training as requested by CMSWS.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Distribute Educational Materials	Annually beginning July 1	Completed/Compliant	
d. Implement CMCSI Training		Annually beginning July 1	Completed/Compliant		
#27 CS-3	Evaluate Effectiveness of the Erosion Control Program				
	Assessing the effectiveness of the Construction Site Storm Water Runoff Control Program at addressing the discharge of sediment and other pollutants from construction sites.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
c. Implement Recommendations for Improvement		Annually beginning July 1	Completed/Compliant		

8.3 Erosion Control Ordinance

Mecklenburg County has a delegated Sediment and Erosion Control Program and is therefore 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 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. The regulatory mechanism established for this program is the Mecklenburg County Soil Erosion and Sedimentation Control Ordinance effective October 21, 1974 and amended 14 times as follows: March 5, 1979, June 16, 1980, April 2, 1984, October 7, 1985, February 27, 1986, April 21, 1987, December 7, 1987, February 4, 1991, May 10, 1993, February 7, 1995, June 3, 1997, September 6, 2000, May 21, 2002, and October 7, 2008. The County's ordinance is currently enforced by the Permitting and Compliance Program in the Towns of Cornelius, Pineville and Matthews. The Towns of Davidson and Mint Hill have their own sediment and erosion control ordinances, which are very similar to Mecklenburg County's and are also enforced by the Permitting and Compliance Program. The Town of Huntersville has a similar ordinance that it enforces. These ordinances require an approved Erosion Control Plan for construction activities that result in the disturbance of greater than or equal to one acre of land. The ordinances further require that all construction site operators implement appropriate erosion and sediment control BMPs, including those sites that disturb less than an acre. Copies of the ordinances are available at the following website: <http://stormwater.charmeck.org> (select "Stormwater Regulations", select "Soil Erosion and Sedimentation Control ordinances"). The Mecklenburg County Soil Erosion and Sedimentation Control Policies and Procedures describe how ordinances are enforced and the local program is implemented, including inspection procedures, record keeping requirements, form letters for notices of violation, and enforcement guidance. A copy of these policies and procedures is available upon request to the Environmental Manager for Mecklenburg County's Water Quality Program. The Surface Water Pollution Control Ordinances (see Section 7.5) are used to regulate pollutants other than sediment that are generated from construction sites and have the potential to negatively impact water quality such as discarded building material, concrete truck washout, chemicals, litter, and sanitary waste. Staff inspecting for compliance with soil erosion and sediment control ordinance also inspect for compliance with the pollution control ordinance.

8.4 Erosion Control Plan Reviews

Section 6(b) of the erosion control ordinances for Mecklenburg County and the Town of Huntersville as well as Sections 19.6(b) and 6.7.6(B) of the ordinances for the Towns of Davidson and Mint Hill, respectively, require an approved Erosion Control Plan for construction activities that result in the disturbance of greater than or equal to one acre of land. Erosion control inspectors conduct a site plan review and on-site inspection prior to plan approval. Sections 10, 19.10 and 6.7.10 of the respective erosion control Ordinances specify the content of the plan, which includes all BMPs planned for the control of erosion and sedimentation. Staff with CMSWS's Permitting and Compliance Program reviews all Erosion Control Plans for the Phase II jurisdictions in Mecklenburg County, except for in the Town of Huntersville where their

staff performs these reviews and government projects which are reviewed by NCDEQ staff. Reviews are typically completed within 30 days of submittal and the person submitting the plan is notified as to whether the plan is approved, approved with modifications, or disapproved. The applicant has the right to appeal the disapproval before the Charlotte-Mecklenburg Stormwater Advisory Committee. Plan approval is considered void if land disturbing activities do not commence within three (3) years of the approval date. The Mecklenburg County Soil Erosion and Sedimentation Control Policies and Procedures describe the process for site plan review, which incorporates consideration of potential water quality impacts.

8.5 Enforcement

Sections 13, 19.13 and 6.7.13 of the respective erosion control Ordinances specify that any person who violates any of the provisions of the ordinance is subject to a civil penalty in an amount not to exceed \$5,000 per day for each day the violation continues. The Permitting and Compliance Program has established guidance in its policies and procedures for setting penalty amounts for different types of violations. The Stormwater Advisory Committee (SWAC) hears appeals to enforcement actions. The Mecklenburg County Soil Erosion and Sedimentation Control Policies and Procedures describe the enforcement process, including procedures for issuing notices of violation, assessing penalties and handling appeals.

8.6 Inspections

All erosion and sedimentation control inspections in the Phase II jurisdictions are performed by staff of the Permitting and Compliance Program, except for in the Town of Huntersville and its ETJ where their staff performs these inspections and government projects which are inspected by NCDEQ staff. Following plan approval but prior to initiating land disturbing activities and issuance of a local grading permit, staff conducts a pre-construction meeting involving all parties associated with the land disturbing activity to ensure that everyone is familiar with the approved Erosion Control Plan and ordinance requirements. The construction site is evaluated during this pre-construction meeting and a checklist completed. Following the pre-construction meeting, erosion control measures are installed by the contractor after which the Permitting and Compliance Program conducts an inspection to confirm proper installation in accordance with the approved Erosion Control Plan and ordinance requirements. Following this confirmation, the inspector issues a local grading permit authorizing grading of the site. Once grading activities commence, staff perform compliance inspections on a routine interval based on an established prioritization scheme. If inspections reveal noncompliance with the approved Plan or other ordinance violations, a written or verbal notice of violation is issued identifying the violation(s) and specifying the specific action(s) needed to ensure compliance. Follow up inspections are conducted to verify compliance after which penalties may be assessed depending on the nature of the violation and effectiveness of the response. The Mecklenburg County Soil Erosion and Sedimentation Control Policies and Procedures describe the inspection process and include inspection logs and checklists.

8.7 Erosion Control Hotline

Mecklenburg County provides a means for the public to notify the Permitting and Compliance

Program of observed erosion and sedimentation control problems in the Phase II jurisdictions through contacting the 311 helpline as described in Section 5.3. This reporting mechanism is promoted through the media campaign conducted as part of the Public Education and Outreach Program. Staff conducts follow up investigations on reported problems and initiates the actions necessary to ensure proper erosion and sedimentation control and the protection of water quality.

8.8 Erosion Control Education

The Permitting and Compliance Program with CMSWS provides erosion control education through its “Charlotte Mecklenburg Certified Site Inspector” (CMCSI) course, which includes six (6) hours of training on proper erosion and sedimentation control and a written test. Section 8(f), 19.8(f) and 6.7.8(F) of the of the respective erosion control Ordinances specify that persons conducting land-disturbing activities, or their agent perform inspections of all erosion and sedimentation control measures at least once a week and within 24 hours after any storm event of greater than 0.5 inch of rain (except Huntersville that uses 1 inch) per 24-hour period. Local policies and procedures state that the person performing these inspections must be certified and technically competent and that a self-inspection log must be maintained. Satisfactorily completing the CMCSI training qualifies a person to perform these activities.

8.9 Government Projects

All government projects within the Phase II jurisdictions are regulated by NCDEQ’s Erosion and Sediment Control Program, which conducts plan reviews, inspections and enforcement activities. This includes construction activities performed directly by the Phase II entity or by a company under contract with the entity.

8.10 Decision Process

Construction site pollutants have been successfully controlled in the Phase II jurisdictions through a locally delegated program for almost 50 years. The Phase II jurisdictions have elected to continue their reliance on this local program due to its past successes and the improvements recently brought about through program modifications.

SECTION 9: POST-CONSTRUCTION SITE RUNOFF CONTROL PROGRAM

A Post-Construction Site Runoff Control Program has been developed and is currently being implemented for addressing post-construction stormwater runoff from new development and redevelopment projects in Mecklenburg County’s Phase II jurisdictions. The program is administered by CMSWS’s Water Quality and Permitting and Compliance Programs as described in the following Sections except for in the Town of Huntersville and its ETJ where effective July 1, 2020 Town staff are responsible for plan reviews and issuing land development Permits as well as conducting inspections to confirm project completion in compliance with Permit requirements. Kevin Fox, Public Works Director, serves as the responsible party for compliance with the Permit requirements for the Post-Construction Site Runoff Control Program in the Town of Huntersville. His contact information is as follows: 704-766-2220 and kfox@huntersville.org.

9.1 Program Goals and Objectives

CMSWS’s establishes its goals and objectives for its Post-Construction Site Runoff Control Program, which are evaluated and updated annually as necessary, based on the actions necessary to effectively address the targeted pollutants and pollutant sources identified in Table 11. The current goal of the Post-Construction Site Runoff Control Program is to prevent or minimize negative water quality impacts during post-construction conditions at new developments and redevelopments, including public transportation maintained by the permittee. The current objectives of the program are as follows:

1. Implement and enforce a program to address stormwater runoff from new development and redevelopment projects, including public transportation maintained by the permittee, that disturb greater than or equal to one (1) acre, including projects disturbing less than one (1) acre that discharge to the storm sewer system.
2. Implement strategies which include a combination of structural and/or non-structural BMPs appropriate for the community.
3. Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects.
4. Ensure adequate long-term operation and maintenance of BMPs. Achievement of this objective will be measured by a reduction in the number of noncompliant BMPs over time (see Section 9.13).

9.2 BMP Summary Table

Table 22 summarizes the activities undertaken to fulfill the above described goals and objectives of the Post-Construction Site Runoff Control Program. Column A describes the BMPs identified in the Storm Water Plan for the Program. The specific actions (i.e., Measurable Goals) undertaken for implementation of these BMPs are described in Column B with the schedule provided in Column C. Column D includes the Annual Reporting Metric, indicating whether the Measurable Goals were completed and whether compliance with the Storm Water Plan and Permit was achieved. Column E describes the co-permittees’ responsibilities for fulfilling the BMP.

Table 22: BMP Summary Table for the Post-Construction Site Runoff Control Program.

BMP Summary Table for the Post-Construction Site Runoff Control Program					
Post-Construction Site Runoff Control Program (Permit Ref. Part II Section F; Part III Sections A,B,C,D; Part IV Sections B,F): Developing, implementing and enforcing a Post-Construction Site Runoff Control Program for addressing post-construction storm water runoff from new development and redevelopment projects in Mecklenburg County’s Phase II jurisdictions.					
BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
#28 PC-1	Implement Post-Construction Ordinances				
	Developing, implementing, and enforcing ordinances that will minimize negative water quality impacts to surface waters from post-construction discharges.	a. Annual Report	Annually beginning July 1	Completed/Compliant	CMSWS serves as the Storm Water Administrator for all Post-Construction Ordinance except for Cornelius where the Zoning Administrator fulfills this role working with CMSWS.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Ensure Effective Implementation	Annually beginning July 1	Completed/Compliant	
		d. Provide Interpretations of Ordinance Requirements	Annually beginning July 1	Completed/Compliant	
#29 PC-2	Post-Construction Ordinance Inspections				
	Developing and implementing an inspection program for stormwater control measures (SCMs) for the purpose of ensuring they are maintained and performing in accordance with design specifications and post-construction ordinance requirements.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Huntersville reviews plans, issues permits and conducts inspections during construction. CMSWS performs these functions for the other Phase II jurisdictions. Following construction, CMSWS administers an inspection program for both public and private SCMs in all jurisdictions. All co-permittees ensure compliance for the SCMs that they own/maintain.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Update Manual	Annually beginning July 1	Completed/Compliant	
		d. Complete Inspections	Annually beginning July 1	Completed/Compliant	
e. Complete Inspection Reports.		Annually beginning July 1	Completed/Compliant		
#30 PC-3	Post-Construction Ordinance Education				
	Developing and implementing a program to educate the development community and the general public concerning the post-construction storm water management	a. Annual Report	Annually beginning July 1	Completed/Compliant	Participate in training as requested by CMSWS.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Develop Post-Construction Ordinance Training	Annually beginning July 1	Completed/Compliant	
d. Conduct Training		Annually beginning July 1	Completed/Compliant		

BMP Summary Table for the Post-Construction Site Runoff Control Program					
Post-Construction Site Runoff Control Program (Permit Ref. Part II Section F; Part III Sections A,B,C,D; Part IV Sections B,F): Developing, implementing and enforcing a Post-Construction Site Runoff Control Program for addressing post-construction storm water runoff from new development and redevelopment projects in Mecklenburg County’s Phase II jurisdictions.					
BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
	requirements with a focus on proper maintenance of SCMs.				
#31 PC-5	Evaluate Effectiveness of the Post-Construction Controls Program				
	Assessing the effectiveness of the Post-Construction Controls Program at addressing post-construction storm water runoff from new development and redevelopment projects.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
d. Implement improvements in the next fiscal year.		Annually beginning July 1	Completed/Compliant		

9.3 Post-Construction Stormwater Ordinances

The post-construction stormwater ordinances developed by the Phase II jurisdictions were reviewed and approved by the State and subsequently adopted effective June 30, 2007. These regulations meet or exceed the minimum requirements for the control of post-construction stormwater runoff specified by 40 Code of Federal Regulations 122.34(b)(5) (1 July 2003 Edition). These regulations meet the objectives of the Post-Construction Site Runoff Control Program and provide the authority to:

1. Review designs and proposals for new development and redevelopment to determine whether adequate stormwater control measures will be installed, implemented, and maintained.
2. 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.
3. 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 Site Runoff Control Program.

Administrative and SCM Manuals have been developed and are being maintained by CMSWS to guide the implementation and enforcement of ordinance requirements. The Administrative Manual includes application requirements, forms, submission schedules, fee schedules, maintenance plans and agreements, criteria for mitigation approval, criteria for recordation of documents, inspection report forms, requirements for submittal of bonds, and other information and forms used in the administration of the post-construction ordinances. The SCM Manual includes the designs for structural stormwater controls as well as methods for calculating built-upon area and other information used in the construction of SCMs required by the ordinances.

Copies of the ordinances as well as the Administrative and Design Manuals, design standards checklist, and other materials appropriate for developers are available at the following website: <http://stormwater.charmeck.org> (select “Regulations”, select “Stormwater Regulations”, select “Post-Construction Stormwater Control ordinances”).

CMSWS’s Environmental Manager for the Water Quality Program serves as the Stormwater Administrator responsible for the implementation and enforcement of the post-construction ordinances for the Towns and County except for the Town of Cornelius, which uses its Planning Director to fulfill this role. All appeals and variances are heard by the Charlotte-Mecklenburg Stormwater Advisory Committee (SWAC) following a process similar to what is used for the Sediment and Erosion Control Program described in Section 8. The only exceptions are that the Towns of Cornelius and Huntersville use their Boards of Adjustment to hear all appeals and variances.

Implementation of the post-construction ordinances consists of the following activities:

1. Maintaining and updating the ordinances as necessary.
2. Providing interpretations regarding the applicability of ordinance requirements.
3. Maintaining and updating the Charlotte-Mecklenburg SCM Design Manual as necessary.
4. Maintaining and updating the Administrative Manual as necessary.
5. Performing site plan reviews of all new development and redevelopment projects that disturb greater than or equal to one acre (including sites that disturb less than one acre that are part of a larger common plan of development or sale) and performing reviews on new development and redevelopment that disturb less than an acre as required by specific ordinance requirements. The site plan review addresses how the project meets the performance standards and how the project will ensure long-term maintenance.
6. Conducting site inspections during construction to ensure compliance with approved plans and all ordinance requirements.
7. Conducting a post-construction inspection before issuing a certificate of occupancy to verify that performance standards have been met or a bond is in place to guarantee completion.
8. Inspection findings and enforcement actions will be documented, and records maintained in the Cityworks database. Cityworks will also be used to track notices of violation and enforcement actions and will serve as a reporting mechanism to identify chronic violators for initiation of actions to reduce noncompliance.
9. Maintaining an inventory of public and private projects with SCMs installed for compliance with post-construction ordinance requirements.
10. Ensuring that mechanisms are in place to guarantee that projects will be maintained consistent with approved plans in compliance with ordinance requirements.
11. Ensuring the implementation of long-term operation and maintenance plans for structural SCMs in accordance with ordinance requirements, including ensuring that the owner of each structural SCM has a qualified professional perform annual inspections and maintains records of these inspections.
12. Conducting site inspections of structural stormwater controls installed for compliance with ordinance requirements at least once during the Permit term. Records of inspection findings and enforcement actions are maintained in the Cityworks database. Notices of

violation and enforcement actions are tracked and used to identify chronic violators for initiation of actions to reduce noncompliance.

13. Implementing a program to educate the development community and the general public concerning the post-construction stormwater management requirements. Ordinances, post-construction requirements, design standards checklist, and other materials appropriate for developers are made available through paper or electronic means.

9.4 Compliance by Co-Permittees with Post-Construction Ordinance Requirements

New developments constructed by or under contract with the Phase II entities are required to comply with the local post-construction ordinance requirements adopted by the jurisdiction where the project is located, including the City of Charlotte, Mecklenburg County, and the Towns of Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville. New roads and road expansions interior to land development projects required to comply with post-construction requirements must adhere to these same requirements regardless of whether these roads will be privately maintained or maintained by the jurisdiction. For such projects, the built-upon area for the roads is incorporated into the built-upon area for the project and SCMs are installed as necessary to comply with ordinance requirements. There are a few exceptions to compliance with local post-construction requirements for other types of transportation projects as described in Appendix C.

CMSWS maintains a current inventory of the structural SCMs owned and/or operated by the Phase II jurisdictions/entities that were installed for compliance with Post-Construction Ordinances. This inventory is available upon request to the Storm Water Administrator. The Phase II jurisdictions/entities maintain and implement O&M Plans for these SCMs, which specify the frequency of inspections and routine maintenance requirements. The Phase II jurisdictions/entities inspect and maintain their SCMs in accordance with the schedule contained in the O&M Plan. Plans vary based on SCM type. Sample O&M Plans are available upon request. To ensure that all structural SCMs are being maintained pursuant to their O&M Plan, all co-permittees conduct annual inspections of the SCMs that they own and/or operate using a qualified professional. A qualified professional is either a qualified NC professional engineer or registered landscape architect performing services only in their area of competence, or someone who has a valid Stormwater SCM Inspection & Maintenance Certification from NC State University. All inspections of SCMs are documented on an inspection form and submitted to the Storm Water Administrator for review and follow up as necessary. These forms are available at the following link:

https://mecklenburgcounty.exavault.com/p/waterquality/PCO%20Forms/BMP_Maintenance_Inspection_Checklists_PCO21/. For Charlotte-Mecklenburg Schools, Central Piedmont Community College, and the Towns, these inspections are performed by CMSWS staff. Inspections of County owned facilities are the responsibility of the Department that manages the facility where the SCM is located, including Asset and Facility Management, Park and Recreation, and the Sheriff's Department.

9.5 Requirements for Non-Structural SCMs

The post-construction ordinances include stream buffer and undisturbed open space requirements as summarized in Table 23, which serve as non-structural SCMs. Prior to the adoption of the post-construction ordinances, non-structural stormwater controls were in effect in the Phase II jurisdictions that continue to apply, including zoning ordinances to direct growth to identified areas. In addition, Mecklenburg County’s Park and Recreation Department actively acquires and maintains open space for parks and nature preserves. This program concentrates on preserving environmentally sensitive and natural resource areas within the County, including wetlands and riparian buffers.

Table 23: Non-Structural SCMs Required by Post-Construction Ordinances

Jurisdiction	Post-Construction Ordinance Watershed District	Undisturbed Open Space Requirements Based on Project BUA <24% = 25%; ≥24% = 17.5%; ≥50% = 10%	Buffer Widths		
			Streams draining <50 acres = 30 ft.; ≥50 acres = 35 ft.; ≥300 acres = 50 ft.; ≥640 acres = 100 ft. + floodplain	Streams draining <50 acres = 50 ft.; ≥50 acres = 100 ft. for all intermittent & perennial streams	200-ft on perennial and intermittent streams inside FEMA floodplain; 100 ft. on all other perennial and intermittent streams
Cornelius	N/A	N/A	X		
Davidson	Catawba	X	X		
	Yadkin	X		X (3 zone buffer)	
Huntersville	N/A	N/A	X		
Matthews	Catawba	X	X		
	Yadkin	X		X (3)	
Mint Hill	Catawba	(1)	X		
	Yadkin	(1)	X		
	Goose Cr.	(1)			X (undisturbed)
Pineville	N/A	X	(2)		
Mecklenburg	N/A	X	(2)		

- (1) <20% BUA = no undisturbed open space is required; ≥20% BUA = 15%; ≥50% = 10%
- (2) Streams draining <100 acres = 30 ft; ≥100 acres = 35 ft.; ≥300 acres = 50 ft.; ≥640 acres = 100 ft + 50% of floodfringe.
- (3) Buffer also includes 100% of the floodplain and is undisturbed.

Since 1999, buffers ranging in width from 35 feet to the entire FEMA floodplain have been required along perennial streams in the Phase II jurisdictions. These buffer requirements were implemented as part of Mecklenburg County’s Surface Water Improvement and Management (S.W.I.M.) Program. The northern Towns of Cornelius, Davidson and Huntersville have portions of their jurisdictions in WS-IV watersheds and have maintained water supply watershed rules in their zoning ordinances since the mid-1990s. These rules require buffers ranging from 50 to 100 feet in width along the lake shoreline as well as along perennial streams delineated on USGS quadrangle maps.

9.6 Requirements for Structural SCMs

The post-construction ordinances adopted on June 30, 2007 by the Phase II jurisdictions contain requirements for the installation of structural SCMs to control and treat stormwater runoff to meet specific volume, peak and water quality requirements when a built-upon area threshold is reached. These SCMs must meet the design criteria contained in the Charlotte-Mecklenburg

SCM Design Manual. This manual includes design criteria for the following types of SCMs: bioretention, wet pond, stormwater wetland, enhanced grass swale, grass channel, infiltration trench, filter strip/woody buffer strip, sand filter, extended dry detention, and proprietary SCMs. The design volume of the SCMs takes into account the runoff at buildout for on-site improvements and the maximum low-density option for off-site areas from all surfaces draining to the structure. SCMs are sized to treat and control stormwater runoff from all surfaces draining to the structure, including streets, driveways, and other built-upon area. Table 24 provides a general summary of the structural SCM requirements.

Table 24: Structural SCMs Contained in the Post-Construction Ordinances

Jurisdiction	Post-Construction Ordinance Watershed District	Treatment Threshold (BUA)	Treatment Type			Treatment Volume	
			85% TSS Removal	70% TP Removal	LID	Runoff from 1st inch of rainfall	Runoff from pre minus post development for 1-yr, 24-hr storm
Cornelius	N/A	>24%	X		Optional	X	
Davidson	Catawba	>12%	X	X	Optional	X	
	Yadkin	>10%	X	X	Optional	X	
Huntersville	N/A	>12%			Required ⁽²⁾	X	
Matthews	Catawba	>24%	X		Optional	X	
	Yadkin	>10%	X	X	Optional	X	
Mint Hill	Catawba	>24%	X		Optional	X	
	Yadkin	>12%	X		Optional	X	
	Goose Cr.	None ⁽¹⁾	X		Required ⁽³⁾		X
Pineville	N/A	>24%	X		Optional	X	
Mecklenburg	N/A	>24%	X		Optional	X	

- (1) Treatment required for all built-upon area.
- (2) A combination of LID and conventional stormwater treatment measures is allowed in the form of a treatment train.
- (3) Water quality treatment systems that promote the infiltration of flows and groundwater recharge (LID) shall be used unless it can be demonstrated that such treatment systems are not a practical alternative for the site.

Prior to the adoption of the post-construction stormwater ordinances, the installation of SCMs was required for developments and redevelopments located in the WS-IV watersheds in the Towns of Davidson, Cornelius, and Huntersville. In addition, beginning on July 2, 1979 the Phase II jurisdictions required the submission and approval of a drainage plan for land development activities that involved the cumulative creation of more than 20,000 square feet of impervious ground cover. This requirement is typically applied to commercial development but could be applied to residential development at the election of the Town. If the impervious cover proposed in the plan increased the peak level of stormwater runoff from the site, then the plan was required to identify measures to control and limit runoff to peak flows no greater than would occur from the site if impervious area were not increased for the 2-year and 10-year storm events. SCMs installed for compliance with the WS-IV watershed ordinances and those SCMs installed for the July 2, 1979 drainage plan requirements are not subject to the post-construction ordinance requirements for inspection and maintenance. In addition, SCMs installed for compliance with Huntersville’s LID Ordinance prior to June 30, 2007 are not subject to these requirements.

9.7 Natural Resource Protection

The Division of Nature Preserves and Natural Resources within the Mecklenburg County Park and Recreation Department is responsible for the protection and conservation of Mecklenburg County's parks designated as Nature Preserves. Mecklenburg County's nature preserves protect the county's biological resources and natural areas, while providing opportunities for environmental education, nature-based programs, and outdoor recreation. The Division of Nature Preserves and Natural Resources offers more than 5,000 programs annually, performs natural resource management on over 7,400 acres, maintains more than 30 miles of nature trails, and operates 3 nature centers and a public campground.

9.8 Open Space Protection

As described in Section 9.5 above, the post-construction ordinances for Mecklenburg County and the Towns of Davidson, Matthews, Mint Hill, and Pineville require open space preservation based on project area as described in Table 23. Failure to adequately protect these open space areas constitutes a violation of the ordinance, which is subject to fines. The Towns of Cornelius and Huntersville have open space requirements as a Section of their land development code, but these requirements are not enforced as a component of the post-construction ordinance.

9.9 Tree Preservation

To varying degrees, the Phase II jurisdictions in Mecklenburg County require the planting of additional trees to enhance the urban tree canopy as well as the protection and maintenance of trees on public and private property. Street trees are also required. These requirements are generally contained in Land Development or Zoning Ordinances.

9.10 Green Infrastructure Practices

The post-construction stormwater ordinances adopted by the Phase II jurisdictions contain the following green infrastructure practices:

1. The use of vegetated conveyances for the transport of stormwater to the MEP.
2. The optional use of permeable pavement systems as a structural SCM to help manage stormwater runoff.
3. The optional use of green roofs as structural SCMs to help manage stormwater runoff.
4. The optional use of consultation meetings early in the development review process to discuss the post-construction stormwater management measures necessary for the proposed project, as well as to discuss and assess constraints, opportunities and potential approaches to stormwater management designs before formal site design engineering is commenced.
5. The designation of undisturbed open space areas ranging from 10% to 25% of the total project area based on the jurisdiction (except in Cornelius and Huntersville) (see Table 23).
6. The protection of buffers ranging in width from 30 feet to the entire FEMA floodplain depending on the watershed area and jurisdiction (see Table 23).

7. The optional use of low impact development techniques except in the Town of Huntersville and Goose Creek watershed where it is required (see Table 24).
8. The optional use of payment-in-lieu as well as off-site and on-site mitigation to satisfy post-construction stormwater ordinance requirements in cases where on-site alternatives are not technically feasible. These options provide money for tree planting, open space acquisition, installation of off-site SCMs, etc.

Practices are in place to ensure the long-term maintenance of green infrastructure, including recording the infrastructure on final plats at the Mecklenburg County Register of Deeds Office and performing periodic inspections.

9.11 Operation and Maintenance

The Phase II jurisdictions have included requirements in their post-construction programs to ensure the adequate long-term operation and maintenance of structural and non-structural SCMs as summarized below.

1. A SCM Operation and Maintenance Agreement and Declaration of Covenants must be completed and recorded at the Mecklenburg County Register of Deeds Office for all structural SCMs. A SCM Maintenance Plan must be included as an addendum to this agreement. This is a binding legal agreement prepared using the format provided by the Stormwater Administrator that specifies the responsibilities for performing SCM maintenance and provides a description of the maintenance activities to be performed, including a schedule. In addition, the following language must be included on the final plat for all developments and redevelopments subject to post-construction ordinance requirements: “This property contains water quality features that must be maintained according to the Operations and Maintenance Agreement and Plan recorded in Deed Book ____ and Page _____.”
2. As-built plans are required that show the final design specifications for all structural SCMs and the field location, size, depth, and planted vegetation associated with the SCM as installed, as well as the location and size of all undisturbed open space areas and tree plantings. The designer of the stormwater management measures and plans must certify, under seal, that the as-built stormwater measures, controls, and devices are in compliance with the approved plans and designs and with the requirements of the post-construction ordinance.
3. Maintenance and access easements must be established and recorded on the final plat for all SCMs except those installed for public facilities.
4. The location and dimensions of all SCMs must be included on the final plat recorded at the Mecklenburg County Register of Deeds Office. The following language must be included on the final plat: “The purpose of the SCM is to treat/reduce the pollutants associated with stormwater runoff in order to minimize negative effects to downstream receiving waters. The easement around the SCM is to allow stormwater conveyance and system maintenance. The removal of plants or disturbance of the SCM structure or otherwise affecting the overall functionality of the SCM for reasons other than maintenance is strictly prohibited.”

5. The location of undisturbed open space must be included on the final plat recorded with the Mecklenburg County Register of Deeds Office. Language must be included on the final plat prohibiting future disturbance of the area.
6. The location of water quality buffers must be included on the final plat recorded with the Mecklenburg County Register of Deeds Office. The top of the stream bank must be field located and shown on the plat. Each buffer zone must also be shown on the plat and the stream side zone must be labeled as “UNDISTURBED.”
7. If requested by the owner, Mecklenburg County and all the Towns except Cornelius, Huntersville, and Mint Hill will accept the maintenance responsibility for structural SCMs that are installed pursuant to the post-construction stormwater ordinance following a warranty period of two (2) years from the date of the final approval of the SCM, provided the SCM:
 - Serves a single-family detached residential development or townhomes all of which have public street frontage.
 - Is satisfactorily maintained during the two-year warranty period by the owner or designee.
 - Meets all the requirements of the applicable post-construction stormwater ordinance and the Design Manual.
 - Includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection, maintenance, repair, or reconstruction.

The maintenance of all SCMs not covered by this provision is the responsibility of the owner or their designee.

8. The Towns, Mecklenburg County, CMS and CPCC will maintain the SCMs that they install for their respective projects when they retain ownership. An O&M Plan has been developed for this maintenance and is available upon request.
9. SCM Maintenance Bonds are required for all structural SCMs installed for both residential and commercial developments. SCM Maintenance Bonds are not required for SCMs installed for public facilities. The purpose of these bonds is to ensure that funds are available to maintain SCMs if the owner should fail to do so in which case the Town or Mecklenburg County would cash the bond to obtain the money to perform the necessary maintenance. The bonds must be posted by the owner for a period of not less than two (2) years from the as-built approval date.
10. All SCMs installed for compliance with post-construction stormwater ordinance requirements must be inspected at a minimum of annually. The owner of the SCM is responsible for ensuring that these inspections are performed, and for the submittal of the necessary documentation to CMSWS. They are also responsible for correcting all SCM violations. In all the jurisdictions except the Town of Huntersville, SCMs must be inspected by a qualified registered N.C. professional engineer or landscape architect at a minimum of annually. In Huntersville, a “qualified professional” is authorized to inspect these SCMs. The minimum requirements for a qualified professional and the established process for verifying these qualifications are contained in the post-construction ordinance Administrative Manual available on the website. The Stormwater Administrator has developed SCM inspection forms that are also available on this website.
11. All low-density projects are required to indicate built-upon area restrictions for the development on a plat. Upon completion of development, as-builts are required to verify compliance with these restrictions. County and/or Town staff review and approve these

as-builts and the plat, which is subsequently recorded at the register of deeds office, to ensure compliance with these restrictions before bonds and/or project holds are released. Prior to the issuance of future building permits for additional development at the site, verification must be provided to staff that the established built-upon area restriction is not being exceeded as a result of the new development. CMSWS's interpretation is that this system satisfies the permit condition for ensuring the inspection and maintenance of low-density projects.

9.12 Decision Process

Between April 2004 and September 2005, a stakeholders' group deliberated in the development of a draft post-construction ordinance for Charlotte-Mecklenburg. The resulting consensus document was subsequently reviewed and modified as necessary by the Phase II jurisdictions to meet their specific requirements. These documents were submitted to NCDEQ and following approval were adopted into law effective June 30, 2007. Following adoption, workshops were held for the development community and staff to help ensure effective implementation. It was decided that a stakeholders' process would be used in the development of the post-construction ordinance based off the successes of previous such efforts. For example, CMSWS relied on a similar approach in the development of the S.W.I.M. stream buffer ordinances and local water supply watershed rules.

During the development of the draft post-construction ordinances, efforts were undertaken to conform these rules to each jurisdiction's specific water quality needs. For example, the Towns of Matthews, Mint Hill, and Pineville have streams within their jurisdictions identified on the N.C. 303(d) list for fecal coliform bacteria and TMDLs have been developed. In addition, Goose Creek in the Town of Mint Hill is an identified habitat for the Carolina heelsplitter, a federally endangered species of freshwater mussel. The Towns in northern Mecklenburg County have similar challenges. McDowell Creek in Huntersville and Cornelius as well as Long Creek and Clarke Creek in Huntersville and the Rocky River in Davidson are identified on the N.C. 303(d) list for biological impairment, fecal coliform bacteria and/or turbidity. These are all high priority issues that were taken into consideration during the stakeholder process for development of the post-construction ordinances for the Phase II jurisdictions.

SECTION 10: POLLUTION PREVENTION & GOOD HOUSEKEEPING PROGRAM

A Pollution Prevention/Good Housekeeping Program has been developed and is currently being implemented for addressing discharges of pollution from municipal facilities and operations owned and/or operated by Mecklenburg County’s Phase II jurisdictions. The program is administered by CMSWS’s Water Quality Program as described in the following Sections. Each co-permittee is responsible for pollution prevention and good housekeeping at facilities that they own and control.

10.1 Program Goals and Objectives

CMSWS establishes its goals and objectives for its Pollution Prevention/Good Housekeeping Program, which are evaluated and updated annually as necessary, based on the actions necessary to effectively address the targeted pollutants and pollutant sources identified in Table 11. The current goal of the Pollution Prevention/Good Housekeeping Program is to reduce pollutants in stormwater runoff from municipal operations. The current objectives of the program are as follows:

1. Develop and implement an operation and maintenance program to prevent or reduce stormwater pollution from facilities and operations owned and/or operated by the Phase II jurisdictions/entities.
2. Train the employees at these facilities and operations to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

10.2 BMP Summary Table

Table 25 summarizes the activities undertaken to fulfill the above-described goals and objectives of the Pollution Prevention and Good Housekeeping Program. Column A describes the BMPs identified in the Storm Water Plan for the Program. The specific actions (i.e., Measurable Goals) undertaken for implementation of these BMPs are described in Column B with the schedule provided in Column C. Column D includes the Annual Reporting Metric, indicating whether the Measurable Goals were completed and whether compliance with the Storm Water Plan and Permit was achieved. Column E describes the co-permittees’ responsibilities for fulfilling the BMP.

Table 25: BMP Summary Table for the Pollution Prevention/Good Housekeeping Program

BMP Summary Table for the Pollution Prevention/Good Housekeeping Program					
Pollution Prevention & Good Housekeeping (Permit Ref. Part II Section G; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.					
BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
#32 PP-1	Municipal Training				
	Developing and implementing a	a. Annual Report	Annually beginning July 1	Completed/Compliant	Ensure employees receive annual

BMP Summary Table for the Pollution Prevention/Good Housekeeping Program					
Pollution Prevention & Good Housekeeping (Permit Ref. Part II Section G; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.					
BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
	training program for employees involved in implementing pollution prevention and good housekeeping practices.	b. Annual Assessment	Annually beginning July 1	Completed/Compliant	training. Maintain training records.
		c. Develop Training Program	Annually beginning July 1	Completed/Compliant	
		d. Provide Training Materials to Towns and County	Annually beginning July 1	Completed/Compliant	
#33 PP-2	Inspections				
	Conducting inspections of all facilities associated with Phase II municipal operations.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Ensure issues identified in inspection reports are addressed in a timely manner.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Train CMSWS Staff	Annually beginning July 1	Completed/Compliant	
		e. Complete, Prepare, and Submit Inspection Reports	Annually beginning July 1	Completed/Compliant	
		f. Develop O&M Plans	Annually beginning July 1	Completed/Compliant	
#34 PP-5	Municipal Facility Inventory				
	Developing and updating an inventory of all municipal operations owned by the Phase II jurisdictions/entities and evaluating each facility for the potential to generate polluted storm water runoff in accordance with the Phase II Permit.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Notify CMSWS of all new properties purchased.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Update Municipal Inventory	Annually beginning July 1	Completed/Compliant	
		e. Notify Co-Permittees of Changes	Annually beginning July 1	Completed/Compliant	
#35 PP-9	Evaluate Effectiveness of the Pollution Prevention/ Good Housekeeping Program				
	Assessing the effectiveness of the pollution prevention program for municipal operations and updating as necessary, including all written policies and	a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
		d. Evaluate Effectiveness of O&M Plan	Annually beginning July 1	Completed/Compliant	
		e. Implement Recommendations for	Annually beginning July 1	Completed/Compliant	

BMP Summary Table for the Pollution Prevention/Good Housekeeping Program					
Pollution Prevention & Good Housekeeping (Permit Ref. Part II Section G; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.					
BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
	procedures.	Improvement			

10.3 Inventory of Municipally Owned or Operated Facilities

During the first Permit term, CMSWS completed an inventory of over 1,530 properties owned and/or operated by the Phase II jurisdictions/entities and identified those municipal facilities and operations that should be covered by the Pollution Prevention and Good Housekeeping requirements of the Phase II Permit using procedures developed by CMSWS and incorporated into the Stormwater Plan. These procedures were implemented effective July 1, 2005 and are based on guidelines provided by NCDEQ. These guidelines are contained in Appendix D and include an evaluation of 20 percent of the identified facilities each year for the 5-year Permit term. As new facilities were identified, they were incorporated into the Pollution Prevention/Good Housekeeping Program based on the application of these guidelines.

During the second Permit term beginning in 2011, CMSWS updated its Stormwater Plan to comply with a new Phase II Permit requirement that properties with a “significant potential for generating polluted stormwater runoff” must be included in an Operations and Maintenance (O&M) Program that specifies a frequency of inspection and routine maintenance requirements. This new requirement was less inclusive than those applied during the first Permit term; therefore, facilities and operations identified for coverage prior to 2011 were left in the program thus going beyond minimum Permit requirements. CMSWS uses the following criteria to determine if a facility has a significant potential for generating polluted stormwater runoff:

1. Exposure of significant materials based on the “Exposure Checklist” included in numbers 12 through 14 of NCDEQ’s “No Exposure Certification Form” (NCGNE0000) (see Appendix D) as described in CMSWS’s “Form for Evaluating Exposure of Significant Materials” (see Appendix E), and
2. No written procedures or controls in place to prevent pollution.

Facilities that meet the above criteria are added to the Pollution Prevention/Good Housekeeping Program and the co-permittees that own and/or operate these facilities are required to implement long-term pollution prevention measures to reduce the potential for polluted stormwater runoff, including (but not limited to) the following:

1. Development of a full Stormwater Pollution Prevention Plan.
2. Development of written Standard Operating Procedures (SOPs) for activities on-site that have a significant potential to pollute stormwater.
3. Completion of required inspections.
4. Completion of required pollution prevention training for on-site staff.

As of November 2024, CMSWS’s inventory included a total of 3,155 properties owned by the co-permittees with a total of 35 identified as having a significant potential for generating polluted

stormwater runoff that have been included in the Pollution Prevention and Good Housekeeping Program as described in Tables 26, 27, 28 and 29 below. Table 26 includes a list of facilities operated by Mecklenburg County and the Towns. Eight (8) private operations located on property owned by a co-permittee that have the significant potential for generating polluted stormwater runoff are also included in Table 26. These facilities are inspected once every five (5) years. Tables 27 and 28 include facilities operated by CMS and CPCC, respectively. Of the facilities and operations included in Tables 26, 27, and 28 a total of five (5) are subject to NPDES stormwater general or individual Permits as described in Table 29. These five (5) facilities are owned and/or operated by Mecklenburg County. A more detailed explanation of the evaluation process for inclusion of facilities into the Pollution Prevention/Good Housekeeping Program is provided in Appendix D.

Table 26: Municipal Operations Owned and/or Operated by the County and Towns

Facility	Contact Name & Title	Phone Number Or Email	Physical Address
Matthews Public Works	C.J. O’Neill, Public Works Director	704-847-3661	1600 Tanktown Road, Matthews
Huntersville Public Works	Steve Robbins, Public Works Operation Manager	704-464-5321	11316 Sam Furr Road, Huntersville
Cornelius Public Works	Ricky Overcash, Public Works Supervisor	704-895-5212	18521 Starcreek Drive, Cornelius
Mint Hill Public Works	Steve Frey, Public Works Director	704-545-9726	7151 Matthews-Mint Hill Road, Mint Hill
Davidson Public Works	Jesse Bouk, Public Works Manager	704-892-7591	151 W. Walnut Street, Davidson
Pineville Public Works	Chip Hill, Public Works Supervisor	704-889-7476	402 Dover Street, Pineville
Mecklenburg Emergency Medical Services (MEDIC)	Douglas Little, Facilities Supervisor	704-249-7246	4425 Wilkinson Boulevard, Charlotte
Stormwater Operations	John McCulloch, Environmental Manager	980-314-3288	5841 Brookshire Blvd., Charlotte
Meck. Co. Park & Recreation	Jordan Blair, Park and Rec Asset Manager	980-314-1133	5841 Brookshire Blvd., Charlotte
Park & Recreation Horticulture Center	Phillip Clarkson, Maintenance and Operations Manager	704-549-5617	11826 Mallard Creek Road, Charlotte
North Mecklenburg Recycling	Derrick Harris, Solid Waste Facility Manager	980-314-3859	12100 Statesville Rd., Huntersville
Mecklenburg County White Goods & Tire	James Dulin, Solid Waste Facility Manager	704-578-9871	5740 Rozzelles Ferry Road, Charlotte
Charlotte Recycling Center*	Ramon Calderon Feliu, Manager	RCalderonfeliu@republicservices.com	1007 Amble Drive, Charlotte
Compost Central & Recycling Center	Darren Steinhilber, Project Manager	704-579-1537	140 Valleydale Road, Charlotte
Hickory Grove Recycling	Rashard Wright, Solid Waste Facility Manager	704-537-4096	8007 Pence Road, Charlotte
CT Myers Golf Course*	Josh Anderson, Regional General Manager, Troon and Preston Buckman, Park Manager, Park	704-309-9085 or 980-292-6016	7817 Harrisburg Road, Charlotte

Facility	Contact Name & Title	Phone Number Or Email	Physical Address
	and Recreation		
Fox Hole Recycling	Steve Currie, Landfill Manager	704-752-5827	17131 Lancaster Highway, Charlotte
Fox Hole Landfill	Steve Currie, Landfill Manager	704-752-5827	17131 Lancaster Highway, Charlotte
Tradition Golf Course*	Chris Eichstaedt, General Manager	704-585-8286	3800 Prosperity Church Road, Charlotte
Dr. Charles L Sifford Golf Course*	Josh Anderson, Regional General Manager, Troon and Preston Buckman, Park Manager, Park and Recreation	704-309-9085 or 980-292-6016	2661 Barringer Drive, Charlotte
Harry L Jones Golf Course*	Josh Anderson, Regional General Manager, Troon and Preston Buckman, Park Manager, Park and Recreation	704-309-9085 or 980-292-6016	1525 W Tyvola Rd
Sunset Hills Golf Course*	Josh Anderson, Regional General Manager, Troon and Preston Buckman, Park Manager, Park and Recreation	704-309-9085 or 980-292-6016	800 Radio Road, Charlotte
U.S. National Whitewater Center*	Jeff Wise, President	704-393-6355	5000 Whitewater Center Pkwy, Charlotte
Mecklenburg Co. Fleet Management Facility*	Marcus McAdoo, Shop Manager	704-249-5290	900 W.12 th Street, Charlotte

* Operations not performed by the co-permittee on property that the co-permittee owns that has the significant potential for generating polluted stormwater runoff. These facilities are inspected once every five (5) years (except the U.S. National Whitewater Center and Fleet Management, which are inspected annually). Fleet Management is inspected as part of the City of Charlotte’s Phase I program.

Table 27: Municipal Operations Owned and/or Operated by CMS

Facility	Contact Name & Title	Phone Number	Physical Address
Bus Staging Site	Kesha D. Porter, Interim EHS Manager	980-343-9447	11719 Downs Rd.
Independence High School	Kesha D. Porter, Interim EHS Manager	980-343-9447	1967 Patriot Dr.
Harding/West Meck Transportation	Kesha D. Porter, Interim EHS Manager	980-343-9447	3101 Wilkinson Blvd.
Building Services	Kesha D. Porter, Interim EHS Manager	980-343-9447	3301 Stafford Dr.
Craig Avenue Transportation	Kesha D. Porter, Interim EHS Manager	980-343-9447	3901, 3903, 3905 Craig Ave,
Northpointe Transportation	Kesha D. Porter, Interim EHS Manager	980-343-9447	4440 Northpointe Industrial Blvd.
Orr Road Admin	Kesha D. Porter, Interim EHS Manager	980-343-9447	6520 Orr Rd.

Table 28: Municipal Operations Owned and/or Operated by CPCC

Facility	Contact Name & Title	Phone Number	Physical Address
CPCC Central Campus	Zachary Harris, Facilities Services	704-330-6233	East 7th Street (1203 Elizabeth Avenue)
CPCC Merancas Campus	Zachary Harris, Facilities Services	704-330-6233	11930 Verhoeff Drive
CPCC Cato Campus	Zachary Harris, Facilities Services	704-330-6233	9400 East WT Harris Blvd.
CPCC Harper Campus	Zachary Harris, Facilities Services	704-330-6233	317 West Hebron Street

Table 29: Municipal Operations that have been Issued Stormwater Permits

Facility	Permit Number	Contact Name & Title	Phone Number	Physical Address
Mecklenburg County and Towns Phase II MS4 Permit	NCS000395	Don Ceccarelli, Director of Stormwater Services	980-314-3209	2145 Suttle Ave. Charlotte
Compost Central & Recycling Center	NCG240019	Darren Steinhilber, Project Manager	980-314-3857	140 Valleydale Road, Charlotte
Fox Hole Landfill (Hwy 521 Landfill)	NCG120068	Steve Curry, Landfill Manager	980-314-3864	17131 Lancaster Highway, Charlotte
Mecklenburg Co. Fleet Management Facility	NCG080063	Marcus McAdoo, Shop Manager	704-249-5290	900 W.12 th Street, Charlotte
Charlotte Recycling Center	NCG130046	Ramon Calderon Feliu, Manager		1007 Amble Drive, Charlotte

10.4 Training

Annual training is provided to the employees involved in implementing pollution prevention and good housekeeping practices at the municipally operated facilities listed in Tables 26, 27, 28 and 29 above. Privately-operated facilities located on properties owned by a co-permittee as identified in Table 26 are responsible for conducting their own training. Training is also provided for other employees involved in municipal operations that have the potential to cause negative water quality impacts. The goal of this training seminar is to inform employees of the actions necessary to reduce the discharge of pollution and protect water quality from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, storm sewer system maintenance, and other municipal activities as well as the steps for reporting suspected illicit discharges and actions required for compliance with Permit requirements. The following topics are covered in the training seminar:

1. Overview of general water quality conditions in Mecklenburg County and reasons for protecting water quality.
2. Description of common pollutants, their sources and water quality impacts associated with illicit discharges.
3. Description of the actions that each facility and/or operation should take to reduce discharges of pollutants, including good housekeeping and proper herbicide, pesticide, and fertilizer application and management.

4. Description of effective spill prevention measures that should be employed at each facility and/or operation.
5. Discussion of typical pollution sources at municipal operations and the specific action that should be taken to eliminate these sources and protect water quality.
6. Description of techniques for identifying and reporting illicit discharges and connections. This training is a Permit requirement for all municipal staff, who, as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system.
7. Description of new requirements in the Permit issued in November 2011 as follows:
 - Operation and maintenance of municipally owned and maintained storm sewer system including catch basins and conveyance systems (see Section 10.8).
 - Management of pesticide, herbicide and fertilizer application (see Section 10.11).
8. Review of the Stormwater Pollution Prevention Plan and/or Spill Response Plan.
9. Explanation of the consequences of failing to control pollutants at facilities and/or pollutants associated with municipal operations.
10. Proper reporting of illicit discharges.

The above training is conducted separately from the outreach programs conducted for the IDDE Program previously described under program element ID-5, which includes training for municipal staff, who, as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system. The training for the Pollution Prevention and Good Housekeeping Program described under program element PP-1 focuses on municipal staff involved in implementing pollution prevention and good housekeeping practices. Due to the very distinct differences in the two (2) target audiences it is necessary to separate this training.

10.5 Operation and Maintenance Programs, Spill Prevention, and Spill Response

Stormwater Pollution Prevention Plans (SWPPPs) have been developed and implemented that describe the Operation and Maintenance Programs implemented at the facilities listed in Tables 26, 27, 28 and 29 above for the purpose of reducing the discharge of pollution in stormwater runoff. At a minimum, SWPPPs include the following:

1. Site Map that shows the location of the facility and all access roads. The map must also indicate the name of the receiving stream and specify if it is impaired and the source of that impairment. A USGS quadrangle map is acceptable.
2. Site Plan that shows the location of all structures on the site and the general uses of these structures (i.e., storage, vehicle maintenance, offices, etc.) as well as the locations of all stormwater inlets and outlets at or adjacent to the facility, potential pollution sources and access on and off the site.
3. Stormwater Management Plan that includes an evaluation of SCMs (if any) on the site, and descriptions of storage practices, waste handling and disposal methods and the potential on-site pollution sources including exposed significant materials.
4. Spill Prevention and Response Plan that identifies the specific actions to be taken to prevent and respond to spills, including clean up contractors and their contact information, etc.

5. Preventative Maintenance and Good Housekeeping Plan that describes the measures taken to prevent or minimize contamination of stormwater runoff from areas identified as potential pollution sources, including but not limited to areas used for vehicle and equipment cleaning. The Plan must also describe the type and frequency of site inspections and routine maintenance and the staff responsible for performing these activities.
6. Training Schedule that describes the employees that will receive training, the type of training to be provided and the schedule for that training. This training must include a discussion of all the material contained in the Stormwater Pollution Prevention Plan. All staff must be made aware of the location of this Plan at the facility.

CMSWS conducts inspections of all the facilities listed in Tables 26, 27, 28 and 29 above. Facilities operated by a co-permittee are inspected annually and facilities operated by private entities on property owned by a co-permittee are inspected once every 5 years. These inspections include the following:

1. Thorough assessment of facility operations, maintenance activities, maintenance schedules and long-term inspection procedures for controls to reduce floatables and other pollutants. Pollution sources will be identified and minimized to the MEP.
2. Evaluation and documentation of the procedures for the disposal of waste removed from the MS4 and municipal operations, including street sweeping wastes, dredge spoil, accumulated sediment, floatables, and other debris, as applicable.
3. Visual evaluation of storm water outfalls at the facility and identification and minimization of pollution sources to the MEP.
4. Review of spill response and clean up procedures. Procedures will be revised as necessary to ensure protection of water quality.
5. Evaluation of housekeeping practices that will be revised as necessary to minimize potential pollution sources to the MEP.
6. Identification of all potential discharges of pollution, including parking lots, maintenance and storage yards, waste transfer stations, fleet and maintenance facilities, outdoor storage areas, salt/sand storage areas, etc.
7. Evaluation of areas used for vehicle and equipment cleaning to ensure that all discharges are to the sanitary sewer system.
8. Identification and elimination of dry weather discharges.
9. Review of Stormwater Pollution Prevention Plans annually.
10. Review of educational materials.
11. Review the timeliness of any monitoring reports required by the NPDES Permits issued to the facilities listed in Table 29 above.
12. Evaluation of the co-permittees status regarding compliance with Permit requirements, including post-construction stormwater controls for transportation projects; maintenance of municipally owned streets, roads, and public parking lots; operation and maintenance of municipally owned or maintained catch basins, conveyance systems, and structural stormwater controls; and management of pollutants from vehicle and equipment cleaning areas. In addition, CMSWS obtains the pesticide license numbers for all employees and contractors performing application activities and conducts a search on the NC Dept. of Agriculture and Consumer Services website to ensure all licenses are valid.

13. Completion of a written report documenting findings and listing actions taken to minimize pollution sources and protect water quality to the MEP.

Additional inspection details are contained in the Stormwater Inspection Checklist that is reviewed and updated as necessary as part of the Phase II Work Plan developed and implemented annually by CMSWS. A copy of this checklist is provided in Appendix E. Follow up inspections are conducted as necessary to ensure the minimization of all potential pollution sources to the MEP and documentation of corrective actions. Supervisors of facilities are contacted and provided with a copy of the written report. All reports of inspection activities are reviewed by the staff lead prior to closure. These reports are maintained in the Cityworks database.

As of November 2024, CMS owns and/or operates 186 schools. These schools have been evaluated and determined not to have a significant potential for generating polluted stormwater runoff. However, the schools have the potential to generate pollutants that are not considered significant from waste containers without lids and plugs, erosion from high traffic areas, etc. Therefore, the schools are inspected approximately once every eight (8) years and training is provided to staff as necessary. During these inspections, pollution sources are identified and eliminated, and inspection reports completed.

10.6 Standard Operating Procedures (SOPs) for Municipal Facility Operations

Written SOPs have been developed to describe the actions co-permittees are to undertake to control the discharge of pollutants from their facilities and operations to protect downstream water quality. These SOPs are provided to co-permittees and are included in their SWPPPs. CMSWS evaluates the effectiveness of the implementation of these SOPs during facility inspections as described in the previous section.

10.7 Minimizing Pollution from Municipally Owned Streets and Parking Lots

CMSWS has evaluated BMPs for reducing the discharge of floatables and other pollutants from municipally owned streets and parking lots and has selected the following that are currently in use by the Phase II jurisdictions/entities (except for the Extra Territorial Jurisdiction (ETJ) areas of the Towns):

- Ordinances – Each co-permittee will continue enforcement of existing litter and illicit discharge ordinances adopted by each jurisdiction.
- Solid Waste Collection and Recycling – Each co-permittee will continue existing solid waste collection and recycling services.
- Public Education – Each co-permittee will continue public education to encourage citizens to properly dispose of waste and to recycle as many materials as possible.
- Parking Lot Cleaning – Each co-permittee will clean parking lots in identified problem areas. These problem areas are identified by staff based on accumulations of leaves, trash, debris, blockages, flooding, etc. It may also be performed after special events and festivals where additional trash and other pollutants are expected. The Town of Cornelius does the majority of its street cleaning through leaf vacuuming services that run from November 1 through January 31 each year and use their street sweeper on major

thoroughfares. Each co-permittee provides trash receptacles at public parking lots and performs scheduled manual trash pick-up. Each co-permittee is responsible for maintaining records documenting the pounds of trash, sediment, and other pollutants removed as well as the estimated cost of the program for use in evaluating its effectiveness as described in Section 10.9. This data is provided to CMSWS by July 31st of every year for use in evaluating program effectiveness and for inclusion in the annual report to the State. An O&M Plan has been developed for parking lot cleaning and is available upon request.

- Street Sweeping – The Towns will sweep their municipal streets in identified problem areas. These problem areas are identified by staff based on accumulations of leaves, trash, debris, blockages, flooding, etc. Each co-permittee is responsible for maintaining records documenting the pounds of trash, sediment, and other pollutants removed as well as the estimated cost of the program for use in evaluating its effectiveness as described in Section 10.9. The County does not assume ownership or perform any maintenance activities on streets outside the jurisdictions of the Towns and City of Charlotte. For County owned parking lots, litter is picked up daily by maintenance staff, but no routine street sweeping activities are performed. An O&M Plan has been developed for street sweeping and is available upon request.
- Waste Disposal – Each co-permittee will be responsible for characterizing the street sweeping waste that they collect and for proper disposal of this waste based on this characterization. CMSWS will be contacted if unusual conditions are observed with the collected waste, such as the presence of oil or chemicals, unusual odors or discoloration, etc., so that testing can be performed prior to disposal. Recycling or composting is the preferred method for handling street sweeping waste. Any disposal should occur at an approved landfill. The land application of this waste onto public or private property is discouraged; however, if this does occur the application area should be a minimum of 50 feet from any stream or other water body and proper erosion control measures must be utilized to prevent off-site discharges.

The above BMPs were implemented effective November 11, 2012. CMSWS performs an annual evaluation of the effectiveness of these BMPs for maintenance of municipally owned streets and parking lots based on costs and the estimated quantity of pollutants removed. CMSWS changes the BMPs as necessary based on this annual evaluation and will work with the Phase II jurisdictions/entities to ensure the timely implementation of these changes. A separate O&M Plan has been developed for maintenance of streets and parking lots and is available upon request.

10.8 Operation and Maintenance Plans for MS4s and SCMs

CMSWS has evaluated BMPs for reducing the discharge of floatables and other pollutants from the municipally owned MS4, including catch basins and conveyance systems and has selected the following that are currently in use by the Phase II jurisdictions/entities:

- Catch Basin and Conveyance System Cleaning – Each co-permittee will clean catch basins and conveyance systems as well as repair the MS4 in identified problem areas. These problem areas are identified by staff based on accumulations of leaves, trash, debris, blockages, flooding, etc. Each co-permittee is responsible for maintaining records

documenting the pounds of trash, sediment, and other pollutants removed as well as the estimated cost of the program for use in evaluating its effectiveness as described in Section 10.9.

- Waste Disposal – Same as for 10.7 above.

The above BMPs were implemented effective November 11, 2012. CMSWS will evaluate annually the effectiveness of the above described BMPs for maintenance of the storm sewer system based on costs and the estimated quantity of pollutants removed. CMSWS will change the Stormwater Plan as necessary based on this annual evaluation and will work with the Phase II jurisdictions/entities to ensure the timely implementation of these changes. An O&M Plan has been developed for the maintenance of MS4s and is available upon request.

The co-permittees are required to implement an Operation & Maintenance Program for post-construction SCMs that it owns, including the frequency of inspections and routine maintenance requirements. All SCMs must be inspected and maintained in accordance with this schedule. The co-permittees are required to document inspections and maintenance of all municipally owned or maintained post-construction structural stormwater control measures. Section 9.4 describes how these requirements are being fulfilled. A separate O&M Plan including the above SCMs has been developed for maintenance of SCMs and is available upon request.

10.9 Evaluation of BMPs for Streets, Roads, Parking Lots, and Storm Sewer Systems

Part II, Section G, 2d of Mecklenburg County’s NPDES Permit No. NCS000395 specifies the following: “The permittee shall evaluate existing and new BMPs annually that reduce polluted stormwater runoff from municipally owned streets, roads, and public parking lots within their corporate limits. The permittee must evaluate the effectiveness of these BMPs based on cost and the estimated quantity of pollutants removed.” CMSWS will satisfy this permit requirement by evaluating annually the effectiveness of the BMPs for cleaning streets, roads, parking lots, and storm sewer systems based on costs and the estimated quantity of pollutants removed using data provided by the Phase II jurisdictions/entities as described in Sections 10.7 and 10.8 above. CMSWS will change the Stormwater Plan and O&M Plans as necessary based on this annual evaluation and will work with the Phase II jurisdictions/entities to ensure the timely and effective implementation of these changes. Data regarding this evaluation will be provided in the annual report. Since FY2018, CMSWS has based its evaluation on a report produced by R.C. Sutherland, P.E. that was completed in 2013 and entitled Clean Streets Mean Clean Streams, which indicates an acceptable pollutant removal range from \$3 to \$5 per pound. The data from CMSWS’s assessments for the seven (7) year period is provided in Table 30 and Figure 13 below, which indicates an acceptable average pollutant removal cost of \$0.58/pound based on Sutherland’s report. The highest cost was indicated in FY2024 at \$1.71/pound and the lowest cost in FY2018 at \$0.10/pound.

Table 30: Pounds of Pollutants Removed and Costs FY2018 through FY2024

Metric	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	Average
Pounds Removed (1)	1,649,004	1,033,270	1,046,538	2,265,499	1,909,276	2,073,600	1,936,640	1,701,975
Cost (2)	\$165,830	\$593,250	\$598,171	\$682,885	\$786,316	\$800,000	\$3,318,926	\$992,196.86

Metric	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	Average
Cost/Pound	\$0.10	\$0.57	\$0.57	\$0.30	\$0.41	\$0.39	\$1.71	\$0.58

- (1) Estimate of the pounds of trash removed from street and parking lot as well as conveyance system cleaning provided annually by each Phase II jurisdiction/entity.
- (2) Estimate of the cost for the removal and disposal of trash from street and parking lot as well as conveyance system cleaning provided annually by each Phase II jurisdiction/entity.

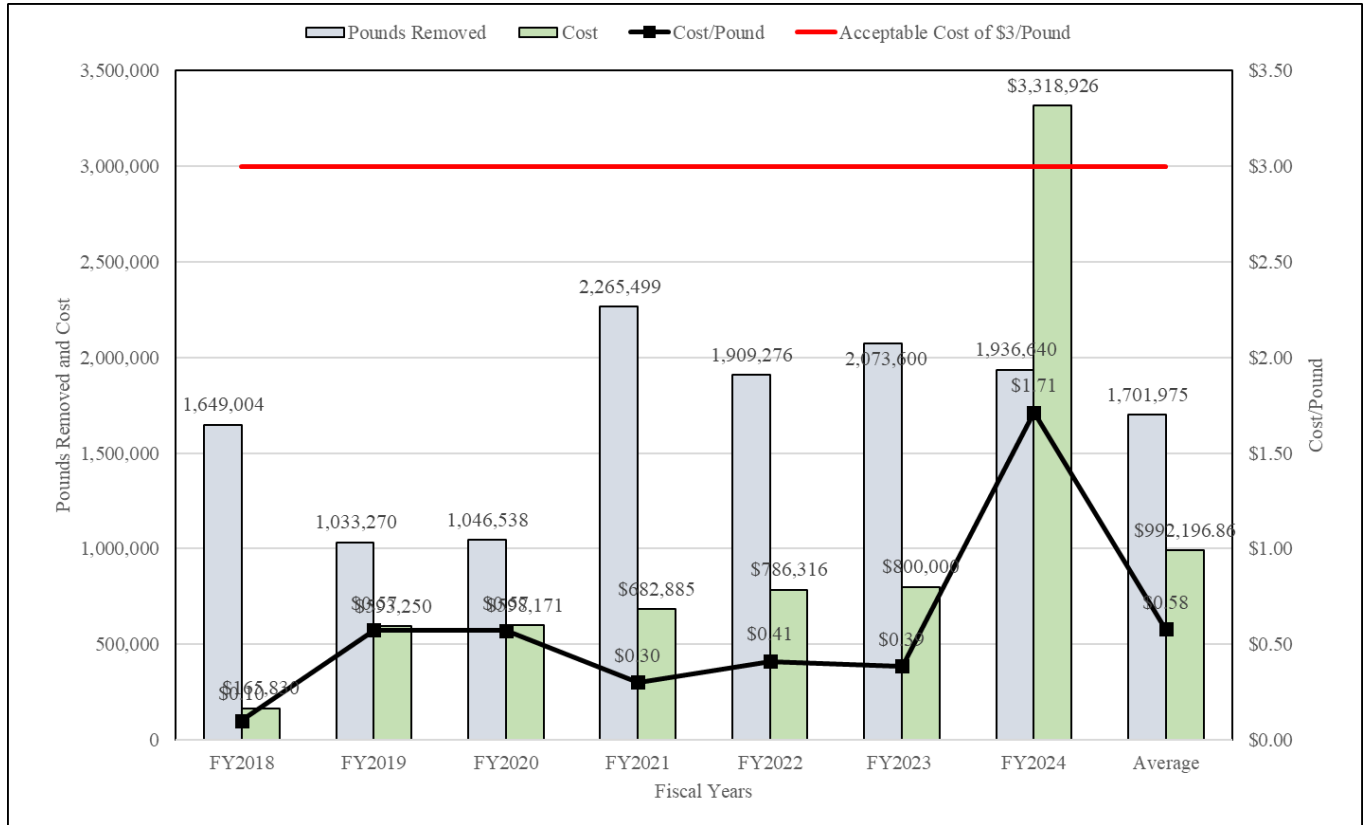


Figure 13: Pounds of Pollutants Removed and Costs FY2018 through FY2024

10.10 Winter Road Maintenance

The co-permittees perform maintenance activities to ensure safe winter driving conditions on its roads and parking lots. The following practices are employed by the co-permittees to reduce the discharge of pollutants from these activities.

1. Minimize the use and optimize the application of sodium chloride and other salt (while maintaining public safety) and consider opportunities for use of alternative materials.
2. Optimize sand and/or salt-brine solution rates through the use, where practicable, of automated application equipment (e.g., zero velocity spreaders), anti-icing and pre-wetting techniques and implementation of pavement management systems.
3. Prevent exposure of deicing product (salt, sand, or alternative products) to precipitation by enclosing or covering storage piles. Implement good housekeeping, diversions, containment, or other measures to minimize exposure resulting from adding to or removing materials from the pile. Store piles in such a manner as not to impact surface water resources, groundwater resources, and wells.

10.11 Management of Pesticide, Herbicide and Fertilizer Application

CMSWS has evaluated BMPs for ensuring that municipal employees and contractors are properly trained in pesticide, herbicide, and fertilizer application as well as for ensuring compliance with all applicable permits and certifications. Based on this evaluation, the following BMPs have been selected and are currently in use by the Phase II jurisdictions/entities:

- Training – Proper pesticide and fertilizer application is covered as a component of the municipal employee training described in Section 10.4.
- Applicator Licenses – Each co-permittee is responsible for verifying that an employee or contractor has the proper license and/or certification for the pesticide and/or herbicide applications to be performed. Every co-permittee collects and stores copies of licenses and/or license numbers. Every year as part of the municipal inspection process described in Section 10.5, CMSWS verifies the validity of these licenses through a search of the NC Dept. of Agriculture and Consumer Services website. These licenses and certifications are updated at least annually and within 30 days of hiring a new employee or contractor. This documentation is made available in the event of an audit. Training is required for obtaining and renewing an applicator license; therefore, by verifying a license the co-permittee is also verifying that the proper training has been received.
- Treatment Areas – In FY2012, an assessment was completed of each co-permittee’s pesticide application and management practices. This assessment revealed that the co-permittees were in compliance with applicable NPDES requirements. Information provided by each co-permittee during this assessment revealed that their pesticide applications were below the annual treatment area thresholds contained in NCDEQ’s Pesticides General Permit No. NCG560000 as described in Table 31. It is the responsibility of each co-permittee to ensure continued compliance with NPDES requirements, including applying for coverage under NCG560000 if pesticide applications in the applicable treatment areas will exceed one or more of the thresholds in Table 31 during the calendar year. It is also the co-permittee’s responsibility to notify CMSWS if such an application is made. During annual inspections, CMSWS will obtain a copy of annual pesticide application records. These records will be reviewed by the inspector and compared to previous years to determine if there have been significant increases in the quantities applied or areas treated in which case further investigations will be performed to determine if Permit No. NCG560000 should be obtained. The application records, results of further investigations, and copies of permits issued are maintained in the facility’s file.

Table 31: Annual Treatment Area Thresholds

Pesticide Use	Annual Threshold
Mosquitoes and Other Flying Insect Pests	15,000 acres of treatment area (adulticide applications only) ⁽¹⁾
Aquatic Weed and Algae Control - In Water	1,000 acres of treatment area
Aquatic Weed and Algae Control - At Water’s Edge	200 linear miles of treatment area at water’s edge ⁽²⁾
Aquatic Nuisance Animal Control - In Water	200 acres of treatment area
Aquatic Nuisance Animal Control - At Water’s Edge	200 linear miles of treatment area at water’s edge ⁽²⁾
Forest Canopy Pest Control	10,000 acres of treatment area
Intrusive Vegetation Control	500 linear miles ⁽³⁾

(1) Multiple applications to the same area are added together only for mosquito and other flying insect pest control.

(2) Applications that occur at the water’s edge in a ditch or canal are counted only once when one or both sides are

treated.

- (3) Applications to both sides of a road are added together for the total miles.

The N.C. Pesticide Board regulates pesticide application in the Goose Creek watershed in 02 NCAC 09L .2201 through .2203. These rules apply to critical habitat areas in Goose Creek outside of the Phase II jurisdiction in Mecklenburg County. However, since critical habitat areas are prone to change, these rules will be applied in the Phase II jurisdiction/entities as one of the BMPs for this Stormwater Plan as described in Table 32. It is the responsibility of each co-permittee to ensure that the limits in Table 32 are met in the Goose Creek Watershed. CMSWS will notify the co-permittees of this requirement during annual training and inspection activities.

Table 32: Limits on Pesticide Applications in the Goose Creek Watershed

Pesticide Active Ingredient	Code/Limitations
Azinphos-methyl	(2)
Benomyl	(1)
Captan	(1)
Carbaryl	(2)
Carbofuran	(1)
Chlorpyrifos	(3)
Diazinon	(2)
Dicofol	(2)
Dimethoate	(2)
Endosulfan	(2)
Esfenvalerate	(1)
Ethion	(2)
Ethoprop	(1)
Fenamiphos	(2)
Fonofos	(2)
Malathion	(2)
Methidathion	(2)
Methomyl	(1)
Mevinphos	(2)
Naled	(1)
Parathion (ethyl)	(2)
Pendimethalin	(2)
Permethrin	(1)
Phorate	(1)
Phosmet	(1)
Phosphamidon	(1)
Propiconazole	(1)
Pyrethrins	(2)
Terbufos	(2)
Trichlorfon	(2)

- (1) This pesticide shall not be applied within 20 yards from the edge of water for ground applications and within 100 yards for aerial applications.
- (2) This pesticide shall not be applied within 40 yards from the edge of water for ground applications and within 200 yards for aerial applications.
- (3) This pesticide shall not be applied within 100 yards from the edge of water for ground applications and within one-fourth mile for aerial applications.

The above BMPs were implemented effective November 11, 2012. CMSWS continues to assess the effectiveness of these BMPs when it conducts facility inspections and receives information

from the responsible party regarding compliance with the above stated provisions. CMSWS changes the BMPs as necessary and works with the Phase II jurisdictions/entities to ensure the timely implementation of these changes when inspection findings reveal a significant decline in compliance with BMP requirements.

10.12 Controlling Pollutants from Vehicle/Equipment Maintenance, Cleaning & Fueling

The following procedures are followed when performing vehicle and equipment maintenance to prevent discharges to the storm drain system:

1. Vehicle maintenance should be performed indoors where contact with storm water is minimal.
2. If minor vehicle maintenance must take place outdoors, ensure that it is done during times of non-precipitation and that tarps are placed on the ground surface to collect any potential fluid spillage.
3. Any fluid spillage should be cleaned up immediately and properly disposed. Refer to the spill response procedures in the SWPPP.

The following procedures are followed when performing vehicle and equipment cleaning to prevent discharges to the storm drain system. An SOP has been developed for vehicle washing, distributed to co-permittees, and is available upon request.

1. Vehicle washing areas should drain to a permitted sanitary sewer system, if available.
2. If no sanitary sewer connection is available, the facility should either wash vehicles at a car wash facility or designate an on-site vehicle washing area that is not directly connected to a storm drain system, such as grassed areas, gravel parking areas, or a water quality SCM. This washing area must be designated on the Site Plan Map in the SWPPP. The following restrictions apply to these designated washing areas not connected to the sanitary sewer system:
 - Only biodegradable detergents can be used with a pH between 4.0 and 9.0.
 - Solvents cannot be used to clean vehicles in this area.
 - Only vehicle exteriors should be washed. Engines or oily equipment / parts cannot be washed in these areas.
 - Water usage should be minimized to the extent practicable by using a pressure washer or low flow nozzle.

The following procedures are followed when performing vehicle and equipment fueling to prevent discharges to the storm drain system:

1. Employees are to remain with vehicles and equipment during fueling operations.
2. Vehicles should not be “topped off.”
3. Spill kit materials should be available in the immediate vicinity of the fueling area in the event of a spill.
4. Any spilled fuel should be cleaned up immediately and properly disposed. Refer to the spill response procedures in the SWPPP.

10.13 Waste Disposal

During the inspections described in Section 10.5 above, CMSWS evaluates methods for disposing of waste removed from each jurisdiction’s MS4 and municipal operations, including dredging spoil, accumulated sediments, cooking oils, trash, wash water, and debris. Actions are taken as necessary to minimize pollution sources associated with these waste storage and disposal measures by working closely with the facility supervisor and/or public works director.

10.14 Flood Management Projects

CMSWS designs and constructs flood management and stream restoration projects in the Mecklenburg County Phase II jurisdictions as well as the City of Charlotte. Where practicable, CMSWS incorporates structural SCMs into these projects to reduce pollutant loads and improve aquatic habitat. In some cases, chemical, physical and/or biological monitoring is performed upstream, downstream and within the boundaries of the project. This monitoring usually begins prior to the initiation of construction activities and continues throughout the duration of the project and for a minimum of one year following project completion. Data generated from these monitoring activities is evaluated to identify those techniques that are most effective at restoring water quality for use in future projects. Figure 14 illustrates one such project in the Hidden Valley community in Charlotte where wet ponds, wetlands and stream meanders were incorporated into a flood management project for enhancement of water quality.



Figure 14: Stream Restoration in the Torrence Creek Watershed in Huntersville

10.15 Decision Process

The individual BMPs for the Pollution Prevention/Good Housekeeping Program were selected because they have proven effective when used by the City of Charlotte for compliance with their Phase I Permit requirements. Staff was selected for implementation of the BMPs for the Pollution Prevention/Good Housekeeping Program based on their knowledge of proper facility operation and pollution prevention.

SECTION 11: TMDL WATER QUALITY RECOVERY PROGRAM

A Water Quality Recovery Program has been developed and is currently being implemented for addressing nonpoint source pollutant loadings associated with the Total Maximum Daily Loads (TMDLs) approved by EPA for the receiving waters of the Phase II MS4 stormwater discharges and/or waters downstream of these discharges. Section 3.5 of this document describes the TMDLs applicable to Mecklenburg County Phase II jurisdictions and entities. The Program is administered by CMSWS's Water Quality Program as described in the following Sections. The purpose of this Program is to facilitate the implementation of activities within the scope of the Phase II Permit's six (6) minimum measures to reduce the assigned Waste Load Allocations (WLAs) for the stormwater pollutant of concern to the maximum extent practicable (MEP). This Program is intended to meet the TMDL requirements of MS4 Permit number NCS000395.

11.1 Program Goals and Objectives

CMSWS establishes its goals and objectives for its TMDL Program, which are evaluated and updated annually as necessary, based on the actions necessary to effectively address the pollutant(s) of concern in the applicable TMDL and to address the targeted pollutants and pollutant sources identified in Table 11. The goal of the TMDL Program is to reduce levels of the pollutant(s) of concern to the MEP in accordance with approved WLAs assigned to stormwater in the approved TMDL. The current objectives of the program are as follows:

1. Develop and implement appropriate structural and/or non-structural BMPs to reduce nonpoint source loading for the pollutant(s) of concern to the MEP in the TMDL watersheds.
2. Assess the effectiveness of existing BMPs and identify and implement additional measures as necessary to address impaired waters. Incorporate additional measures into the Stormwater Plan and annual Work Plan for implementation.
3. Submit a report to NCDEQ annually describing activities completed in the implementation of existing BMPs as well as the results of the annual assessment and additional BMPs that have been identified for implementation, including a brief explanation as to how the BMPs will address impaired waters.

Part II, Section H of Mecklenburg County's Phase II Permit requires compliance with TMDLs applicable to the receiving waters for MS4 discharges from the Phase II jurisdictions and/or waters downstream of these discharges. To comply with this requirement, CMSWS evaluates the current 305(b) report and 303(d) list for N.C. at least annually and identifies those impaired waters with an approved TMDL applicable to Mecklenburg County's Phase II jurisdictions. For these applicable TMDLs, CMSWS develops and implements strategies and tailored BMPs to reduce nonpoint source loading for the pollutants of concern to the MEP. These strategies and BMPs are evaluated annually for effectiveness and modified as necessary. While improved water quality is the expected outcome, the Phase II Permit obligation is to reduce nonpoint source pollutant loading to the MEP. The Phase II jurisdictions are not responsible for attaining water quality standards at the ambient monitoring stations. Attaining the water quality standards will only be achieved through reduction from the MS4, along with reductions from other pollutant contributors.

11.2 BMP Summary Table

Table 33 describes the BMPs implemented as part of the TMDL Program. Table 33 summarizes the activities undertaken to fulfill the above described goals and objectives of the TMDL Program. Column A describes the BMPs identified in the Storm Water Plan for the Program. The specific actions (i.e., Measurable Goals) undertaken for implementation of these BMPs are described in Column B with the schedule provided in Column C. Column D includes the Annual Reporting Metric, indicating whether the Measurable Goals were completed and whether compliance with the Storm Water Plan and Permit was achieved. Column E describes the co-permittees’ responsibilities for fulfilling the BMP.

Table 33: BMP Summary Table for the TMDL Program

BMP Summary Table for the TMDL Program					
Total Maximum Daily Load (TMDL) Program (Permit Ref. Section H; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing actions to restore impaired waters to the maximum extent practicable.					
BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
#36 IW-1	Evaluate Impaired Waters				
	Reviewing NC Integrated Reports and 303(d) listings to remain current with regard to possible future TMDL requirements that are the responsibility of the Phase II jurisdictions.	a. Annual Report	Annually beginning July 1	Completed/Compliant	None
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review TMDLs Approved by EPA	Annually beginning July 1	Completed/Compliant	
d. Review Approved and Draft Versions of N.C. Integrated Report		Annually beginning July 1	Completed/Compliant		
#37 IW-2	Water Quality Recovery Plans for TMDLs				
	Developing and implementing appropriate structural and/or non-structural BMPs to reduce nonpoint source pollutant loading to the MEP in the TMDL watersheds.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Implement measures of improvement as requested by CMSWS.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Evaluate Land Use and Development	Annually beginning July 1	Completed/Compliant	
		d. Review BMPs or SCMs to Reduce Nonpoint Source Pollution	Annually beginning July 1	Completed/Compliant	
		e. Determine Location of Failed Septic Systems	Annually beginning July 1	Completed/Compliant	
		f. Confirm Follow Up Activities Are Conducted	Annually beginning July 1	Completed/Compliant	
		g. Inspect Major Outfalls	Annually beginning July 1	Completed/Compliant	
		h. Conduct Follow Up Activities	Annually beginning July 1	Completed/Compliant	
		i. Analyze Monitoring Data	Annually beginning July 1	Completed/Compliant	
j. Identify Additional Measures to Achieve		Annually beginning July 1	Completed/Compliant		

BMP Summary Table for the TMDL Program

Total Maximum Daily Load (TMDL) Program (Permit Ref. Section H; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing actions to restore impaired waters to the maximum extent practicable.

BMP # & Work Plan Code	A	B	C	D	E
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric	Co-Permittee Responsibilities
		TMDL WLA			
		k. Implement Water Quality Recovery Plans	Annually beginning July 1	Completed/Compliant	
		l. Inspect Privately Owned Lift Stations	Annually beginning July 1	Completed/Compliant	
		m. Assess for Negative Water Quality Impacts	Annually beginning July 1	Completed/Compliant	
#38 IW-3	Assess Effectiveness of Water Quality Recovery Plans for TMDLs	Assessing the effectiveness of existing BMPs and identifying and implementing additional measures as necessary to address impaired waters to the MEP.			
		a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
		d. Implement improvements in the next fiscal year.	Annually beginning July 1	Completed/Compliant	

11.3 TMDL Pollutants of Concern

The following sub-sections describe the pollutants of concern for those TMDLs where Mecklenburg County is assigned as the lead in Table 3, including portions of the Rocky River, Lake Wylie, and Goose Creek. The pollutants of concern for those TMDLs where the City of Charlotte is assigned as the lead in Table 3 are described in their NPDES MS4 TMDL Watershed Plan, which is available through their Phase I contact.

11.3.1 Fecal Coliform TMDLs

Fecal coliform bacteria are present in the intestines of humans as well as warm- and cold-blooded animals. Fecal coliform themselves are usually harmless but serve as indicators of the presence of pathogenic bacteria. Fecal coliform in surface waters can originate from many point and nonpoint sources, including but not limited to wildlife, pet waste, failing septic systems, cross connections resulting in dry weather flow in stormwater outfalls, sanitary sewer overflows (SSOs), sewer exfiltration, and permitted discharges such as wastewater treatment plants (WWTPs). The control of fecal coliform is necessary for protection of human health. The NC in-stream standard for fecal coliform is a geometric mean of 200/100ml (MF count) based upon at least five (5) samples taken over a 30-day period, nor exceed 400/100ml in more than 20 percent of the samples examined during such period (15A NCAC 2B .0211 (7)). Due to a greater than 10% exceedance of the 400 colonies/100 ml standard, a fecal coliform TMDL was developed and subsequently approved for the Rocky River effective September 19, 2002 and for Goose Creek effective July 8, 2005. The TMDL for the Rocky River established reductions in fecal coliform load allocations for nonpoint sources in wet weather conditions as follows: high density development at 91%, low density development at 91%, livestock grazing at 86%, and

manure application at 80%. Reductions in load allocations for nonpoint sources in dry weather conditions are as follows: high density development at 33%, low density development at 33%, livestock grazing at 30%, and manure application at 30%. The TMDL for Goose Creek established reductions in fecal coliform load allocations for nonpoint sources at 92.5%.

11.3.2 Nutrient TMDL

High concentrations of nitrogen and phosphorus in surface waters can degrade aquatic environments, resulting in excessive algal growth, decreased dissolved oxygen concentrations, and stressed aquatic biota. Elevated nutrient levels are often associated with point and nonpoint pollution sources, including but not limited to agriculture, urban runoff, and permitted discharges such as WWTPs. The monitoring and control of nutrients is therefore necessary to limit algal growth that can degrade water quality. Chlorophyll-a concentration is currently utilized as a proxy parameter for monitoring nutrient levels in surface waters, as water quality standards have not been established for nitrogen and phosphorus. NCDEQ regulates nutrient concentrations through a Chlorophyll-a standard of 40 ug/l.

In a 1992 Report by NCDEQ and the S.C. Department of Health and Environmental Control (Report # 92-04), eutrophic conditions were documented in Lake Wylie and several of its major tributaries. In response, NC developed a point and nonpoint source nutrient control strategy for the Lake Wylie Watershed. For point sources, the strategy required state-of-the-art nutrient removal for all new or expanded wastewater discharges in the vicinity of the lake. In addition, existing facilities on tributaries to the three (3) most highly eutrophic arms of the lake, including the South Fork, Catawba Creek and Crowders Creek, were required to meet stringent nutrient removal requirements. For nonpoint sources, the strategy included the targeting of funds from the State's Agricultural Cost Share Program for the reduction of nonpoint source pollution for implementation of BMPs on agricultural lands to highly impacted watersheds on Lake Wylie. The strategy subsequently was approved for implementation as a TMDL by EPA effective February 5, 1996. The TMDL does not include a WLA assigned to stormwater.

11.3.3 Mercury TMDL

In 2012, NCDEQ developed a statewide mercury TMDL to determine how wastewater discharges, including in-state and out-of-state air sources, contribute to the surface water mercury loading. This TMDL acknowledged that most mercury in stormwater comes from atmospheric deposition and that concentrations are typically within the same range as mercury concentrations in rainwater, which is between zero and 10 ug/l. This TMDL does not include a WLA assigned to stormwater; therefore, there is not an NPDES MS4 Permit obligation to reduce non-point source pollutant loading. For this reason, TMDL compliance measures for this TMDL are not included in this Stormwater Plan.

11.4 Watershed Characteristics

The following sub-sections describe the characteristics for those TMDL watershed where Mecklenburg County is assigned as the lead in Table 3, including portions of the Rocky River, Lake Wylie, and Goose Creek. The watershed characteristics for those TMDLs where the City

of Charlotte is assigned as the lead in Table 3 are described in their NPDES MS4 TMDL Watershed Plan, which is available through their Phase I contact.

11.4.1 Rocky River Watershed

The Rocky River Watershed (Assessment Unit 13-17a) is located in the Yadkin/Pee Dee River Basin in the northeast corner of Mecklenburg County and extends into portions of Iredell and Cabarrus Counties. Table 34 includes information regarding the watershed. Figure 15 illustrates the location of the Rocky River Watershed in relation to Mecklenburg County. Figure 16 illustrates the TMDL waters, stormwater outfalls and monitoring sites in the Rocky River Watershed in Mecklenburg County. Figure 17 illustrates the land uses in this watershed.

Table 34: Information Regarding the Rocky River Watershed in Mecklenburg County

Watershed Area	1.16 square miles or 747 acres in the Rocky River Basin (Upper Pee Dee).
Stream Length	Approximately 1.19 main channel miles
Stream Classification	Class C: Protected for secondary recreation, fishing, aquatic life, including propagation and survival, and wildlife.
Predominant Land-Uses	Residential = 426.92 acres, 57% of watershed
	Undeveloped - Vacant = 211.26 acres, 28% of watershed
	Open Space - Recreation = 55.45 acres, 7% of watershed
	Agriculture = 29.2 acres, 3% of watershed
Topography	Highest elevation = 828 feet MSL. Lowest Elevation = 636 feet MSL. Generally, watershed topographic features have moderate slopes of 2-8%, with some slopes exceeding 15%. General aspect of existing topographic features is north, northeast, and east.
Vegetation	Vegetation is a mix of hardwood forested areas, scrub shrub understory, with warm season grasses associated with open areas and suburban type development.
Climate	Monthly mean temperatures range from 40.1°F to 78.5°F, with approximately 237 days of growing season (above 32°F); including a yearly annual mean total precipitation of 42 inches.
Hydrology	Hydrology follows a typical dendritic drainage pattern typified by most piedmont areas.
Geology	Watershed is primarily underlain by Granitic Rock (0.7 sq. miles) (Devonian/Ordovician Age). The remaining geologic formations consist of Gabbro of Concord Plutonic Suite (0.32 sq. miles) (Devonian/Ordovician Age) and Metamorphosed Quartz Diorite (0.15 sq. miles) (Paleozoic/Late Proterozoic Age).
NPDES Dischargers	Mecklenburg County – (stormwater)
Soils	Pacolet sandy loam 15 to 35 percent slopes is the primary soil type within the watershed. Other major soil types include: Chewacia sandy loam 0 to 2 percent slopes and Cecil sandy clay loam 8 to 15 percent slopes, moderately eroded.
Population	2010 U.S. Census Data identified the watershed population to be 4,952. The

	majority of the watershed consisted of 1 Census tract and 2 Block Groups.
Aquatic Species	Typical piedmont aquatic species including several varieties of caddisflies, mayflies and stoneflies, terrestrial insects, fish, amphibians, mussels, snails and other species.
# Stormwater Outfalls	4

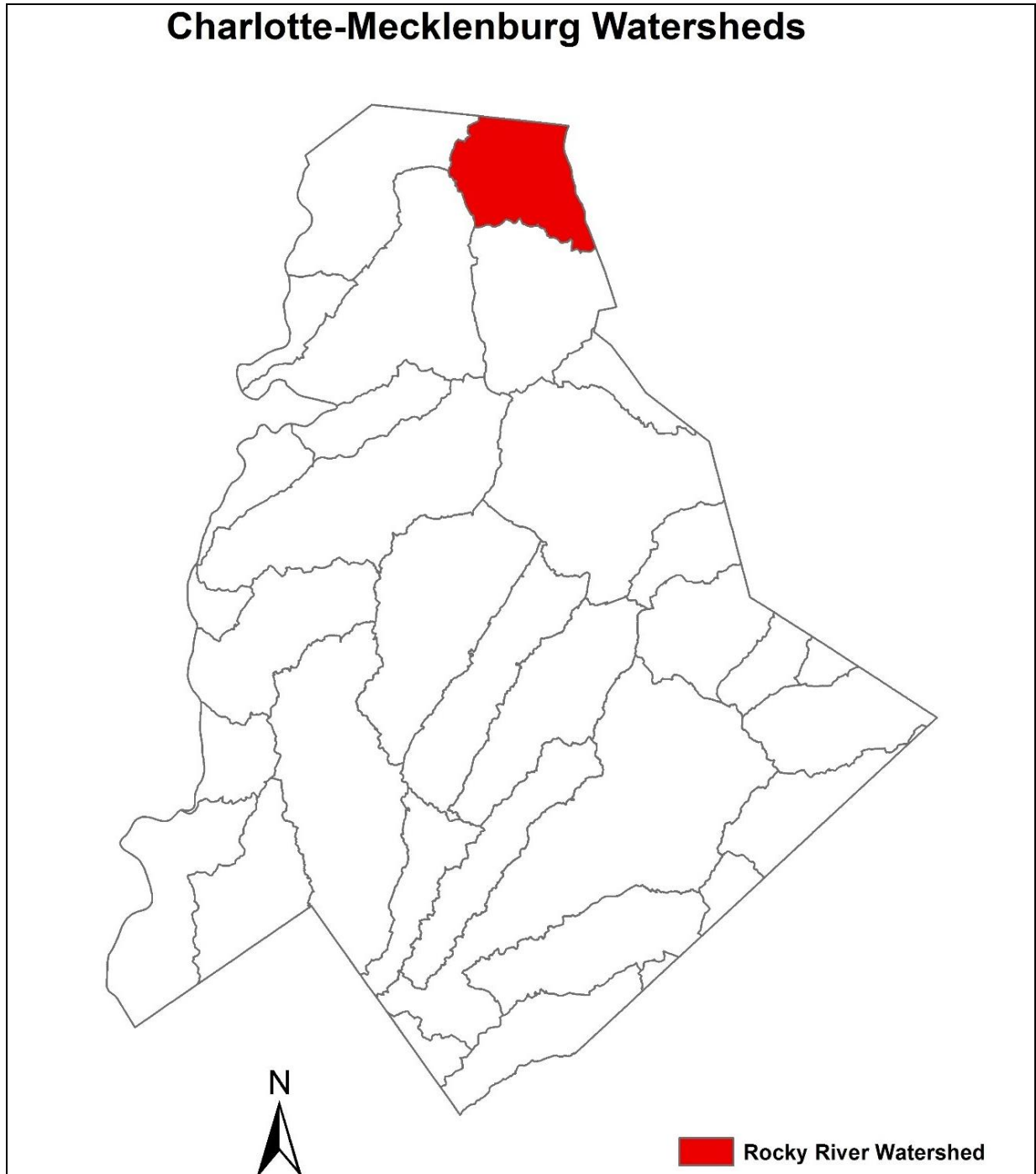


Figure 15: Location of Rocky River Watershed in Relation to Mecklenburg County

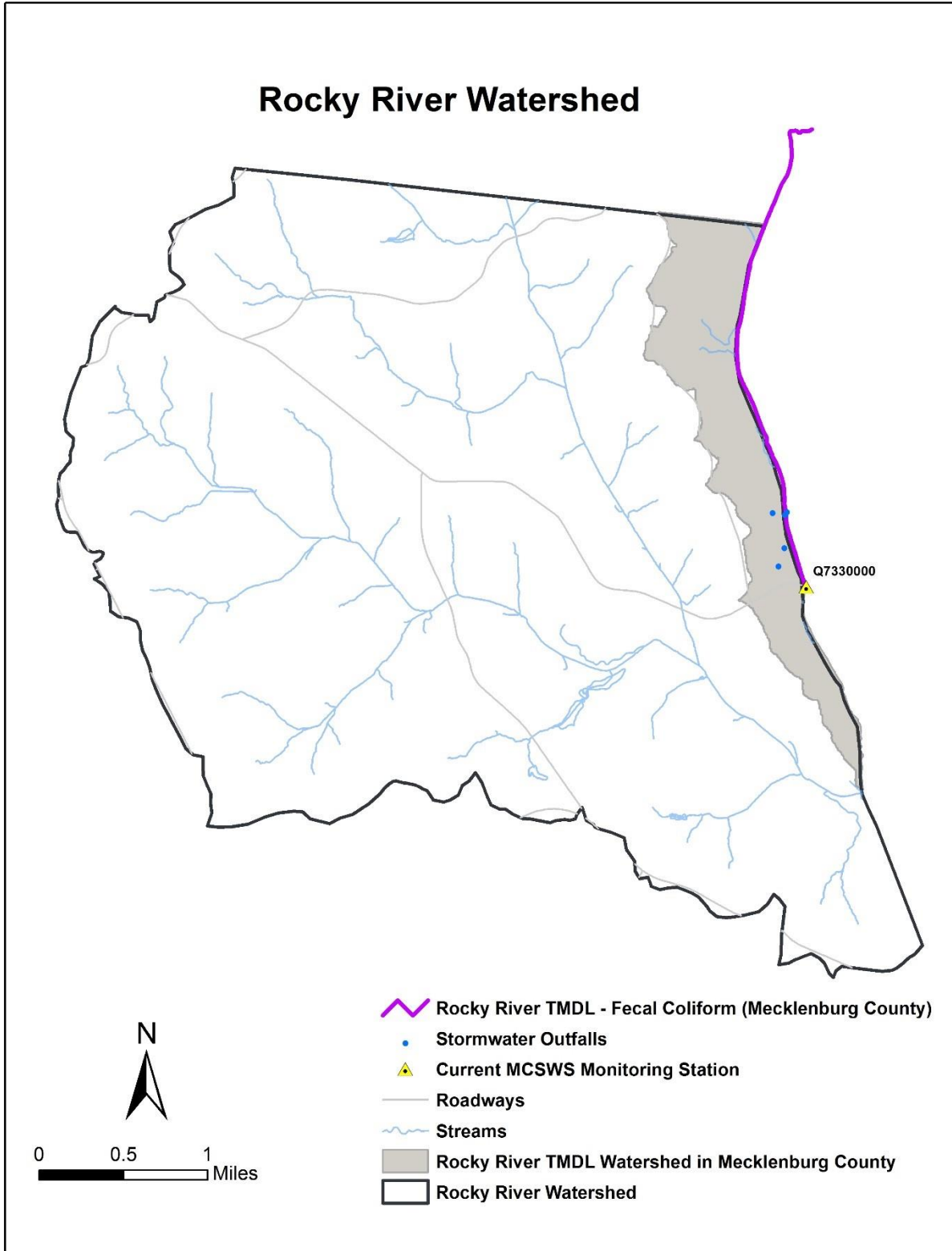


Figure 16: TMDL Waters, Outfalls and Monitoring Sites in the Rocky River Watershed in Mecklenburg County

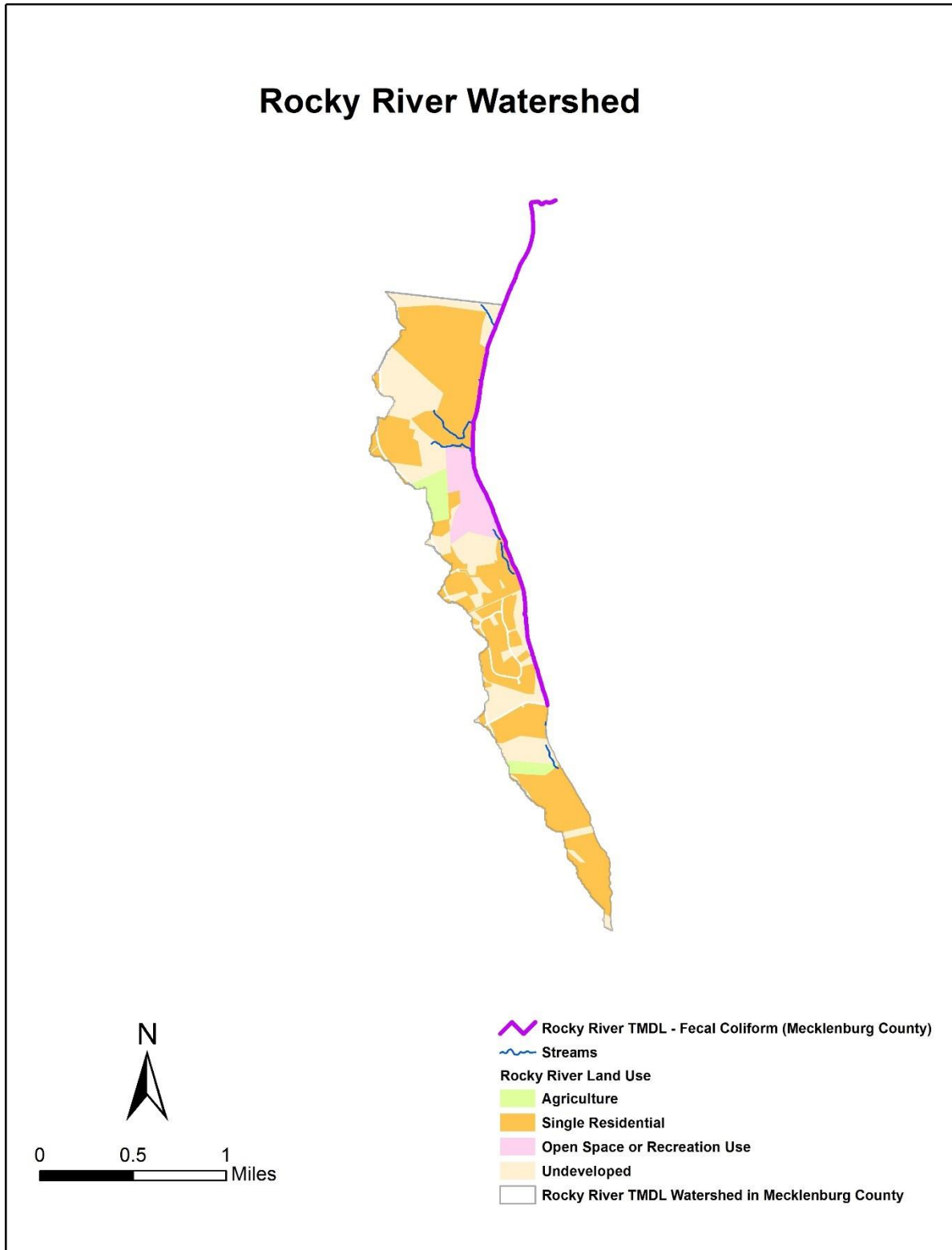


Figure 17: Land uses in the Rocky River TMDL Watershed in Mecklenburg County

11.4.2 Goose Creek Watershed

The Goose Creek Watershed is located in the Yadkin/Pee Dee River Basin in southeastern Mecklenburg County and extends into portions of Union County. Table 35 includes information regarding the watershed. Figure 18 illustrates the location of the Goose Creek watershed in relation to Mecklenburg County. Figure 19 illustrates the TMDL waters, stormwater outfalls and monitoring sites in the Goose Creek Watershed in Mecklenburg County. Figure 20 illustrates the land uses in this watershed.

Table 35: Information Regarding the Goose Creek Watershed in Mecklenburg County

Watershed Area	11.23 square miles or 7,189.96 acres in the Rocky River Basin (Pee Dee).
Stream Length	Approximately 28.03 main channel miles
Stream Classification	Class C: Protected for secondary recreation, fishing, aquatic life, including propagation and survival, and wildlife.
Predominant Land-Uses	Residential = 3,224.47 acres, 44% of watershed
	Undeveloped - Vacant = 1,818.22 acres, 25% of watershed
	Agriculture = 803.57 acres, 11% of watershed
	Open Space - Recreation = 565.62 acres, 7% of watershed
Topography	Highest elevation = 794 feet MSL Lowest Elevation = 552 feet MSL. Generally, watershed topographic features have moderate slopes of 0-5%, with some slopes exceeding 10%. Overall, general aspect of existing topographic features is south, southwest and east.
Vegetation	Vegetation is a mix of hardwood forested areas, agriculture (row crops and hay) and warm season grasses associated with suburban development.
Climate	Monthly mean temperatures range from 40.1°F to 78.5°F, with approximately 237 days of growing season (above 32°F); including a yearly annual mean total precipitation of 42 inches.
Hydrology	Hydrology follows a typical dendritic drainage pattern typified by most piedmont areas.
Geology	Watershed is underlain primarily by Metavolcanic Rock (9.2 sq. miles) (Cambrian/Late Proterozoic Age). The remaining geologic formations consist of Granitic Rock (1.29 sq. miles) (Devonian/Ordovician Age) and Phyllite and Schist (0.64 sq. miles) (Cambrian/Late Proterozoic Age).
NPDES Dischargers	Oxford Glen WWTP: 15349 Bexley Place (0.075 mgd)
	Ashe Plantation WWTP: Quarters Lane (0.154 mgd)
	Country Woods WWTP: Country Woods Drive (1.036 mgd)
	Fairfield Plantation WWTP: Stoney Ridge Rd (0.108 mgd)
	Mint Hill and Mecklenburg County (stormwater)
	Stallings (stormwater)
	Indian Trail (stormwater)
Soils	Cecil sandy clay loam 2 to 8 percent slopes, moderately eroded is the primary soil type within the watershed. Other major soil types include: Cecil sandy clay loam 8 to 15 percent slopes, moderately eroded and Helena sandy loam, 2 to 8 percent slopes.

Population	2010 U.S. Census Data identified the watershed population to be 9,053. The majority of the watershed consisted of 3 Census tracts and 5 Block Groups.
Aquatic Species	Typical piedmont aquatic species including several varieties of caddisflies, mayflies and stoneflies, terrestrial insects, fish, amphibians, mussels, snails and other species.
# Stormwater Outfalls	431

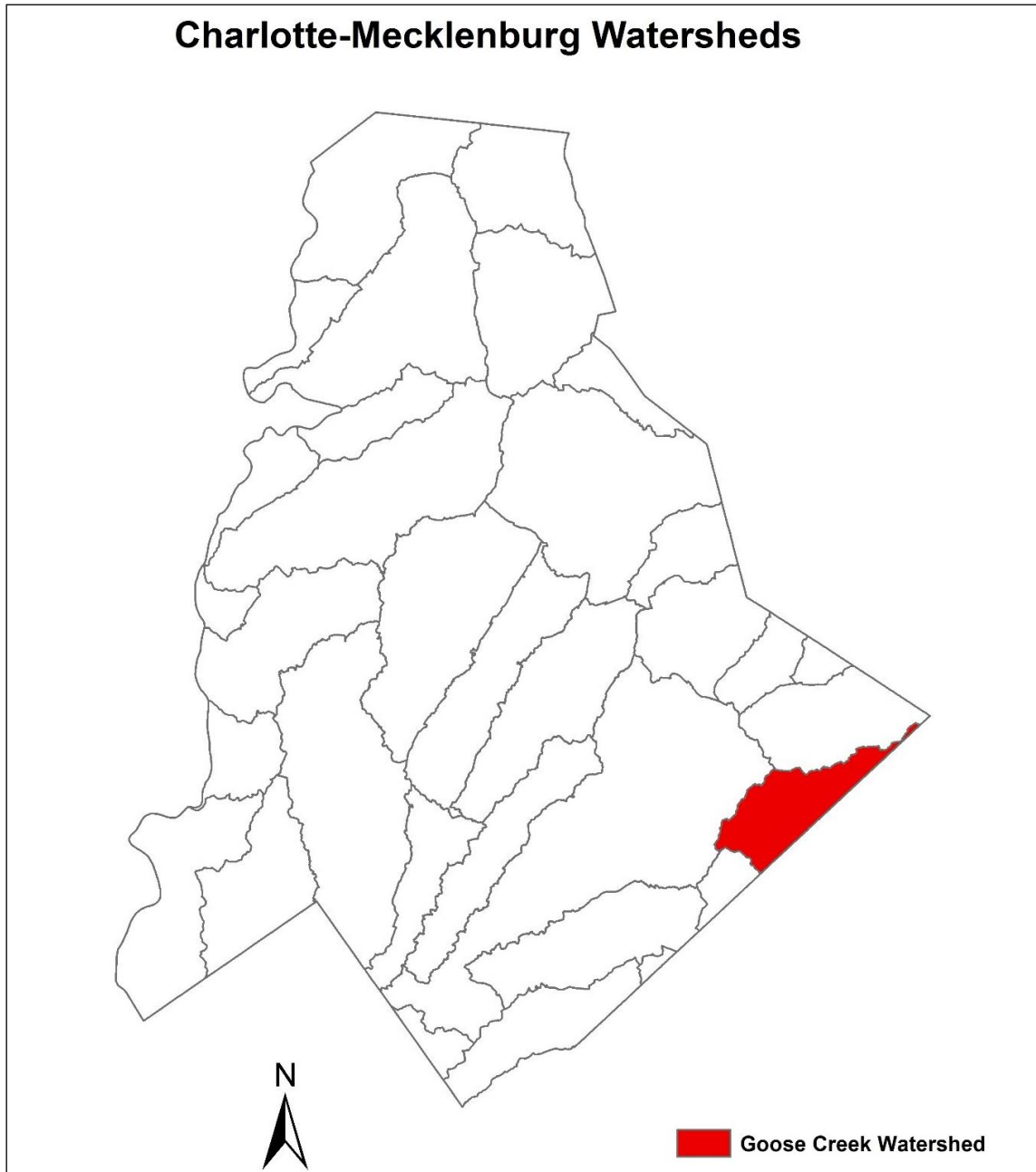


Figure 18: Location of the Goose Creek Watershed in Mecklenburg

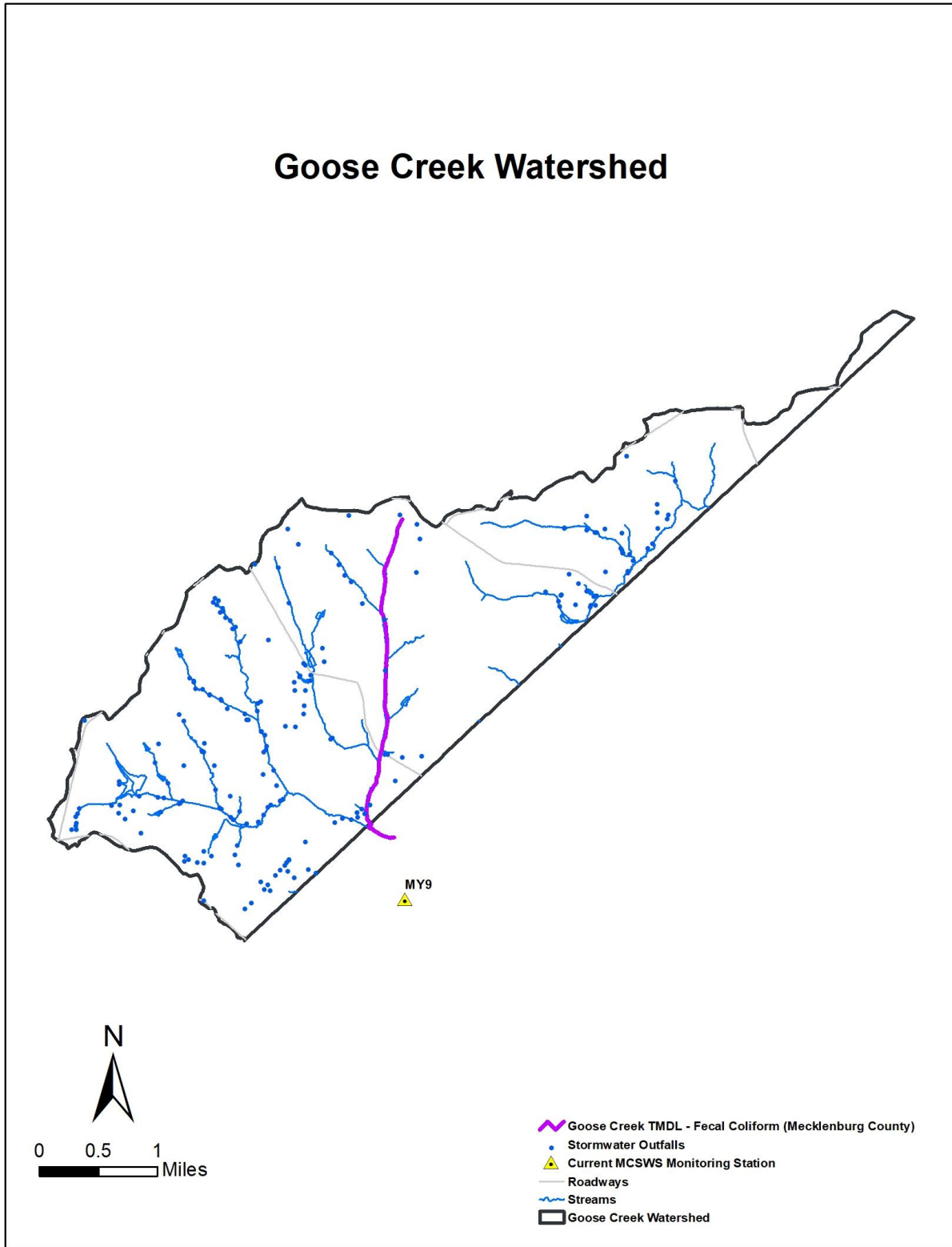


Figure 19: TMDL Waters, Outfalls and Monitoring Sites in the Goose Creek Watershed in Mecklenburg County

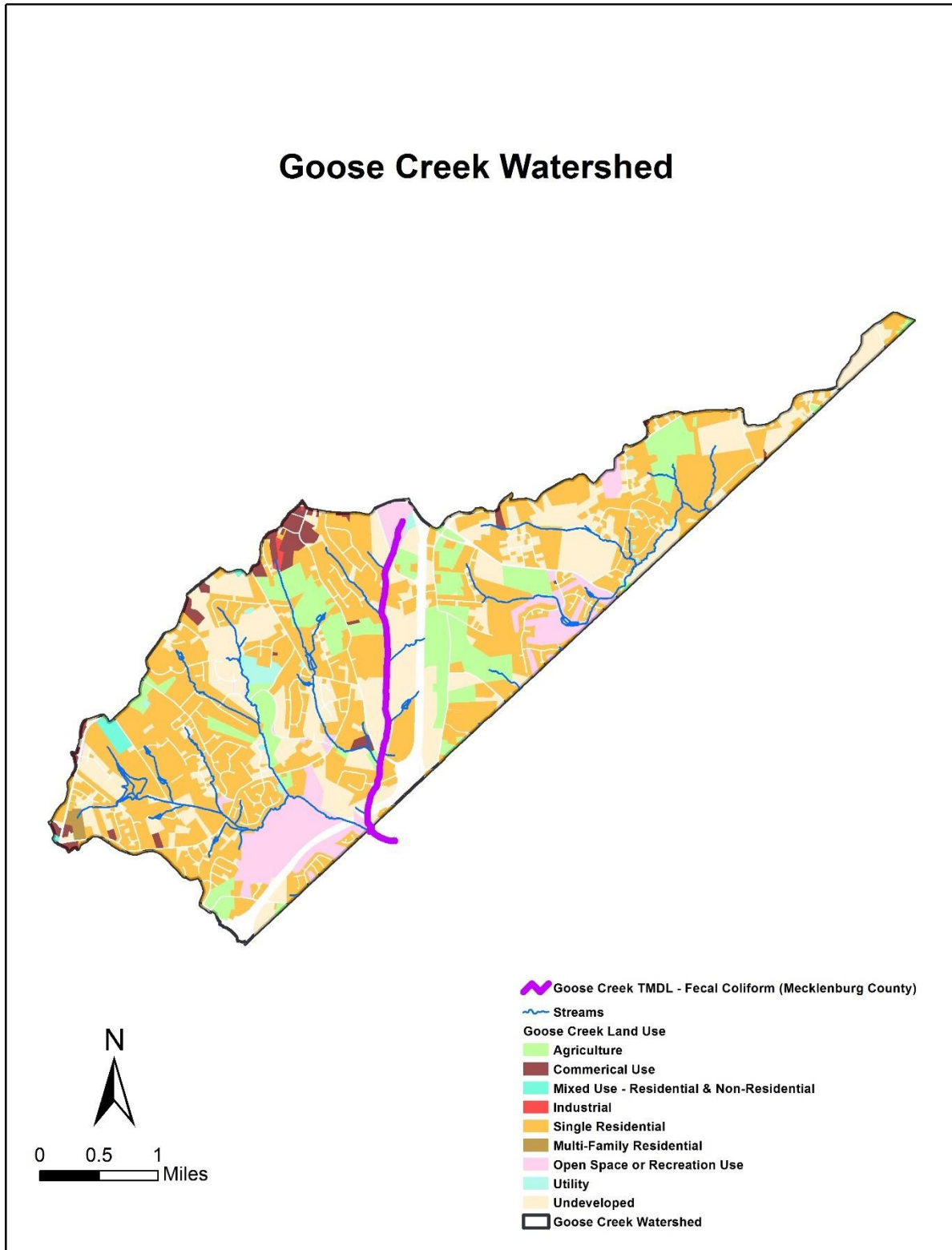


Figure 20: Land uses in the Goose Creek TMDL Watershed in Mecklenburg County

11.4.3 Lake Wylie Watershed

The Lake Wylie Watershed (Assessment Unit 13-17a) is located in the Catawba River Basin in the southwestern corner of Mecklenburg County and extends into portions of Gaston County in N.C. and York County in S.C. Table 36 includes information regarding the watershed. Figure 21 illustrates the location of the Lake Wylie watershed in relation to Mecklenburg County. Figure 22 illustrates the TMDL waters, stormwater outfalls and monitoring sites in the Lake Wylie TMDL watershed in Mecklenburg County. Figure 23 illustrates the landuses in this watershed.

Table 36: Information Regarding the Lake Wylie Watershed in Mecklenburg County

Watershed Area	50 square miles or 32,444 acres in the Upper Catawba Basin (Santee).
Stream Length	Approximately 100.49 main channel miles
Stream Classification	WS-V: Protected for water supply. Class B: Protected for primary recreation activities involving human body contact. Class C: Protected for secondary recreation, fishing, aquatic life, including propagation and survival, and wildlife.
Predominant Land-Uses	Undeveloped - Vacant = 9,879.21 acres, 30% of watershed
	Residential = 8,183.81 acres, 25% of watershed
	Open Space - Recreation = 3,041.94 acres, 9% of watershed
	Commercial = 2,072.48 acres, 6% of watershed
Topography	Highest elevation = 826 feet MSL. Lowest Elevation = 548 feet MSL. Generally, watershed topographic features have moderate slopes of 0-10%, with some slopes exceeding 20%. Overall, general aspect of existing topographic features is south to southwest.
Vegetation	Vegetation is a mix of hardwood forested areas, scrub shrub understory, with warm season grasses associated with open areas and suburban type development.
Climate	Monthly mean temperatures range from 40.1°F to 78.5°F, with approximately 237 days of growing season (above 32°F); including a yearly annual mean total precipitation of 42 inches.
Hydrology	Hydrology follows a typical dendritic drainage pattern typified by most piedmont areas.
Geology	Watershed is underlain primarily by Metamorphosed Mafic Rock (38 sq. miles) (Paleozoic/Late Proterzoic Age). The remaining geologic formations consist of Granitic Rock (4.5 sq. miles) (Devonian/Ordovician Age) and Gabbro of Concord Plutonic Suite (3.9 sq. miles) (Devonian/Ordovician Age).
NPDES Discharges	Mariners Watch WWTP – (<1mgd)
	The Hideaways WWTP – (<1mgd)
	Queens Harbor WWTP – (<1mgd)
	Riverpointe WWTP – (<1mgd)
	Harbor Estates WWTP – (<1mgd)

	Truetzschler Remediation Site – (Goundwater Remediation Discharge)
	Berryhill Elementary School WWTP – (<1mgd)
	Gough Econ WWTP – (<1mgd)
	Charlotte/Paw Creek Terminal #1 – (Industrial Process & Commercial Wastewater Discharge)
	Charlotte Terminal (Outfall 009) – (Industrial Process & Commercial Wastewater Discharge)
	Charlotte Terminal 3 – (Industrial Process & Commercial Wastewater Discharge)
	Charlotte/Southern Facilities Terminal – (Industrial Process & Commercial Wastewater Discharge)
	City of Charlotte – (Stormwater Discharge)
	Mecklenburg County – (Stormwater Discharge)
Soils	Cecil sandy clay loam 2 to 8 percent slopes, moderately eroded and Cecil sandy clay loam 8 to 15 percent slopes are the primary soil type within the watershed. Other major soil types include Mecklenburg fine sandy loam 2 to 8 percent slopes, Pacolet sandy loam 15 to 25 percent slopes, and Monacan loam 0 to 2 percent slopes frequently flooded.
Population	2010 U.S. Census Data identified the watershed population to be 34,444. The majority of the watershed consisted of 11 Census tracts and 19 Block Groups.
Aquatic Species	Typical piedmont aquatic species including several varieties of caddisflies, mayflies and stoneflies, terrestrial insects, fish, amphibians, mussels, snails and other species.
# Stormwater Outfalls	233

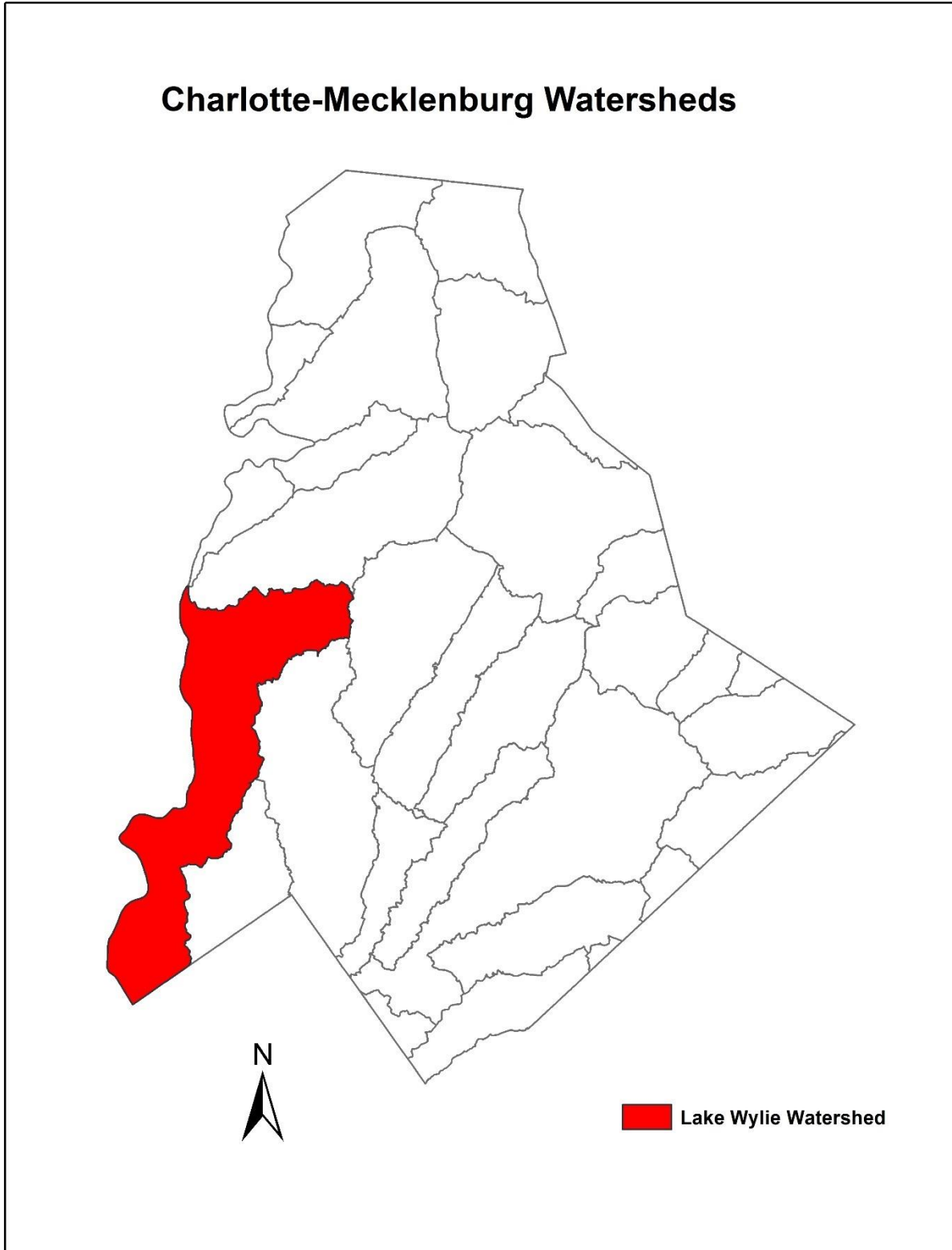


Figure 21: Location of Lake Wylie Watershed in Mecklenburg County

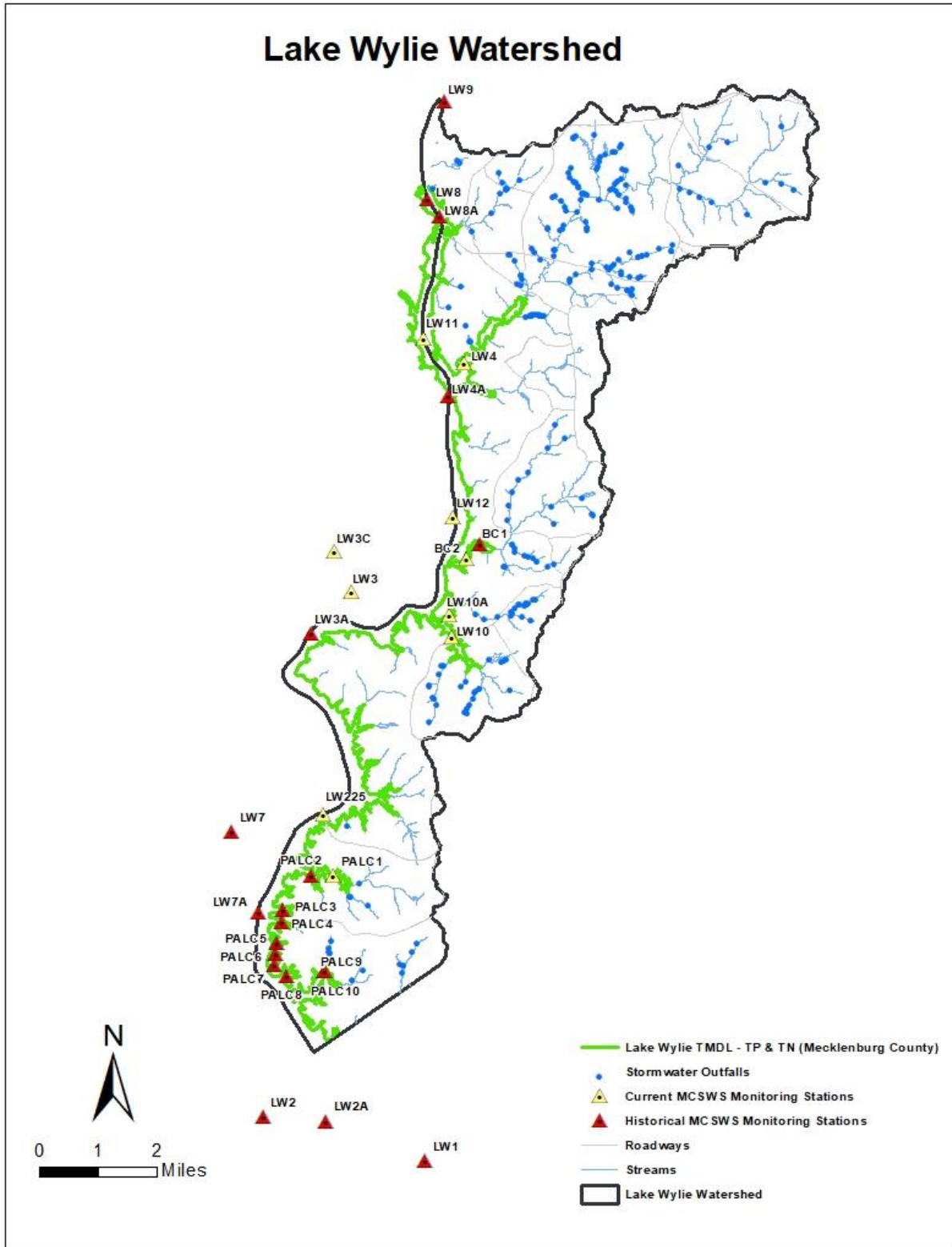


Figure 22: TMDL Waters, Outfalls and Monitoring Sites in the Lake Wylie Watershed in Mecklenburg County

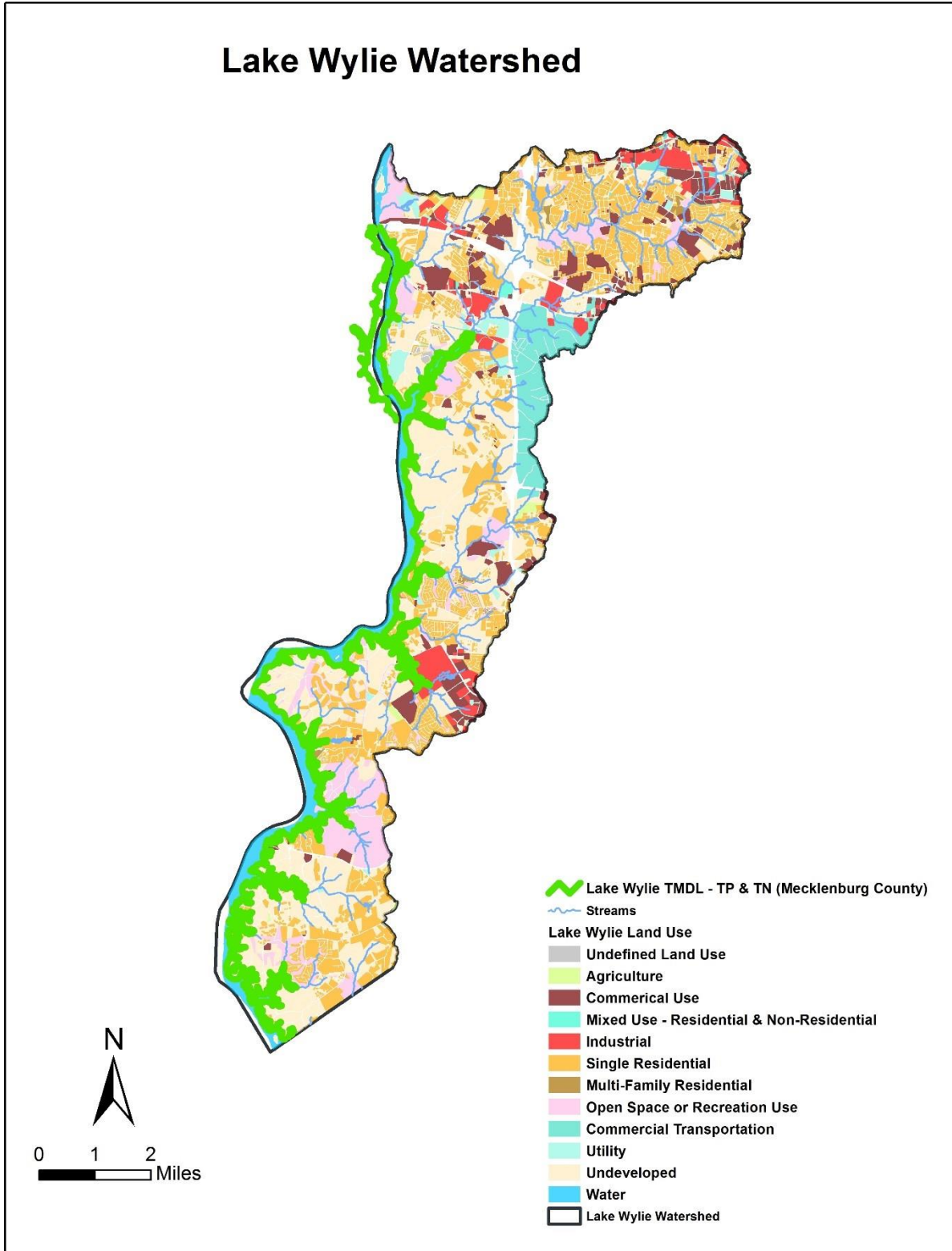


Figure 23: Land uses in the Lake Wylie TMDL Watershed in Mecklenburg County

11.5 Public Information and Notification

The Public Information and Notification component is designed to provide citizens and businesses with access to information about TMDLs that affect the City of Charlotte and Mecklenburg County and the methods that will be used to reduce the TMDL pollutants of concern. The public is notified about the TMDLs and the TMDL compliance efforts in Mecklenburg County as follows:

- The CMSWS website contains information about the City and County’s TMDLs, the TMDL pollutants of concern, TMDL compliance efforts, and how the public can report water pollution problems and become engaged in volunteer opportunities.
- The County’s Phase II annual report is posted on the CMSWS website and will provide a summary of the activities conducted under the TMDL watershed plan.

11.6 Implementation Team

City and County staff from CMSWS will serve as the primary implementation team for TMDL compliance efforts. Staff from other affected agencies that conduct activities in the TMDL watershed will also be included as necessary. The following staff positions with CMSWS were identified as key members of the TMDL team:

- County Environmental Manager
- County Environmental Supervisor
- County Environmental Specialist I, II, III, and IV
- City Environmental Manager
- City Water Quality NPDES Supervisor
- City Water Quality NPDES Administrator
- City Land Development Erosion Control Administrator
- City Water Quality Public Information Specialist
- City Water Quality Modeler
- City Water Quality Planner
- City Water Quality Senior Specialist
- City Water Quality Post-Construction Administrator
- City Stormwater MS4 Inventory Supervisor
- City Utility Department Sanitary Sewer System Administrator

11.7 MS4 Major Stormwater Outfalls in the TMDL Watersheds

The major stormwater outfalls in the TMDL watersheds where Mecklenburg County is the lead, including portions of the Rocky River, Goose Creek, and Lake Wylie, have been identified through MS4 inventory collection activities and are illustrated in Figures 16, 19 and 22, respectively. The number of outfalls recorded in each watershed is shown in Table 37. These outfalls are available in a GIS layer in CMSWS’s Cityworks database along with stormwater inlets. The major stormwater outfalls in the TMDL watersheds where the City of Charlotte is the lead are described in their NPDES MS4 TMDL Watershed Plan, which is available through their Phase I contact.

Table 37: Number of Outfalls in each TMDL Watershed

Watershed	Number of Outfalls
Rocky River	4
Goose Creek	183
Lake Wylie	233
Total	420

11.8 Existing BMP Measures

As discussed in Section 11.3, the primary pollutants of concern for the TMDL watersheds where Mecklenburg County is the lead are fecal coliform bacteria, chlorophyll-a and mercury. Since the Statewide mercury TMDL does not have a WLA assigned to stormwater there is not an NPDES MS4 Permit obligation to reduce non-point source pollutant loading. For this reason, TMDL compliance measures for this TMDL are not included in this Stormwater Plan. For fecal coliform bacteria and chlorophyll-a, CMSWS has reviewed existing strategies and BMPs within the scope of the six (6) minimum Phase II Permit compliance measures and has identified those BMPs identified in the following subsections as suitable for best addressing those waters impaired due to these pollutants of concern. All the strategies and BMPs described below are currently being implemented in the Phase I and Phase II jurisdictions in Mecklenburg County.

11.8.1 Public Education & Outreach

The following existing public education and outreach activities have been identified as suitable for addressing the pollutants of concern in the TMDL watersheds. These BMPs will address impaired waters by informing the community of the impacts of the pollutants of concern on water bodies and the steps that the public can take to reduce these pollutants. Previous sections of this document are referenced below for additional information regarding each activity.

1. Utility Bill Inserts (see Section 5.4.1)
2. Brochures and Environmental Notices (see Section 5.4.2)
3. Articles and Newsletters (see Section 5.4.3)
4. Media Campaign (see Section 5.4.4)
5. Social Media (see Section 5.4.5)
6. Targeted Outreach (see Section 5.4.6)
7. Workshops and Video Taped Messages (see Section 5.4.7)
8. Web Pages (see Section 5.4.8)
9. Educational Presentations and Public Events (see Section 5.4.9)
10. Regional Stormwater Partnership (see Section 5.4.10)
11. Stormwater Helpline (see Section 5.3)

11.8.2 Fats, Oils and Grease Program

The City’s water and sewer utility department (Charlotte Water) maintains a public education program focused on keeping food related fats, oils, and grease from being discharged to the sanitary sewer system. This effort helps to reduce clogging and blockages in the system and prevent SSOs, which can introduce fecal coliform and other pollutants to water bodies.

11.8.3 Public Involvement and Participation

The following existing public involvement and participation activities have been identified as suitable for addressing the pollutants of concern in the TMDL watersheds. These BMPs will address impaired waters by involving the public in program development and implementation to reduce the pollutants of concern. Previous sections of this document are referenced below for additional information regarding each activity.

1. Adopt-A-Stream (see Section 6.4.3)
2. Storm Drain Marking (see Section 6.4.4)
3. Surface Water Clean Up Event (see Section 6.4.5)
4. Volunteer Monitoring (see Section 6.4.6)

11.8.4 Illicit Discharge Detection and Elimination (IDDE)

The following existing IDDE activities have been identified as suitable for addressing the pollutants of concern in the TMDL watersheds. These BMPs will address impaired waters by identifying and eliminating sources of the pollutants of concern. Previous sections of this document are referenced below for additional information regarding each activity.

1. Storm Sewer System Mapping (see Section 7.4)
2. Pollution Control Ordinance (see Section 7.5)
3. Enforcement (see Section 7.6)
4. Citizen Requests for Service (see Section 7.7.1.1)
5. Monitoring to Detect Illicit Discharges (see Section 7.7.1.2)
6. Volunteer Activities (see Section 7.7.1.3)
7. GIS Mapping (see Section 7.7.1.4)
8. Illicit Discharge Elimination Program (IDEP) (see Section 7.7.2.1)
9. Short Term Monitoring (see Section 7.7.2.2)
10. Hot Spot Investigations (see Section 7.7.2.3)
11. Stream Walks (see Section 7.7.2.4)
12. Dry Weather Flow Investigations (see Section 7.7.2.5)

11.8.5 Sewer Use Ordinance

Implementation and enforcement of the Sewer Use Ordinance by Charlotte Water provides the legal mechanism to ensure proper use and connection to the sanitary sewer system and correction of problems and illegal practices. Ensuring that the system is used properly will help prevent leaks and overflows as well as upsets at wastewater treatment plants thus helping control the TMDL pollutants of concern.

11.8.6 Sanitary Sewer System Inspections and Maintenance

Charlotte Water conducts inspections and maintenance of various components of the sanitary sewer system to ensure proper operating function and prevent leaks and overflows. These include food service grease trap inspections, commercial oil/water separator inspections, sanitary sewer line root control and cleaning, sewer line right-of-way clearing and maintenance,

and lift station inspection and maintenance. Ensuring that the system is properly inspected and maintained will help prevent leaks and overflows as well as upsets at wastewater treatment plants thus helping control the TMDL pollutants of concern. In addition, CMSWS conducts periodic inspections of private lift stations along the Catawba River lakes to ensure proper maintenance and avoid spills. It also performs inspections of private sewer collection systems serving multifamily communities where spills due to improper maintenance are common.

11.8.7 SSO Rapid Response

Charlotte Water maintains a rapid response program designed to quickly and efficiently respond to sanitary sewer overflows, thus reducing the discharge of pollutants to the MEP and helping control the TMDL pollutants of concern.

11.8.8 Construction Site Stormwater Runoff Control

The following existing construction site stormwater runoff control activities have been identified as suitable for addressing the pollutants of concern in the TMDL watersheds. These BMPs will address impaired waters by reducing discharges of pollutants of concern from construction sites. Previous sections of this document are referenced below for additional information regarding each activity.

1. Erosion Control Ordinance (see Section 8.3)
2. Erosion Control Plan Reviews (see Section 8.4)
3. Enforcement (see Section 8.5)
4. Inspections (see Section 8.6)
5. Erosion Control Hotline (see Section 8.7)
6. Erosion Control Education (see Section 8.8)
7. Government Projects (see Section 8.9)

11.8.9 Post-Construction Site Runoff Control

The following existing post-construction site runoff control activities have been identified as suitable for addressing the pollutants of concern in the TMDL watersheds. These BMPs will address impaired waters by reducing discharges of pollutants of concern from new development and redevelopment projects. Previous sections of this document are referenced below for additional information regarding each activity.

1. Post-Construction Stormwater Ordinance (see Section 9.3)
2. Compliance by Co-Permittees with Post-Construction Ordinance Requirements (see Section 9.4)
3. Requirements for Non-Structural SCMs (see Section 9.5)
4. Requirements for Structural SCMs (see Section 9.6)
5. Natural Resource Protection (see Section 9.7)
6. Open Space Protection (see Section 9.8)
7. Tree Preservation (see Section 9.9)
8. Green Infrastructure Practices (see Section 9.10)
9. Operation and Maintenance (see Section 9.11)

11.8.10 Pollution Prevention and Good Housekeeping

The following existing pollution prevention and good housekeeping activities have been identified as suitable for addressing the pollutants of concern in the TMDL watersheds. These BMPs will address impaired waters by reducing discharges of pollutants of concern from municipal facilities and operations. Previous sections of this document are referenced below for additional information regarding each activity.

1. Inventory of Municipal Operations (see Section 10.3)
2. Training (see Section 10.4)
3. Operation and Maintenance Programs, Spill Prevention and Spill Response (see Section 10.5)
4. Minimizing Pollution from Municipally Owned Streets, Roads and Parking Lots (see Section 10.7)
5. Operation and Maintenance of Municipally Owned Storm Sewer System (see Section 10.8)
6. Management of Pesticide, Herbicide and Fertilizer Application (see Section 10.11)
7. Preventing or Minimizing Pollution from Vehicle and Equipment Cleaning Areas (see Section 10.12)
8. Waste Disposal (see Section 10.13)
9. Flood Management Projects (see Section 10.14)

11.9 Water Quality Monitoring and Data Assessment

CMSWS conducts fixed interval stream monitoring (see Section 7.7.1.2) at identified locations in or immediately downstream of the TMDL watersheds on a monthly basis as indicated in Figures 16, 19 and 22. This monitoring is primarily used to determine water quality trends, and to detect pollution problems in surface waters. Monitoring results that exceed threshold values are referred for follow-up under the IDDE program. CMSWS also conducts routine lake monitoring every other month during the calendar year as follows: January, March, May, July, September, and November. Monitoring for fecal coliform bacteria is performed monthly during the summer months from May through September. Data from this lake monitoring is used to identify trends and to initiate watershed management strategies for restoring degraded water quality conditions. CMSWS also maintains a Continuous Monitoring and Alert Notification Network or CMANN that monitors surface waters at select sites in streams and lakes for turbidity, dissolved oxygen, temperature, conductivity, and pH. All monitoring results that exceed threshold values are referred for follow-up under the IDDE program.

11.9.1 Fecal Coliform Monitoring and Data Assessment for the Rocky River

As identified in Table 3, a section of the Rocky River in Mecklenburg County (AU Number 13-17a) is subject to a fecal coliform TMDL with a WLA assigned to stormwater that was approved on September 19, 2002. Mecklenburg County has been assigned responsibility for compliance with this TMDL on behalf of the Phase I and Phase II jurisdictions in Charlotte-Mecklenburg. Phase II Permit conditions required that a monitoring plan be developed for the Fecal Coliform TMDL in the Rocky River Watershed unless a waiver was obtained from NCDEQ. Such a waiver was obtained on June 26, 2014, based on the condition that Mecklenburg County

continue to evaluate the land use and development within the watershed on an annual basis and if additional stormwater infrastructure is installed or higher intensity land uses are constructed a Monitoring Plan would be reconsidered. In response to this condition, CMSWS has obtained impervious area and landuse data from the County GIS Department back to 2011 and continues to update this data annually (see Table 38). To date, changes in the watershed are not significant enough to warrant the establishment of a Monitoring Plan.

Table 38: Annual Analysis of the Rocky River Watershed for the Monitoring Plan

Calendar Year	Residential Impervious Cover (acres)	Commercial Impervious Cover (acres)	Total Impervious Cover (acres)	Storm Water Outfalls (number)
2011	14.22	0.33	14.55	1
2012	14.22	0.33	14.55	1
2013	14.55	0.33	14.88	3
2014	14.88	0.33	15.21	3
2015	15	0.33	15.33	4
2016	15.1	0.33	15.43	4
2017	15.2	0.33	15.53	4
2018	15.69	0.33	16.02	4
2019	15.72	0.33	16.05	4
2020	15.72	0.33	16.05	4
2021	16.03	0.33	16.36	4
2022	16.09	0.33	16.42	4
2023	16.5	0.33	16.83	5
# Increase from 2011	2.28	0.00	2.28	4
% Increase from 2011	16.03%	0.00%	15.67%	400%

Although CMSWS does not perform monitoring in the Rocky River TMDL watershed, it obtains monthly monitoring data collected by the NCDEQ, Division of Water Quality at Q7330000, which is the specific monitoring location for this TMDL. CMSWS performed an analysis of the fecal coliform data collected by the State in calendar year 2023, which is the most current data available. The geometric mean concentration of fecal coliform samples collected in 2023 was 478.023 CFU/100 ml.. This represents an approximately 21% decrease from the geometric mean concentration of 602.74 CFU/100 ml observed in calendar year 2022. Out of the 5 samples collected in 2023, 2 (40%) exhibited concentrations below 400 CFU/100 ml. The remaining 3 samples (60%) exceeded the 400 CFU/100 ml threshold. The North Carolina Administrative Code (NCAC) 02B Fresh Surface Water Quality Standards dictate that fecal coliform “shall not exceed a geometric mean of 200 (CFU)/100 ml...nor exceed 400 [CFU]/100 ml in more than 20 percent of the samples examined...” The data from site Q7330000 suggest very little fluctuation in the mean fecal coliform concentration over the past several years, but significant improvement since the 1970s.

11.9.2 Fecal Coliform Monitoring and Data Assessment for Goose Creek

As identified in Table 3, two (2) sections of Goose Creek in Mecklenburg County (AU Numbers 13-17-18a and 13-17-18b) are subject to a fecal coliform TMDL with a WLA assigned to stormwater that was approved on July 8, 2005. According to the approved NC 2018 305(b) report, the two (2) TMDL segments of Goose Creek are currently meeting the fecal coliform criteria. Mecklenburg County has been assigned responsibility for compliance with this TMDL on behalf of the Phase I and Phase II jurisdictions in Charlotte-Mecklenburg. CMSWS maintains a fixed interval monitoring site (MY9) located where Stevens Mill Road crosses Goose Creek in Union County. In calendar year 2023, fecal coliform counts at this station ranged from 160 to 4,340 CFU/100 ml with a geometric mean of 474.62 CFU/100 ml., which represents a 27% increase from the geometric mean concentration of 372.08 CFU/100 ml. observed in calendar year 2022, but is only slightly above the State standard of 400 CFU/100 ml. Seven (7) of the 13 samples collected in 2023 (53.85%) exhibited concentrations at or below 400 CFU/100 ml. The remaining 6 samples (46.15%) exhibited concentrations above this threshold. No pollution sources were identified as a result of the water quality monitoring in the Goose Creek TMDL watershed in 2023.

11.9.3 Chlorophyll-A Monitoring and Data Assessment for Lake Wylie

As identified in Table 3, two (2) sections of Lake Wylie in Mecklenburg County (AU Numbers 11-122 and 11-(123.5)a) are subject to a chlorophyll-a TMDL approved on February 5, 1996 that does not include a WLA assigned to stormwater. Mecklenburg County has been assigned responsibility for compliance with this TMDL on behalf of the Phase I and Phase II jurisdictions in Charlotte-Mecklenburg. Surface Water Quality Standards have not been established for nitrogen and phosphorus. As a result, CMSWS utilizes Chlorophyll-a concentration as a proxy parameter for monitoring nutrient levels in Lake Wylie. According to the approved NC 2018 305(b) report, the two TMDL segments of Lake Wylie are currently meeting the Chlorophyll-a criterion of 40 micrograms per liter ($\mu\text{g/L}$). All 107 Chlorophyll-a samples collected by CMSWS in Lake Wylie in 2023 were below the standard of 40 $\mu\text{g/l}$.

11.9.4 Mercury Monitoring and Data Assessment Statewide

As stated in sub-section 11.3.3, the State did not include an MS4 NPDES WLA for mercury in their statewide TMDL; therefore, an analysis of mercury data is not included in this document.

11.9.5 Effectiveness of BMPs Based on Data Analysis

The geometric mean fecal coliform concentration observed in the Rocky River in 2023 decreased from 2022 to 2023 by 21% and the percent compliance with the standard increased by 13%. In Goose Creek, the geometric mean fecal coliform concentration exhibited only a moderate increase (27%) between 2022 and 2023 at only slightly above the State standard of 400 CFU/100ml. The percentage of samples complying with applicable fecal coliform standards decreased slightly at 11% over the same time. However, fecal coliform concentrations and compliance percentages have moderately improved over the past five (5) years since Mecklenburg County increased its TMDL compliance efforts. The existing BMPs for both the Rocky River and Goose Creek watersheds appear to be effective at identifying and eliminating pollution sources in compliance with TMDL requirements. Therefore, these BMPs will continue

to be implemented in FY2025. Additional structural and/or non-structural BMPs will be implemented as described in Section 11.10 to further enhance TMDL compliance.

11.10 Additional BMP Measures Implemented through FY2023

Over the past several years CMSWS has developed and implemented numerous BMP measures in addition to those described in Section 11.8 in order to improve water quality conditions in the TMDL watersheds by identifying and eliminating sources of the pollutant of concern. These historic additional measures along with new measures proposed beginning in FY2023 are described in the following subsections by TMDL watershed.

11.10.1 Additional BMP Measures in the Rocky River Watershed

During the fiscal years (FY) indicated below (July 1 through June 30), the following actions were completed to reduce fecal coliform bacteria levels and enhance water quality in the Rocky River Watershed.

FY2015

1. In November 2014, approximately 250 trees were planted in the buffer at the Rocky River Bluff Nature Preserve (Parcel Number 00307115) by a total of 31 volunteers through a partnership between CMSWS, Mecklenburg County Park & Recreation Department, and the Davidson Lands Conservancy. Partial funding for the event was provided through an Urban Cost Share Grant. This enhanced buffer will provide additional filtering for nonpoint source pollutants that will assist with TMDL pollutant removal.
2. CMSWS completed a review of historic aerial imagery from the Rocky River Watershed, which revealed that since 1993 an equestrian area had been located approximately one-half mile upstream of monitoring site Q733 on the Mecklenburg County side of the Rocky River. In recent years, a septic system was installed to treat wash water from a stable located in this area. CMSWS performed monitoring upstream and downstream of this potential source. Results indicate that the septic system was not a source of fecal coliform bacteria.

FY2016

1. High resolution aerial imagery was evaluated, and no sources of fecal coliform bacteria were identified.
2. Agricultural operations in the watershed, which are mainly horse farms, were evaluated and no sources of fecal coliform bacteria were identified.
3. Health Department records were reviewed and only two (2) failed septic systems were identified in the watershed between FY2009 and FY2016, which suggest that failing septic systems are not a chronic problem in this area. Inspections were conducted where these failing systems had been detected and no sources of fecal coliform bacteria were identified.
4. The four (4) outfalls in the watershed were inspected and no evidence of dry weather flows was observed. These inspections were documented in GIS using the ESRI app for iPhone.

5. The Mecklenburg County Soil & Water Conservation District worked with the property owner at 18005 Callaway Hills Lane in Davidson, N.C. to complete a stream bank stabilization project immediately upstream of the first stormwater outfall shown in Figure 16. The cost of the project was \$42,000 with the NC Ag Cost Share Program reimburse the landowner \$32,000, leaving the landowner portion at \$10,000. The completion of this project will reduce the sediment load in the stream, which will in-turn reduce fecal coliform bacteria levels.

FY2017

1. The four (4) outfalls in the watershed were inspected and no evidence of dry weather flows was observed. These inspections were documented in Cityworks.
2. On June 27, 2017, fecal coliform samples were collected from the Rocky River where it enters and exits Mecklenburg County. Results indicated fecal coliform levels at 980 and 1020 colonies/100ml, respectively. This represents an insignificant increase.
3. Health Department records were reviewed, and no failed septic systems were identified.

FY2018

1. Monthly water quality monitoring, including sampling for fecal coliform bacteria continued at site MY1B (West Branch of the Rocky River at River Ford Drive) located upstream of the TMDL watershed in Mecklenburg County. One Watch Level exceedance for fecal coliform bacteria at 370 CFU/100 ml was detected on 12/12/17. No pollution sources were identified as a result of this monitoring.
2. Health Department records were reviewed, and no failed septic systems were identified.
3. Major outfalls were inspected. No dry weather flows or pollution sources were detected.
4. Design plans are 100% complete for the restoration of a section of the Rocky River in the TMDL water in Mecklenburg County. Construction is planned to begin in October 2018.

FY2019

1. Monthly water quality monitoring, including sampling for fecal coliform bacteria continued at #MY1B located upstream of the Rocky River TMDL watershed. Sampling results are described in Section 9.11.2.
2. Health Department records were reviewed, and no failed septic systems were identified.

FY2020

1. Monthly water quality monitoring, including sampling for fecal coliform bacteria, continued at site MY1B (West Branch of the Rocky River at River Ford Drive) located upstream of the TMDL watershed in Mecklenburg County. Monitoring results are described in Section 11.9.1.
2. On January 3, 2020, Health Department records were reviewed, and no failed septic systems were identified.
3. On December 29, 2019, the four (4) major outfalls in the Rocky River TMDL watershed in Mecklenburg County were inspected. No dry weather flows or pollution sources were detected.
4. In December 2019, design plans for the restoration of a two-mile section of West Branch Rocky River were completed. Permitting activities for the restoration were subsequently completed in June 2020. Construction activities are scheduled to begin in Fall 2020.

FY2021

1. NCDEQ, Division of Water Quality continued to conduct water quality monitoring, including sampling for fecal coliform bacteria, at site Q7330000. Monitoring results are described in Section 11.9.1.
2. On January 8, 2021 Health Department records were reviewed and no failed septic systems were identified.
3. On December 9, 2020, the four (4) major outfalls in the Rocky River TMDL watershed in Mecklenburg County were inspected. No dry weather flows or pollution sources were detected.
4. In February 2021, the permitting and bidding activities associated with the restoration of a 9,000-foot section of West Branch Rocky River were completed. Construction activities began in May 2021 and are expected to be completed May 2022.

FY2022

1. NCDEQ, Division of Water Quality continued to conduct water quality monitoring, including sampling for fecal coliform bacteria, at site Q7330000. Monitoring results are described in Section 3.2.
2. On October 7, 2021 Health Department records were reviewed and no failed septic systems were identified.
3. On October 27, 2021, the four (4) major outfalls in the Rocky River TMDL watershed in Mecklenburg County were inspected. No dry weather flows or pollution sources were detected.
4. In April 2022, restoration activities for a 9,000-foot section of West Branch Rocky River were completed. The project focused on the stabilization of stream banks, vegetation enhancements, and stream conveyance improvements. The project is also expected to result in an overall improvement of water quality.

FY2023

1. NCDEQ, Division of Water Quality continued to conduct water quality monitoring, including sampling for fecal coliform bacteria, at site Q7330000 on the Rocky River. Monitoring results will be analyzed and described in the FY2024 annual report.
2. During FY2023, one (1) notice of violation was issued by the Mecklenburg County Health Department for a septic system failure in the Rocky River Watershed. System repairs were completed with no negative impacts to surface water quality documented.
3. On August 10, 2022, the four (4) major outfalls in the Rocky River TMDL watershed in Mecklenburg County were inspected. No dry weather flows or pollution sources were detected.

FY2024

1. NCDEQ, Division of Water Quality continued to conduct water quality monitoring, including sampling for fecal coliform bacteria, at site Q7330000 on the Rocky River. Monitoring results will be analyzed and described in the FY2025 annual report.
2. During FY2024, three (3) notices of violation were issued by the Mecklenburg County Health Department for septic system failures in the Goose Creek Watershed and none in

the Rocky River Watershed as shown in Figure 9. System repairs were completed with no negative impacts to surface water quality documented.

3. On October 3, 2024, the five (5) major outfalls in the Rocky River TMDL watershed in Mecklenburg County were inspected and monitored. No dry weather flows or pollution sources were detected.

11.10.2 Additional BMP Measures in the Goose Creek Watershed

During the fiscal years indicated below (July 1 through June 30), the following actions were completed to reduce fecal coliform bacteria levels and enhance water quality in the Goose Creek Watershed:

FY2012

1. Routine fixed interval monitoring was conducted monthly at sites MY-9 (Goose Creek – Stevens Mill Road) and MY-14 (Duck Creek – Tara Oaks Lane). Monthly samples were analyzed for 16 parameters including fecal coliform, E. Coli, and Enterococcus bacteria.
2. Continuous automated monitoring was conducted at site MY-9 for dissolved oxygen, temperature, pH, conductivity, and turbidity. These measurements are collected every hour 365 days per year.
3. Two (2) citizen requests for service were responded to in the watershed.

FY2013

1. Conducted feasibility study for a potential stream restoration project on Stevens Creek.
2. Routine fixed interval monitoring was conducted monthly at sites MY-9 (Goose Creek – Stevens Mill Road) and MY-14 (Duck Creek – Tara Oaks Lane). Monthly samples were analyzed for 16 parameters including fecal coliform, E. Coli, and Enterococcus bacteria.
3. Continuous automated monitoring was conducted at site MY-9 for dissolved oxygen, temperature, pH, conductivity, and turbidity. These measurements are collected every hour 365 days per year.
4. One (1) citizen request for service was responded to in the watershed.

FY2014

1. Property easement acquisition began to facilitate a stream restoration project on Stevens Creek from I-485 to Thompson Road and an unnamed tributary from Stevens Creek mainstem to Cheval Lane.
2. Routine fixed interval monitoring was conducted monthly at sites MY-9 (Goose Creek – Stevens Mill Road) and MY-14 (Duck Creek – Tara Oaks Lane). Monthly samples were analyzed for 16 parameters including fecal coliform, E. Coli, and Enterococcus bacteria.
3. Continuous automated monitoring was conducted at site MY-9 for dissolved oxygen, temperature, pH, conductivity, and turbidity. These measurements are collected every hour 365 days per year.
4. Three (3) citizen requests for service were responded to in the watershed.

FY2015

1. Property easement acquisition continued to facilitate a stream restoration project on Stevens Creek from I-485 to Thompson Road and an unnamed tributary from Stevens Creek mainstem to Cheval Lane.
2. Stantec Engineering retained to begin design of the Stevens Creek stream restoration project.
3. Routine fixed interval monitoring was conducted monthly at sites MY-9 (Goose Creek – Stevens Mill Road) and MY-14 (Duck Creek – Tara Oaks Lane). Monthly samples were analyzed for 16 parameters including fecal coliform, E. Coli, and Enterococcus bacteria.
4. Continuous automated monitoring was conducted at site MY-9 for dissolved oxygen, temperature, pH, conductivity, and turbidity. These measurements are collected every hour 365 days per year.
5. Four (4) citizen requests for service were responded to in the watershed.

FY2016

1. Two (2) animal operations with direct access to surface waters were located during the assessments. Bacteria samples collected at these sites were below action thresholds.
2. Routine fixed interval monitoring was conducted monthly at sites MY-9 (Goose Creek – Stevens Mill Road) and MY-14 (Duck Creek – Tara Oaks Lane). Monthly samples were analyzed for 16 parameters including fecal coliform, E. Coli, and Enterococcus bacteria.
3. Continuous automated monitoring was conducted at site MY-9 for dissolved oxygen, temperature, pH, conductivity, and turbidity. These measurements are collected every hour 365 days per year.
4. Two (2) NPDES wastewater Permits (Oxford Glen – Stevens Creek and Ashe Plantation – Duck Creek) in the Goose Creek watershed came up for renewal during FY16. County staff reviewed and provided comments to State staff on the draft Permits.
5. Sediment toxicity monitoring was conducted at one (1) location on Stevens Creek and two locations on Duck Creek.
6. Design and permitting are underway for the restoration of 2.3 miles of Stevens Creek from I-485 to Thompson Road and an unnamed tributary from Stevens Creek to Cheval Lane.
7. Four (4) citizen requests for service were responded to in the watershed.

FY2017

1. 28.03 stream miles were physically assessed in the watershed to identify sources of fecal coliform bacteria. During these assessments, 88 stormwater outfalls were inspected, and 168 fecal coliform bacteria samples were collected and analyzed. 15 of the samples collected had elevated concentrations of bacteria which initiated follow-up investigations. No direct sources of fecal coliform bacteria could be determined. As a result, genetic microbial source analysis (MST) was conducted at four (4) locations. One (1) location indicated the presence of human sourced bacteria and one location indicated the presence of canine sourced bacteria. Trace amounts of bird and ruminant sourced bacteria were observed in three (3) of the four (4) sample locations. Follow up investigations for the human sourced bacteria did not reveal any pollution sources.
2. Routine fixed interval monitoring was conducted monthly at sites MY-9 (Goose Creek – Stevens Mill Road) and MY-14 (Duck Creek – Tara Oaks Lane). Monthly samples were analyzed for 16 parameters including fecal coliform, E. Coli, and Enterococcus bacteria.

3. Continuous automated monitoring was conducted at site MY-9 for dissolved oxygen, temperature, pH, conductivity, and turbidity. These measurements are collected every hour 365 days per year.
4. Health Department records were reviewed, and no failed septic systems were identified.
5. Design and permitting are underway for the restoration of 2.3 miles of Stevens Creek from I-485 to Thompson Road and an unnamed tributary from Stevens Creek to Cheval Lane.
6. Three (3) citizen requests for service were responded to in the watershed.

FY2018

1. Routine fixed interval monitoring was conducted monthly at sites MY-9 (Goose Creek – Stevens Mill Road) and MY-14 (Duck Creek – Tara Oaks Lane). Monthly samples were analyzed for 16 parameters including fecal coliform, E. Coli, and Enterococcus bacteria.
2. Continuous automated monitoring was conducted at site MY-9 for dissolved oxygen, temperature, pH, conductivity, and turbidity. These measurements are collected every hour 365 days per year.
3. Health Department records were reviewed, and no failed septic systems were identified.
4. On October 3, 2017 and February 28, 2018, a high-resolution aerial infrared survey was completed of 192 acres in the Goose Creek watershed off of Fairington Oaks Drive in Mint Hill. The purpose of this survey was to identify heat signatures indicating potential failing septic systems as a source of fecal coliform bacteria. Results from the survey were inconclusive. No pollution sources were detected.

FY2019

1. Routine fixed interval monitoring was conducted monthly at sites MY-9 (Goose Creek – Stevens Mill Road) and MY-14 (Duck Creek – Tara Oaks Lane). Monthly samples were analyzed for 16 parameters including fecal coliform, E. Coli, and Enterococcus bacteria. Monitoring results are described in Section 11.9.2.
2. Continuous automated monitoring was conducted at site MY-9 for dissolved oxygen, temperature, pH, conductivity, and turbidity. These measurements are collected every hour 365 days per year.
3. Health Department records were reviewed, and no failed septic systems were identified.
4. Beginning on November 1, 2018 and concluding on May 16, 2019, stream walk activities were completed in the Goose Creek TMDL watershed, including extensive monitoring for fecal coliform bacteria. No pollution sources were detected.

FY2020

1. Routine fixed interval monitoring was conducted monthly at sites MY-9 (Goose Creek – Stevens Mill Road) and MY-14 (Duck Creek – Tara Oaks Lane). Monthly samples were analyzed for 16 parameters including fecal coliform and E. coli. Monitoring results are described in Section 11.9.2.
2. Beginning on November 1, 2019 and concluding on April 28, 2020, CMSWS staff walked approximately 60.97 stream miles in the Phase II jurisdictions, including 21.57 in the Towns and 39.4 miles in the ETJ areas located in the County. In all, 34 points or features, 18 outfalls inspected, 13 new outfalls, and two dry weather flow samples were collected. No exceedances above the fecal coliform action level (>3000 col/100ml) were

identified. One sample exhibited a total phosphorus level in exceedance of the action level of 0.50 ppm. Three significant problems and 15 stream blockages were identified and reported to Mecklenburg County Storm Water Operations. No illicit discharges of pollution sources were observed during 2020 Phase II stream walk activities.

3. On January 3, 2020, Health Department records were reviewed, and no failed septic systems were identified.

FY2021

1. Routine fixed interval monitoring was conducted monthly at site MY9 (Goose Creek – Stevens Mill Road) for 16 parameters including fecal coliform and E. coli. Monitoring results are described in Section 11.9.2.
2. Beginning on November 1, 2020 and concluding on April 20, 2021, CMSWS staff walked approximately 74.84 stream miles in the Phase II jurisdictions (see Figure 2). In all, 69 points or features were collected, 77 outfalls were inspected, and 52 new outfalls were recorded. Ten dry weather flows were observed but all were too low to sample. Six significant problems and two stream blockages were also identified and reported to Mecklenburg County Storm Water Operations. No illicit discharges of pollution sources were observed during 2021 Phase II stream walk activities.
3. On January 8, 2021, Health Department records were reviewed, and no failed septic systems were identified.

FY2022

1. Routine fixed interval monitoring was conducted monthly at site MY9 (Goose Creek – Stevens Mill Road) for 16 parameters including fecal coliform and E. coli. Monitoring results are described in Section 11.9.2.
2. Beginning on November 1, 2021 and concluding on April 22, 2022, CMSWS staff walked approximately 127.7 stream miles in the Phase II jurisdictions (see Figure 2). In all, 179 points or features were collected, 68 existing outfalls were inspected, and 65 new outfalls were recorded. Five dry weather flows were observed but all were too low to sample. Three significant problems and 11 stream blockages were also identified and reported to Mecklenburg County Storm Water Operations. Additionally, one illicit discharge was observed which resulted in the issuance of a Notice of Violation.
3. On October 7, 2021, Health Department records were reviewed, and no failed septic systems were identified.
4. Throughout FY2022, in-stream fecal coliform and E. coli samples were collected in headwater areas of the of Goose Creek watershed to identify potential illicit discharges and sources of fecal coliform. Sampling was performed during ambient (not storm impacted) conditions and locations were selected based on proximity to low-pressure sanitary systems and historical analytical data. A total of 37 samples were collected from 23 locations within upper Goose Creek and associated tributaries. Twenty-five of the samples exceeded 400 CFU/100 mL and the geometric mean of all samples was 794.52 CFU/100 ml. Additional evaluations were performed in locations where the highest fecal coliform and E. coli concentrations were observed. These evaluations included follow-up sampling, camera inspections of private sanitary laterals, and inspection of livestock farms for manure releases. No damaged infrastructure or discharges were observed.

FY2023

1. Routine fixed interval monitoring was conducted monthly at site MY9 (Goose Creek – Stevens Mill Road) for 16 parameters including fecal coliform and E. coli. Monitoring results are described in Section 11.9.2.
2. In FY2023, two (2) notices of violation were issued by the Mecklenburg County Health Department for septic system failures in the Goose Creek Watershed. System repairs were completed with no negative impacts to surface water quality documented.
3. During FY2023, inspections were completed at the three (3) sewer pump stations in operation in the Goose Creek TMDL watershed, including Philadelphia Presbyterian Church Lift Station (Activity Report #75990), Mint Lake Village Lift Station (Activity Report #75991), and Bain Elementary School Lift Station (Activity Report #76125). All pumps at the lift stations were present and operable, the wet wells were free of excessive debris, and all floats/controls for pumps were operable along with their corresponding audio and visual alarms. In addition, the facilities were properly secured with a 24-hour notification signage posted. However, the telemetry systems that provide automated notification when a pump failure occurs were not operable during the inspection. Following the inspections, recommendations were made to the owners of these systems to correct the problems with these telemetry systems. Follow-up inspections conducted by CMSWS in July 2023 revealed that all the telemetry systems were repaired and were fully operational. Isiah Glover with Charlotte-Mecklenburg Schools confirmed that the Bain Elementary School lift station telemetry is now connected to a 24hr local police dispatch which will alert the appropriate CMS service contractors that there is an issue at the lift station. This was previously connected to a CMS office which was not a 24 hour line. The Mint Lake Village and Philadelphia Presbyterian Church lift stations are now serviced by McCall Brothers and confirmed the telemetry systems are now connected directly to McCall Brothers 24hr phone line. These lift stations were previously serviced by Aqua-Trol but they are no longer in business.

FY2024

1. Routine fixed interval monitoring was conducted monthly at site MY9 (Goose Creek – Stevens Mill Road) for 16 parameters including fecal coliform and E. coli. Monitoring results are described in Section 11.9.2.
2. During FY2024, three (3) notices of violation were issued by the Mecklenburg County Health Department for septic system failures in the Goose Creek Watershed and none in the Rocky River Watershed. System repairs were completed with no negative impacts to surface water quality documented.
3. During FY2024, there were three (3) sewer pump stations in operation in the Goose Creek and none in the Rocky River TMDL watersheds. The Goose Creek pump stations were inspected as follows: Philadelphia Presbyterian Church Lift Station on May 10, 2024 (Activity Report #86006), Mint Lake Village Lift Station on May 10, 2024 (Activity Report #86007), and Bain Elementary School Lift Station on May 21, 2024 (Activity Report #86389). All pumps at the lift stations were present and operable, the wet wells were free of excessive debris, and all floats/controls for pumps were operable along with their corresponding audio and visual alarms. In addition, during the inspection it was observed that the facilities were properly secured with a 24-hour

notification signage posted and that the telemetry systems that provide automated notification when a pump failure occurs were operable.

11.10.3 Additional BMP Measures in the Lake Wylie Watershed

During the fiscal years (FY) indicated below (July 1 through June 30), the following actions were completed to reduce fecal coliform bacteria levels and enhance water quality in the Lake Wylie Watershed:

FY2009

On March 23, 2009, high levels of Chlorophyll-a were observed in Wither's Cove that exceeded the State standard. In response, CMSWS completed a full assessment of the cove and watershed, including a windshield survey to identify potential pollution sources. The Siemens facility that discharges directly to the cove was inspected and sampled. Elevated copper levels were detected in the intake filter backwash from the facility. Consultation with NCDEQ revealed that annual sampling was required of the backwash but there were no Permit limits. On April 8, 2009, additional sampling was performed at 10 sites in the cove and tributaries draining to the cove. No nutrient sources were detected. All Chlorophyll-a levels had returned to normal. The March 2009 event appears to have been an algae bloom.

During FY2020, FY2021 and FY2022, physical assessments (Stream Walks) were conducted for all the tributaries draining into Lake Wylie in Mecklenburg County, including all of Long Creek and Paw creek. These assessments included stormwater outfall inventory and inspection, bacteria sampling both instream and any dry weather flows, as well as visual inspection for sources of fecal coliform bacteria.

11.10.4 Additional BMP Measures Planned for TMDL Watersheds in FY2025

As discussed in Section 11.9.5, existing BMPs were found to be effective and will therefore continue to be implemented in FY2025. Additional BMPs to be implemented and associated schedules for FY2025 are provided below.

1. By June 30, 2025, CMSWS will complete a review of Health Department records to determine where failed septic systems have been identified in both the Rocky River and Goose Creek TMDL watersheds. Follow up inspections and monitoring will be performed as necessary to ensure the elimination of sources of fecal coliform bacteria associated with failed septic systems thereby addressing impaired waters.
2. By June 30, 2025, major outfalls will be inspected in the Rocky River TMDL watershed. Dry weather flows will be identified, and pollution sources eliminated thereby addressing impaired waters.
3. In April 2025, the three (3) sewer pump stations located in the Goose Creek watershed will be inspected and the necessary corrective actions implemented to ensure proper operation and maintenance. Currently, there are no sewer pump stations in operation in the Rocky River TMDL watershed. If any are added in FY2025, they will be inspected as well.

4. Routine monitoring will continue to be performed monthly by CMSWS at MY9 on Goose Creek at Stevens Mill Road and by NCDEQ, Division of Water Quality at site Q7330000 on Rocky River at SR 2420. Exceedances of established water quality watch and action levels will be identified and follow up actions conducted as necessary for the identification and elimination of pollution sources.
5. Targeted surface water sampling in headwater areas of the Goose Creek watershed will continue in FY2025. Based on the results of FY2025 activities, additional surface water quality and watershed data is needed to further delineate sources of fecal coliform to the system. Watershed modeling and septic system assessments will be utilized to inform decision making and identify potential problem areas.

11.11 Tracking and Reporting Success

CMSWS will document all activities completed for the identification and elimination of pollution sources in the TMDL watersheds, including all inspections conducted and corrective actions implemented. All confirmed pollution sources will be mapped in GIS and, where possible, pollutant loads will be estimated. This data will be tracked over time as a measure of the success of program activities.

11.12 Reporting

CMSWS will prepare an annual report for activities relating to the implementation of the water quality restoration activities for the TMDL watersheds where Mecklenburg County has been assigned responsibility, including Rocky River, Goose Creek and Lake Wylie. The report will be submitted to NCDEQ by October 1 of each calendar year. The report will at a minimum include the following information:

1. Description of water quality restoration activities completed during the past fiscal year.
2. Description of water quality restoration activities expected to occur next fiscal year.

Appendix A: BMP Summary Table



BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
BMP Summary Table for Stormwater Management Program Administration					
Program Development (Permit Ref. Part II Section A.4, 5 and 6; Part III Sections A,B,C,D; Part IV Sections A,B,D,E,F,G) Performing activities necessary to fulfill the administrative requirements for permit compliance.					
#1 PD-1	Permit Development Developing and submitting the annual assessment report required by the Phase II Permit to document compliance with the Phase II Storm Water Management Program.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Meet and coordinate with CMSWS as requested as well as provide data and information as requested for inclusion in reports, audits, Permit applications, etc.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
		d. Implement Recommendations for Improvement	Annually beginning July 1	Completed/Compliant	
		e. Submit Quarterly Reports to Co-permittees	30 days of the end of the quarter	Completed/Compliant	
		f. Certify and Submit Stormwater Permit Renewal	As scheduled by NCDEQ	Completed/Compliant	
		g. Participate in an NPDES MS4 Permit Compliance Audit	As scheduled by NCDEQ	Completed/Compliant	
#2 PD-3	Evaluate Effectiveness of Storm Water Plan Assessing the effectiveness of the Storm Water Quality Management Program Plan and updating as necessary, including all written policies and procedures.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide data and information as requested for inclusion in reports, audits, etc. as well as implement recommendations for improvement as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
		d. Implement recommendations for improvement	Annually beginning July 1	Completed/Compliant	
BMP Summary Table for the Public Education and Outreach Program					
Public Education and Outreach (Permit Ref. Part II Section B; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing a Public Education and Outreach Program for Mecklenburg County’s Phase II jurisdictions/entities.					
#3 PE-10	Public Education and Outreach Distributing educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to ensure an effective outreach.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Coordinate with City and Co-Permittees, Review and Update SOPs, Review and Update Target Pollutants, Audiences, Residential/ Commercial Issues	Annually beginning July 1	Completed/Compliant	
		d. Develop, Update, Distribute, and Make	Annually beginning July 1	Completed/Compliant	

BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
		Available Educational Materials e. Develop and Send Newsletters f. Develop and Implement Public Education Media Campaign g. Develop and Conduct Outreach for Schools h. Develop and Conduct Outreach for Industrial/Commercial Sector	Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1	Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant	
#4 PE-2	Educational Outreach and Involvement for CMS and CPCC Coordinating with CMS and CPCC staff to provide brochures, create web links, and coordinate participation in educational events.	a. Annual Report b. Annual Assessment c. Develop and Distribute Educational Messaging d. Maintain Links e. Promote Adopt-A-Stream and Storm Drain Marking	Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1	Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant	Work with CMSWS to ensure an effective outreach.
#5 PE-9	Evaluate the Public Education and Outreach Program Assessing the effectiveness of the storm water education/outreach program at changing the public’s awareness.	a. Annual Report b. Annual Assessment c. Discuss and Facilitate Work Plan Changes d. Implement Recommendations for Improvement e. Review Public Opinion Survey	Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1	Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
BMP Summary Table for the Public Involvement and Participation Program					
Public Involvement & Participation (Permit Ref. Part II Section C; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing a program to comply with the State and local public notice requirements and to provide opportunities for the public, including major economic and ethnic groups, to participate in efforts to protect and restore surface water quality. (Note: SOPs are the same for Phases I and II. Documentation for revising these SOPs and performing training is contained under the Phase I program.)					
#6 PI-1	Phase II Public Meeting Meeting with the Storm Water Advisory Committee (SWAC) in a public forum to provide information regarding activities performed to comply with Phase II requirements and to	a. Annual Report b. Annual Assessment c. Conduct Meeting with SWAC d. Update and Implement	Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually	Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant	Keep governing bodies up to date.

BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
	receive input from the public regarding storm water issues and the storm water program.	the Storm Water Plan	beginning July 1		
#7 PI-2	<p>Adopt-A-Stream</p> <p>Implementing the Adopt-A-Stream Program for the Phase II jurisdictions/ entities.</p>	<p>a. Annual Report</p> <p>b. Annual Assessment</p> <p>c. Review and Revise SOPs</p> <p>d. Conduct Daily Operations of Program</p> <p>e. Update Volunteer Database</p> <p>f. Ensure Related Water Quality Problems Are Investigated</p>	<p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually beginning July 1</p>	<p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p>	<p>Work with CMSWS to maximize volunteer participation. Assist with trash removal as requested.</p>
#8 PI-3	<p>Storm Drain Marker</p> <p>Implementing the Storm Drain Marker Program for the Phase II jurisdictions/ entities.</p>	<p>a. Annual Report</p> <p>b. Annual Assessment</p> <p>c. Review and Revise SOPs</p> <p>d. Conduct Daily Operations of Program</p> <p>e. Update Volunteer Database</p> <p>f. Update Storm Drain Marking Feature</p> <p>g. Ensure Related Water Quality Problems Are Investigated</p>	<p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually beginning July 1</p>	<p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p>	<p>Work with CMSWS to maximize volunteer participation. Receive and respond as necessary to reported problems with the storm sewer system.</p>
#9 PE-I(4)	<p>Volunteer Big Spring Clean</p> <p>Conducting Annual Cleanup Event (Big Spring Clean) for the Phase II jurisdictions/ entities.</p>	<p>a. Annual Report</p> <p>b. Annual Assessment</p> <p>c. Plan and Conduct Annual Stream Cleanup</p>	<p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually beginning July 1</p>	<p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p>	<p>Work with CMSWS to maximize volunteer participation. Assist with trash removal as requested.</p>
#10 VM	<p>Volunteer Monitoring</p> <p>Implementing volunteer monitoring program for the Phase II jurisdictions/ entities.</p>	<p>a. Annual Report</p> <p>b. Annual Assessment</p> <p>c. Review and Revise SOPs</p> <p>d. Conduct Daily</p>	<p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually beginning July 1</p> <p>Annually</p>	<p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p> <p>Completed/Compliant</p>	<p>Work with CMSWS to maximize volunteer participation.</p>

BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
		Operations of Program	beginning July 1		
		e. Update Volunteer Database	Annually beginning July 1	Completed/Compliant	
		f. Ensure Related Water Quality Problems Are Investigated	Annually beginning July 1	Completed/Compliant	
#11 PE-I(13)	Educate Media Campaign Developing and implementing the Public Involvement Media Campaign for the Phase II jurisdictions/ entities.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to maximize volunteer participation through media campaign.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Develop Public Involvement Volunteer Education Campaign	Annually beginning July 1	Completed/Compliant	
		d. Implement Public Involvement Volunteer Education Campaign	Annually beginning July 1	Completed/Compliant	
#12 PE-I(14)	Volunteer Recognition Performing activities to recognize and promote volunteers for the Phase II jurisdictions/ entities.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to facilitate volunteer appreciation as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Plan Volunteer Recognition Events	Annually beginning July 1	Completed/Compliant	
		d. Implement Volunteer Recognition Events	Annually beginning July 1	Completed/Compliant	
#13 PE-I(16)	Creek Week Performing annual Creek Week Events for the Phase II jurisdictions/ entities.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to maximize volunteer participation.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Plan Creek Week Events	Annually beginning July 1	Completed/Compliant	
		d. Implement Creek Week Events	Annually beginning July 1	Completed/Compliant	
#14 PI-6	Evaluate Public Involvement Program Evaluating the effectiveness of the Public Involvement & Participation Program.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
		d. Implement Recommendations for Improvement.	Annually beginning July 1	Completed/Compliant	

BMP Summary Table for the IDDE Program

Illicit Discharge Detection and Elimination (IDDE) (Permit Ref. Part II Section D; Part III Sections A,B,C,D; Part IV Sections B,F): Developing, implementing, and enforcing a program to detect and eliminate illicit discharges. (Note: The IDDE Manual and SOPs are the same for Phases I and II. Documentation for revising these documents and performing training is contained under the Phase I program element.)

BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
#15 ID-1	Storm Sewer System Mapping				
	Maintaining and updating maps of the Phase II storm sewer system showing the locations of inlets, outlets, and receiving waters.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. GIS to Report Newly Collected Storm Sewer System Features	Annually beginning July 1	Completed/Compliant	
#16 ID-2	Outfall Inspection				
	Conducting field investigations for identifying dry weather flows to the storm sewer system including sampling and elimination of identified pollution sources.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Develop and Implement QA/QC Procedures	Annually beginning July 1	Completed/Compliant	
		e. Assess and Eliminate Problems in Areas with High Potential for Illicit Discharges	Annually beginning July 1	Completed/Compliant	
#17 ID-3	Notices of Violation (NOVs) & Enforcement				
	Enforcing the Surface Water Pollution Control Ordinances in the Phase II jurisdictions to eliminate the discharge of pollutants to storm sewers and surface waters.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Work with CMSWS to update and adopt ordinances as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Train CMSWS Staff	Annually beginning July 1	Completed/Compliant	
		e. Prepare and Issue NOVs	Annually beginning July 1	Completed/Compliant	
#18 ID-4.1 (Fixed Interval) ID-4.3 (Benthic); ID-4.4 (Fish); ID-4.10 (Continual); QA/QC; QAPP	Water Quality Monitoring Program				
	Maintaining a monitoring program to assess water quality conditions for identification and elimination of illicit discharges and other pollution sources.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Conduct Monitoring Activities	Annually beginning July 1	Completed/Compliant	
		e. Review Data for Exceedances	Annually beginning July 1	Completed/Compliant	
		f. Conduct Follow-Up Actions	Annually beginning July 1	Completed/Compliant	
#19 ID-5	Pollution Prevention Education				
	Developing and	a. Annual Report	Annually	Completed/Compliant	Receive and

BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
	implementing a public outreach program to inform public employees, businesses and the general public of illicit discharges and improper waste disposal and how they threaten the environment as well as provide instructions concerning proper reporting.		beginning July 1		respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Ensure Messages Inform Citizens	Once during 5-year permit term	Completed/Compliant	
		d. Review 311 Keywords	Annually beginning July 1	Completed/Compliant	
		e. Conduct Presentations Regarding Illicit Discharges and Improper Waste Disposal	Annually beginning July 1	Completed/Compliant	
		f. Ensure Co-permittees and County Departments are Trained	Annually beginning July 1	Completed/Compliant	
#20 ID-6	Follow up Inspections and Responding to Citizen Requests and Emergencies				
	Responding to citizen requests for service and emergency situations to identify and eliminate pollution problems.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Maintain Roster for Emergency Response Program	Annually beginning July 1	Completed/Compliant	
		e. Receive, Respond, and Investigate Citizen Requests for Service	Annually beginning July 1	Completed/Compliant	
#21 ID-8	Stream Walk				
	Inspecting the creek systems in the Phase II jurisdictions for the purpose of identifying and eliminating illicit discharges and collecting outfall and stream channel data and information.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Revise and Implement Program Plan	Annually beginning July 1	Completed/Compliant	
		d. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		e. Train CMSWS Staff	Annually beginning July 1	Completed/Compliant	
		f. Conduct Assessments, Inventory, Inspections, and Monitoring	Annually beginning July 1	Completed/Compliant	
		g. Review Data for Exceedances	Annually beginning July 1	Completed/Compliant	
#22 ID-9	Illicit Discharge Elimination Program (IDEP)				
	Investigating and monitoring select locations on a regular, recurring schedule for the identification and elimination of pollution problems using	a. Annual Report	Annually beginning July 1	Completed/Compliant	Receive and respond as necessary to reported problems with the storm
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise	Annually	Completed/Compliant	

BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
	physical observations.	SOPs d. Conduct Fecal Coliform Sampling e. Field Validate Outfall Data and Input Additional Attributes f. Implement IDEP	beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1	Completed/Compliant Completed/Compliant Completed/Compliant	sewer system.
#23 ID-U	Used Oil Inspection Conducting inspections of vehicle maintenance facilities to prevent the discharge of pollutants.	a. Annual Report b. Annual Assessment c. Review and Revise SOPs d. Complete, Prepare, and Submit Inspection Reports e. Maintain Database	Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1	Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant	Receive and respond as necessary to reported problems with the storm sewer system.
#24 ID-10	Evaluate Effectiveness of the IDDE Program Assessing the effectiveness of the IDDE program at detecting and eliminating illicit discharges.	a. Annual Report b. Annual Assessment c. Discuss and Facilitate Work Plan Changes d. Implement improvements in the next fiscal year.	Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1	Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
BMP Summary Table for the Construction Site Storm Water Control Program					
Construction Site Runoff Control Program (Permit Ref. Part II Section E; Part III Sections A,B,C,D; Part IV Sections B,F): Developing, implementing and enforcing a Construction Site Storm Water Runoff Control Program for addressing the discharge of sediment and other pollutants from construction sites in Mecklenburg County’s Phase II jurisdictions.					
#25 CS-1	Enforce Erosion Control Ordinances Enforcing erosion and sedimentation control ordinances.	a. Annual Report b. Annual Assessment c. Review and Revise SOPs d. Conduct Inspections e. Prepare and issue NOV’s and Initiate Enforcement Actions	Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1	Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant	Huntersville administers its own Erosion Control Program. County administers a program for the other Towns. All co-permittees ensure compliance at their construction sites.
#26 CS-2	Erosion Control Education Conducting erosion control educational activities,	a. Annual Report	Annually beginning July 1	Completed/Compliant	Participate in training as

BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
	including Charlotte-Mecklenburg Certified Site Inspector (CMCSI) training, distribution of fliers, etc.	b. Annual Assessment	Annually beginning July 1	Completed/Compliant	requested by CMSWS.
		c. Distribute Educational Materials	Annually beginning July 1	Completed/Compliant	
		d. Implement CMCSI Training	Annually beginning July 1	Completed/Compliant	
#27 CS-3	Evaluate Effectiveness of the Erosion Control Program Assessing the effectiveness of the Construction Site Storm Water Runoff Control Program at addressing the discharge of sediment and other pollutants from construction sites.	Erosion Control Program			
		a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
	c. Implement Recommendations for Improvement	Annually beginning July 1	Completed/Compliant		
BMP Summary Table for the Post-Construction Site Runoff Control Program					
Post-Construction Site Runoff Control Program (Permit Ref. Part II Section F; Part III Sections A,B,C,D; Part IV Sections B,F): Developing, implementing and enforcing a Post-Construction Site Runoff Control Program for addressing post-construction storm water runoff from new development and redevelopment projects in Mecklenburg County’s Phase II jurisdictions.					
#28 PC-1	Implement Post-Construction Ordinances Developing, implementing, and enforcing ordinances that will minimize negative water quality impacts to surface waters from post-construction discharges.	Implement Post-Construction Ordinances			
		a. Annual Report	Annually beginning July 1	Completed/Compliant	CMSWS serves as the Storm Water Administrator for all Post-Construction Ordinance except for Cornelius where the Zoning Administrator fulfills this role working with CMSWS.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Ensure Effective Implementation	Annually beginning July 1	Completed/Compliant	
	d. Provide Interpretations of Ordinance Requirements	Annually beginning July 1	Completed/Compliant		
#29 PC-2	Post-Construction Ordinance Inspections Developing and implementing an inspection program for stormwater control measures (SCMs) for the purpose of ensuring they are maintained and performing in accordance with design specifications and post-construction ordinance requirements.	Post-Construction Ordinance Inspections			
		a. Annual Report	Annually beginning July 1	Completed/Compliant	Huntersville reviews plans, issues permits and conducts inspections during construction. CMSWS performs these functions for the other Phase II jurisdictions. Following construction, CMSWS administers an inspection program for both public and private SCMs in all
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Update Manual	Annually beginning July 1	Completed/Compliant	
		d. Complete Inspections	Annually beginning July 1	Completed/Compliant	
	e. Complete Inspection Reports.	Annually beginning July 1	Completed/Compliant		

BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
					jurisdictions. All co-permittees ensure compliance for the SCMs that they own/maintain.
#30 PC-3	Post-Construction Ordinance Education Developing and implementing a program to educate the development community and the general public concerning the post-construction storm water management requirements with a focus on proper maintenance of SCMs.	a. Annual Report b. Annual Assessment c. Develop Post-Construction Ordinance Training d. Conduct Training	Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1	Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant	Participate in training as requested by CMSWS.
#31 PC-5	Evaluate Effectiveness of the Post-Construction Controls Program Assessing the effectiveness of the Post-Construction Controls Program at addressing post-construction storm water runoff from new development and redevelopment projects.	a. Annual Report b. Annual Assessment c. Discuss and Facilitate Work Plan Changes d. Implement improvements in the next fiscal year.	Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1	Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
BMP Summary Table for the Pollution Prevention/Good Housekeeping Program					
Pollution Prevention & Good Housekeeping (Permit Ref. Part II Section G; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.					
#32 PP-1	Municipal Training Developing and implementing a training program for employees involved in implementing pollution prevention and good housekeeping practices.	a. Annual Report b. Annual Assessment c. Develop Training Program d. Provide Training Materials to Towns and County	Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1	Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant	Ensure employees receive annual training. Maintain training records.
#33 PP-2	Inspections Conducting inspections of all facilities associated with Phase II municipal operations.	a. Annual Report b. Annual Assessment c. Review and Revise SOPs d. Train CMSWS Staff e. Complete, Prepare, and Submit Inspection	Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1 Annually beginning July 1	Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant Completed/Compliant	Ensure issues identified in inspection reports are addressed in a timely manner.

BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
		Reports			
		f. Develop O&M Plans	Annually beginning July 1	Completed/Compliant	
#34	Municipal Facility Inventory				
PP-5	Developing and updating an inventory of all municipal operations owned by the Phase II jurisdictions/entities and evaluating each facility for the potential to generate polluted storm water runoff in accordance with the Phase II Permit.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Notify CMSWS of all new properties purchased.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review and Revise SOPs	Annually beginning July 1	Completed/Compliant	
		d. Update Municipal Inventory	Annually beginning July 1	Completed/Compliant	
		e. Notify Co-Permittees of Changes	Annually beginning July 1	Completed/Compliant	
#35	Evaluate Effectiveness of the Pollution Prevention/ Good Housekeeping Program				
PP-9	Assessing the effectiveness of the pollution prevention program for municipal operations and updating as necessary, including all written policies and procedures.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
		d. Evaluate Effectiveness of O&M Plan	Annually beginning July 1	Completed/Compliant	
		e. Implement Recommendations for Improvement	Annually beginning July 1	Completed/Compliant	
BMP Summary Table for the TMDL Program					
Total Maximum Daily Load (TMDL) Program (Permit Ref. Section H; Part III Sections A,B,C,D; Part IV Sections B,F): Developing and implementing actions to restore impaired waters to the maximum extent practicable.					
#36	Evaluate Impaired Waters				
IW-1	Reviewing NC Integrated Reports and 303(d) listings to remain current with regard to possible future TMDL requirements that are the responsibility of the Phase II jurisdictions.	a. Annual Report	Annually beginning July 1	Completed/Compliant	None
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Review TMDLs Approved by EPA	Annually beginning July 1	Completed/Compliant	
		d. Review Approved and Draft Versions of N.C. Integrated Report	Annually beginning July 1	Completed/Compliant	
#37	Water Quality Recovery Plans for TMDLs				
IW-2	Developing and implementing appropriate structural and/or non-structural BMPs to reduce nonpoint source pollutant loading to the MEP in the TMDL watersheds.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Implement measures of improvement as requested by CMSWS.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Evaluate Land Use and Development	Annually beginning July 1	Completed/Compliant	
		d. Review BMPs or SCMs to Reduce Nonpoint Source Pollution	Annually beginning July 1	Completed/Compliant	

BMP # & Work Plan Code	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric	E Co-Permittee Responsibilities
		e. Determine Location of Failed Septic Systems	Annually beginning July 1	Completed/Compliant	
		f. Confirm Follow Up Activities Are Conducted	Annually beginning July 1	Completed/Compliant	
		g. Inspect Major Outfalls	Annually beginning July 1	Completed/Compliant	
		h. Conduct Follow Up Activities	Annually beginning July 1	Completed/Compliant	
		i. Analyze Monitoring Data	Annually beginning July 1	Completed/Compliant	
		j. Identify Additional Measures to Achieve TMDL WLA	Annually beginning July 1	Completed/Compliant	
		k. Implement Water Quality Recovery Plans	Annually beginning July 1	Completed/Compliant	
		l. Inspect Privately Owned Lift Stations	Annually beginning July 1	Completed/Compliant	
		m. Assess for Negative Water Quality Impacts	Annually beginning July 1	Completed/Compliant	
#38 IW-3	Assess Effectiveness of Water Quality Recovery Plans for TMDLs Assessing the effectiveness of existing BMPs and identifying and implementing additional measures as necessary to address impaired waters to the MEP.	a. Annual Report	Annually beginning July 1	Completed/Compliant	Provide feedback and suggestions regarding program effectiveness and implement improvements as necessary.
		b. Annual Assessment	Annually beginning July 1	Completed/Compliant	
		c. Discuss and Facilitate Work Plan Changes	Annually beginning July 1	Completed/Compliant	
		d. Implement improvements in the next fiscal year.	Annually beginning July 1	Completed/Compliant	

Appendix B: Example Annual Report Data Table

Example Annual Report Data Table

Provided below is an example of data typically included in annual Program Reports for Mecklenburg County. Data is reported for each Phase II jurisdiction/entity.

1. Quarterly Reports/Statements to Co-Permittees
 - a. Date Issued
2. School Presentations
 - a. # Presentations
 - b. # Attendees
3. Public Presentations Conducted
 - a. # Presentations
 - b. # Attendees
4. Educational Handouts Distributed During Service Requests and Other Inspections
 - a. # Handouts Distributed
5. Events Attended
 - a. # Events
 - b. # Attendees
6. Phase II Public Meetings with SWAC
 - a. # Meetings
 - b. # Attendees
7. Adopt-A-Stream Activities
 - a. # Volunteers
 - b. # Pounds Trash Removed
 - c. # Problems Reported
8. Storm Drain Marking Activities
 - a. # Volunteers
 - b. # Markers Applied
 - c. # Problems Reported
9. Big Spring Clean and Creek Week Activities
 - a. # Events
 - b. # Sites of Big Spring Clean
 - c. # Volunteers
 - d. # Pounds Trash Removed
 - e. # Problems Reported
10. Volunteer Monitoring Activities
 - a. # of Streamside Assessment Volunteers
 - b. # of Streamside Snapshot Volunteers
 - c. # of Streamside Chemical Volunteers
 - d. # Problems Reported
11. Education Campaign (#s Include Phase I)
 - a. # of Facebook Posts
 - b. # of Instagram Posts
 - c. # of X Posts
 - d. # of Impressions for Full Media Campaign
12. Volunteer Recognition Activities (#s Include Phase I)

- a. # of Volunteer Recognition Activities
- 13. Stormwater Inventory
 - a. # Outfalls (all)
 - b. # Major Outfalls (> 36")
- 14. Screening for Non-Stormwater Flows
 - a. # Outfalls
 - b. # Problems Detected
 - c. # Dry Weather Flows Sampled
- 15. Service Requests, Emergency Response, and Notices of Violations
 - a. # Service Requests
 - b. # Emergency Responses
 - c. # Notices of Violation (NOVs) Issued
 - d. # Repeat NOVs Issued
 - e. # of Penalties Issued
 - f. # Illicit Discharge NOVS
 - g. # Illicit Connection NOVs
 - h. # Accidental Discharge NOVs
 - i. # of Improper Storage, Handling or Processing of Materials NOVs
 - j. # of Failure to Comply NOVs
 - k. # of High PAH NOVs
 - l. # of Obstruction NOVs
 - m. # of CMSWS Staff Trained
- 16. Pollution Sources
 - a. # Accidental
 - b. # Algae
 - c. # Aquatic Life/Fish Kill
 - d. # Discharge/Dump
 - e. # Erosion/Sediment
 - f. # Monitoring Follow Up
 - g. # Natural Condition
 - h. # No Incident Identified
 - i. # Other
 - j. # Unknown
 - k. Total #
- 17. Materials Discharged
 - a. # Allowable Discharge
 - b. # Chemical
 - c. # Concrete
 - d. # Cooking Oil/Grease
 - e. # Motor Oil
 - f. # Other
 - g. # Paint
 - h. # Petroleum Fuels
 - i. # Sediment
 - j. # Sewage – Charlotte Water
 - k. # Sewage - Private (commercial)

- l. # Sewage – Septic
 - m. # Trash
 - n. # Unknown
 - o. # Wash Water
 - p. # Waste Water
 - q. # Yard Waste
 - r. Total #
18. Exceedances of NC State Standards and Local Action Levels
 - a. Site Name
 - b. # State Exceedances of Metals, Fecal Coliform, Turbidity
 - c. # Local Action Exceedances for Lab and Field Data, Nox, TP, Temperature, SPC, pH
 - d. # Problems Detected and Identified
 19. Biological Macroinvertebrate and Habitat Assessment Monitoring
 - a. Site Name
 - b. Date
 - c. EPT Taxa Richness
 - d. Total Taxa Richness
 - e. NCBI
 - f. Bioclassification
 - g. # Staff Trained
 20. Biological Fish and Habitat Assessment Monitoring
 - a. Stream
 - b. Site
 - c. Date
 - d. # of Species
 - e. # of Fish
 - f. NCIBI
 - g. Bioclassification
 - h. # Staff Trained
 21. Observation and Exceedances of NC State Standards per Parameter per Site and # of Problems Detected
 - a. Watershed
 - b. Stream
 - c. Site
 - d. Turbidity: # Observations; # Exceedances
 - e. Dissolved O2: # Observations; # Exceedances
 - f. pH: # Observations; # Exceedances
 - g. Specific Conductance: # Observations
 - h. Temperature: # Observations; # Exceedances
 - i. # of Problems Detected
 22. Pollution Prevention Education
 - a. # Trained
 23. Stream Walk Activities and Problems Logged in ARCGIS
 - a. Stream Name(s)
 - b. # Stream Miles Walked

- c. # New Outfalls
- d. # Existing Outfalls Inspected
- e. # Dry Weather Flow Samples Collected
- f. # and Type of Exceedances
- g. # Problems Detected and Corrected
- h. # Buffer Violations
- i. # Channel Problems
- j. # Features Inventoried in ArcGIS
- k. # Trained
- 24. Penalty Reinspections
 - a. # of Penalty Reinspections
 - b. # of Violations Observed
- 25. Field Validated Outfall Data
 - a. # of Inspections
 - b. # of Violations Observed
- 26. Used Oil Inspections
 - a. # of Inspections
 - b. # of Violations Observed
- 27. Erosion Control Inspections
 - a. # of Inspections
 - b. # of NOVs Issued
 - c. # Repeat NOVs Issued
 - d. # Penalties Assessed
 - e. # of Acres Disturbed
 - f. # of New Projects Permitted
- 28. Erosion Control Education
 - a. # of Attendees of CMCSI Training
 - b. # of Educational Materials Distributed
- 29. BMP Inspections and Education
 - a. # of Inspections
 - b. # of NOVs Issued
 - c. # Repeat NOVs Issued
 - d. Penalties Assessed
 - e. # of Acres Disturbed
 - f. # of New Projects Permitted
 - g. # of Educational Notices Distributed
 - h. # of CMSWS Staff Trained
- 30. Types of BMPs Inspected
 - a. # Bioretention
 - b. # Buffer
 - c. # Dry Pond
 - d. # Enhanced Grass Swale
 - e. # Filter Strip
 - f. # Grassed Channel
 - g. # Infiltration Trench
 - h. # Level Spreader

- i. # Open Space
 - j. # Permeable Pavement
 - k. # Sand Filter
 - l. # Underground Detention
 - m. # Underground Sand Filter
 - n. # Stream Restoration
 - o. # Wet Pond
 - p. # Wetland
 - q. Total # 3rd Party
 - r. Total
31. Interpretations of Ordinance Requirements
- a. # of Interpretations
32. Municipal Operations/Co-permittees Employee Training for Pollution Prevention and Good Housekeeping Program
- a. # of Municipal Employees Trained
33. Phase II Municipal Facility Inspection Recommendations and Deficiencies
- a. # Inspections Conducted
 - b. # Stormwater System Recommendations & Deficiencies
 - c. # Erosion Issues Recommendations & Deficiencies
 - d. # Stormwater Control Measures Recommendations & Deficiencies
 - e. # Illicit Discharges/Connections Recommendations & Deficiencies
 - f. # Aboveground Storage Tanks Recommendations & Deficiencies
 - g. # Underground Storage Tanks Recommendations & Deficiencies
 - h. # Outdoor Material Storage Areas Recommendations & Deficiencies
 - i. # Outdoor Processing Areas Recommendations & Deficiencies
 - j. # Loading/Unloading Areas Recommendations & Deficiencies
 - k. # Vehicle/Equipment Areas Recommendations & Deficiencies
 - l. # Oil/Water Separator and/or Pretreatment Recommendations & Deficiencies
 - m. # Waste Storage/Disposal Areas Recommendations & Deficiencies
 - n. # Food Service Areas Recommendations & Deficiencies
 - o. # Indoor Material Storage Areas Recommendations & Deficiencies
 - p. # Indoor Processing Areas Recommendations & Deficiencies
 - q. # Floor Drains Recommendations & Deficiencies
 - r. # Spill Response Equipment Recommendations & Deficiencies
 - s. Total # Facility Recommendations
 - t. Total # Facility Deficiencies
 - u. # Staff Trained
34. New/Unique Phase II Municipal Parcels Identified and Recommended for PP-2 Inspection Schedule
- a. New/Unique Parcels Identified
 - b. Parcels Recommended for PP-2 Inspection Schedule
35. Cost and Estimated Quantity of Reducing Polluted Stormwater Runoff from Municipally Owned Streets, Roads, and Public Parking Lots
- a. Total Amount of Pollutants Removed (pounds)
 - b. Estimated Cost of Pollutants Removed (per pound)
 - c. Under or Within Acceptable Pollutant Removal Range of \$3-\$5 per pound (Y/N)

Appendix C: Post-Construction Policy for Transportation Projects

Post-Construction Policy for Transportation Projects in the Phase II Jurisdictions

Program Purpose and Background

The purpose of the Post-Construction Policy for Transportation Projects within the Phase II jurisdictional areas (including Mecklenburg County and the Towns of Cornelius, Davidson, Huntersville, Matthews, Mint Hill and Pineville) is to ensure that these projects meet all federal, state, and local requirements. Specifically, this policy is written for public transportation projects that involve roadway construction not associated with a subdivision or development. Please note that this policy document does not apply to:

- Roadway projects associated with development – These projects (such as road widening or turn lane addition) are treated as part of the development and the right-of-way area and built-upon area should be included in stormwater calculations for the development.
- Roadway projects constructed by the North Carolina Department of Transportation (NCDOT) - These projects are subject to NCDOT's Post-Construction program; therefore, these projects are not subject to local Post-Construction ordinances.

The North Carolina Division of Water Quality (NCNCDEQ) suggests that regulated public entities use BMPs in the North Carolina Department of Transportation's (NCDOT's) "Best Management Practices Toolbox" developed for linear systems, which has been approved by NCDEQ to meet post-construction requirements for linear roadway systems.

Applicability

Public roadway projects are subject to the applicability criteria of the applicable jurisdiction's Post-Construction ordinance in which the project is located. For post-construction purposes, public roadway projects will be considered commercial/industrial development or redevelopment. The post-construction applicability criteria are found in Section 105 of the Post-Construction ordinances for all Phase II jurisdictions with the exception of the Town of Huntersville, where the applicability criteria are contained within Section 8.17.3 of the ordinance and the Town of Matthews where the applicability criteria are found in Section 154.005. The grandfathering (or exemption) of public projects is consistent with the rights given to private developers under applicability and exceptions provisions of the Post-Construction ordinances. In the event that Post-Construction ordinance requirements apply to a public roadway project, the responsible public entity shall work with the staff of Charlotte Mecklenburg Stormwater Services' Water Quality Program to ensure compliance.

BMPs for Public Linear Roadway Projects

The North Carolina Department of Transportation (NCDOT) developed a list of structural BMPs suitable for linear projects published in NCDOT's Stormwater Best Management Practices Toolbox. NCDOT's BMP Toolbox has been approved for use by NCNCDEQ for linear roadway projects. To the extent practicable, the jurisdictions shall use BMPs from the North Carolina Department of Transportation's "Best Management Practices Toolbox" developed for linear systems, which has been approved by NCNCDEQ to meet post-construction requirements for linear roadway systems. The designs in the Charlotte-Mecklenburg BMP Design Manual are also used where practicable. In addition, when public linear roadway projects use bridges over surface waters, bridge drainage systems that eliminate or minimize direct discharge to surface waters are required. More information on bridge drainage systems can be found in Chapter 9 of NCDOT's BMP Toolbox. A copy of

NCDOT's BMP Toolbox can be found at the following website:
https://connect.ncdot.gov/resources/hydro/HSPDocuments/2014_BMP_Toolbox.pdf.

BMP Maintenance

Perpetual maintenance is required on all public-owned BMPs by the jurisdiction constructing the roadway. Each BMP shall be recorded in the Charlotte-Mecklenburg Stormwater Services – County Water Quality Program BMP database and will be subject to annual compliance inspections and periodic maintenance.

The only exception to this is when roadway projects are constructed to NCDOT standards that are to be turned over for maintenance to NCDOT following construction. These BMPs shall be maintained in accordance with NCDOT requirements and shall not be subject to the local post-construction ordinance maintenance requirements.

Appendix D: Phase II Municipal Facility Inventory Procedures

Phase II Municipal Facility Inventory Standard Operating Procedures (SOPs)

(PP-5)

September 2020

Purpose

The purpose of this document is to describe how Charlotte-Mecklenburg Storm Water Services (CMSWS) will fulfill Section G.2.a. of Permit NCS000395 in that requires the development of an inventory of all the Phase II municipal facilities and operations owned and/or operated by the County, Towns, CPCC and CMS that have significant potential for generating polluted stormwater runoff. This document further describes what actions will be taken by CMSWS to address this pollution potential in compliance with Permit requirements. This is under the section of the Permit entitled Pollution Prevention and Good Housekeeping for Municipal Operations.

Procedure for Evaluation of Facilities

During the first Permit term, the following language was contained in Section G regarding Pollution Prevention and Good Housekeeping for Municipal Operations: “Develop an inventory of all facilities and operations owned and operated by the permittee with the potential for generating polluted stormwater runoff. Specifically inspect the potential sources of polluted runoff, the stormwater controls, and conveyance systems. Evaluate the sources, document deficiencies, plan corrective actions, and document the accomplishment of corrective actions.” CMSWS updated its Stormwater Quality Management Program Plan (Stormwater Plan) effective July 1, 2005 to include procedures to evaluate 20 percent of the municipal operations each year of the 5-year Permit ending June 30, 2010 in order to identify the facilities and operations owned and/or operated by the County, Towns, CPCC and CMS that have significant potential for generating polluted stormwater runoff and are therefore required to comply with this part of the Permit. The program element for this requirement was PP-5. CMSWS used the phased approach described in “A” below to conduct this evaluation. This evaluation was completed by the end of the Permit term on June 30, 2010, resulting in the development of the Tables 26, 27, 28 and 29 of the FY2022 version of the Stormwater Plan.

Mecklenburg County’s Phase II Permit was renewed on November 11, 2011. This new Permit changed Section G from applying to facilities with the “potential for generating polluted stormwater runoff” to applying to facilities with the “significant potential for generating polluted stormwater runoff.” This change resulted in CMSWS changing its evaluation procedures to those described in “B” below. This evaluation was completed at the end of the Permit term on June 30, 2015.

A. FIRST PERMIT TERM

1. Accumulate a listing of all county and town-owned properties in a spreadsheet format.

2. Determine if the properties are located in an urbanizing area (UA). All properties in Mecklenburg County have been deemed to be an urbanizing area by the State of North Carolina.
3. Determine which properties do not contain building improvements (i.e., vacant parcels). Properties containing no building improvements are deemed to have no potential to pollute stormwater and will not likely have a stormwater conveyance system. To conduct this evaluation, CMSWS will:
 - a. Use the attached spreadsheet format to collect data from each jurisdiction including the County (spreadsheet already completed) and each of the Towns, CMS and CPCC. The spreadsheets are located in the following directory: G:\WQxfer\WQ\Phase II Inventory.
 - b. Sort the parcels in the spreadsheet by ascending size and start the evaluation with the smaller parcels first. After sorting, each parcel will be assigned a database number in the first column in the spreadsheet starting with the number one (1) for the smallest parcel.
 - c. Review aerial photographs of the properties on-line through use of Polaris with the “parcel number labels”, “streams”, “SWIM buffer”, “10-ft Contours” and “aerial photography” layers turned on. The parcel will also be highlighted by using the “ID parcel” tool.
 - d. CMSWS staff will print out copies of the map and the ownership information for documentation. The database number for that file will be handwritten on the upper right-hand side of the map and the ownership record stapled behind the map. The hard copies will be filed in a three-ring binder by database number.
 - e. Mark the number of buildings in the appropriate column of the spreadsheet for each parcel.
 - f. Properties with no buildings or a single building are not included in the Phase II process at this time. CMSWS staff will mark the “Applicable” column with “N” and add a comment as to why the property is not applicable to Phase II (i.e. – no building structures).
4. Other parcels containing 2 or more buildings will require further evaluation to determine if applicable to the Phase II process:
 - a. By reviewing the aerial photographs and contours, determine if the property discharges directly into a stream without going through a MS4 system (system maintained by City and County). CMSWS staff can use Mecklenburg County Stormwater Services Interactive Mapping site at <http://www.704336rain.com/disclaimer.html> to view storm drain inlets and piping to assist in this evaluation. If the storm drain system meets these criteria, Phase II is applicable to this property. CMSWS staff will mark the “Applicable” column as “Y” and add a comment as to why the property is applicable to Phase II (i.e. storm drainage system discharges directly to a stream). If it is unclear the property drains directly to the surface water, do not mark anything on the spreadsheet.
 - b. Field evaluations will be required for all remaining properties without a “Y” or an “N” in the “Applicable” column. Field evaluations will be conducted in the following manner:

- i. The **Phase II Parcel Evaluation Sheet** will be used to document applicability. Each step of the flow chart will be circled as evaluated as well as notes related to applicability or non-applicability.
- ii. The operations or activities that have the potential to pollute stormwater will be noted as well. Photographs will be taken if staff is unclear of applicability.
- iii. The **Phase II Parcel Evaluation Sheet** will be stapled behind the ownership records page and re-filed in the appropriate three-ring binder.
- iv. CMSWS staff will update the spreadsheet with a “Y” or “N” in the “Applicability” column as appropriate.

B. SECOND PERMIT TERM

CMSWS changed its evaluation procedures for the second Permit term to include facilities with the “significant potential for generating polluted stormwater runoff” in the Pollution Prevention and Good Housekeeping Program described in Section II, Section G.2.a of the Permit. These new procedures are less inclusive than those applied during the first Permit term; therefore, facilities and operations identified for coverage prior to 2011 were left in the program thus going beyond minimum Permit requirements. For the purposes of this Permit, “significant potential for generating polluted stormwater runoff” shall mean that the facility meets both of the following criteria:

1. Exposure of significant materials based on the “Exposure Checklist” included in numbers 12 through 14 of NCDEQ’s “No Exposure Certification Form” (NCGNE0000) (see attached Form for Evaluating Exposure of Significant Materials), and
2. No written procedures or controls in place to prevent pollution.

Facilities that meet the above criteria are added to the Pollution Prevention/Good Housekeeping Program and the co-permittees that own and/or operate these facilities are required to implement long-term pollution prevention measures to reduce the potential for polluted stormwater runoff, including (but not limited to) the following:

1. Development of a full Stormwater Pollution Prevention Plan.
2. Development of written Standard Operating Procedures (SOPs) for activities on-site that have a significant potential to pollute stormwater.
3. Completion of required inspections.
4. Completion of required pollution prevention training for on-site staff.

Based upon guidance documents provided by NCDEQ in the BIMS database, jurisdictions will review several types of municipal operations in their evaluation. Below is a listing of these municipal operation types along with a summary of how each has currently been addressed or will be addressed by CMSWS.

1. Transfer stations – The County operates a total of five (5) solid waste recycling centers, which are currently included in the Pollution Prevention and Good Housekeeping Program. One of these, the Old Compost Central, is no longer open to the public and only receives materials from City operations. It is planned to close in 2023.
2. Fleet maintenance – All fleet maintenance that is performed by the co-permittees is conducted at the facilities that are currently inspected under the Pollution Prevention and

Good Housekeeping Program. Fleet maintenance not performed at currently inspected sites is contracted to outside vendors. This was verified via emails to co-permittee staff during the week of 9/28/2020 and correspondence can be found on the LAN as follows: Z:\20-21 City Works Server Attachments\PP-5\Emails on vehicle maintenance from Co permittees.

3. Airports – None of the co-permittees operate airports.
4. Animal shelters – The Town of Cornelius is the only Mecklenburg County Phase II jurisdiction that operates an animal shelter. This facility was evaluated in FY2021 utilizing the Facility Exposure Form and was determined not to have a significant potential to pollute. Appropriate measures will be implemented to minimize storm water pollution issues based on this evaluation.
5. Wastewater Treatment Plants - None of the co-permittees operate wastewater treatment plants.
6. Water plants – None of the co-permittees operate water treatment plants.
7. Construction debris sites – Mecklenburg County operates the Foxhole Landfill, which accepts construction and demolition waste. This facility is currently inspected under the Pollution Prevention and Good Housekeeping Program.
8. Transit authority - None of the co-permittees operate public transit systems.
9. Public works operations – Public Works facilities have been evaluated and are currently included in the Pollution Prevention and Good Housekeeping Program.
10. Prisons – None of the co-permittees operate prisons; however, Mecklenburg County does operate two jails (Mecklenburg County Jail Central and Mecklenburg County Jail North), which were evaluated in FY14. It was determined that they do not have a significant potential for stormwater pollution and will not be included in the Pollution Prevention and Good Housekeeping Program. The contact for these jails is Captain Mike Greer (704-336-8544).
11. Emergency service facilities – Emergency service facilities have been evaluated. Mecklenburg County operates the Mecklenburg County Medic facility, which is currently included in the Pollution Prevention and Good Housekeeping Program. The Towns’ fire departments operate emergency services along with the individual fire stations. All fire stations owned and operated by the Towns, as well as volunteer fire departments that operate within a co-permittee jurisdiction, were evaluated in FY2020, and were determined not to have a significant potential to pollute. Therefore, these facilities will not be included in the Pollution Prevention and Good Housekeeping Program.
12. Fire stations – All of the co-permittees operate one or more fire stations. All fire stations operated in the Towns are owned by the Towns except one of the four (4) stations in Huntersville and both stations in Mint Hill, which are owned by independent volunteer fire departments (VFDs). All fire stations located in the Towns, as well as several VFD owned and operated fire stations in the County, were evaluated in FY2020 utilizing the Facility Exposure form and were determined not to have a significant potential to pollute. Therefore, these facilities will not be included in the Pollution Prevention and Good Housekeeping Program.
13. Landfills – Mecklenburg County operates one active landfill (Foxhole) and one inactive landfill (Harrisburg Rd.). The inactive site is now the location of the CT Meyers golf course where Mecklenburg County Solid Waste still performs ground water monitoring.

The Foxhole landfill and the CT Meyers golf course are included in the Pollution Prevention and Good Housekeeping Program.

14. Schools – CMS and CPCC school facilities have been evaluated and are included in the Pollution Prevention and Good Housekeeping Program. Newly added CMS and CPCC schools are identified through the municipal inventory process. All new CMS schools are added to the Pollution Prevention and Good Housekeeping Program for CMS. New CMS schools are inspected as they are added and then are inspected on a rotational basis with all other schools going forward. All new CPCC school facilities to date have been additions to existing campuses which are already included in the Pollution Prevention and Good Housekeeping Program.
15. Parks – On 9/30/2020, the Park and Recreation Director with each co-permittee was contacted and informed that CMSWS wanted to ensure that all park properties with a potential to pollute have been evaluated. They were asked if their parks included facilities with vehicle or equipment maintenance or storage and/or chemical or fuel storage. Mint Hill, Matthews, Davidson, and Huntersville stated that they did not have any such facilities. Cornelius stated that most of their larger parks have a small fuel cabinet where a couple gallons of gas or diesel fuel for equipment and gators is kept. They also keep gators at several parks but do not service vehicles in-house. Based on this information, these facilities do not rise to the level of a significant potential to pollute and will not be included in the Pollution Prevention and Good Housekeeping Program. Pineville reported that they have a Park Maintenance Facility that has vehicle/equipment storage and maintenance as well a chemical storage and diesel fuel tank. This facility was evaluated in FY2021 utilizing the Facility Exposure Form and was determined not to have a significant potential to pollute. Appropriate measures will be implemented to minimize storm water pollution issues based on this evaluation. All email correspondence with co-permittee staff can be found on the LAN as follows: Z:\20-21 City Works Server Attachments\PP-5\Park and Rec emails on facilities. Contact information for Parks:
 - County Parks – Peter Cook, Deputy Director (980-314-1041) Cornelius – John DeKemper, Asst. Director (704-892-6031)
 - Davidson – Jesse Bouk (704-892-7591)
 - Huntersville – Michael Jaycocks, Director (704-766-2220)
 - Matthews – Corey King, Director (704-708-1263)
 - Mint Hill – Steve Frye, Director (704-545-9726)
 - Pineville – Kristy Detwiler, Director (704-889-2291)
16. Police Departments – The six (6) Towns operate Police Departments, but the County does not. The police stations include offices with no significant potential to pollute; therefore, they are not included in the Pollution Prevention and Good Housekeeping Program.
17. Waste recycling centers – The County operates a total of five (5) solid waste recycling centers, which are currently included in the Pollution Prevention and Good Housekeeping Program.
18. Vehicle maintenance operations – None of the co-permittees operate vehicle maintenance facilities as dedicated municipal operations. All fleet maintenance that is performed by the co-permittees is conducted at their municipal facilities that are currently inspected under the Pollution Prevention and Good Housekeeping Program. Fleet maintenance that

is not performed by the co-permittee is contracted to outside vendors. This was verified via emails to co-permittee staff during the week of 9/28/2020 and correspondence can be found on the LAN as follows: Z:\20-21 City Works Server Attachments\PP-5\Emails on vehicle maintenance from Co permittees

19. Vehicle wash operations - None of the co-permittees operate Vehicle Wash Operation facilities as dedicated municipal operations. Three (3) Phase II municipal facilities include areas where they wash vehicles and/or equipment as part of their standard operations, including the Towns of Cornelius, Matthews, and Huntersville. These operations are inspected annually as part of the inspection of the municipal facility under the Pollution Prevention and Good Housekeeping Program.
20. Pump stations or lift stations - None of the co-permittees operate Pump Station or Lift Station facilities as dedicated municipal operations.

Co-permittees purchase, and in some case sell, properties necessitating that the inventory be updated on an annual basis. The process for updating the inventory is described below.

1. Prior to January 31st of every year, staff with CMSWS will use the Mecklenburg County Open Mapping system to obtain an updated inventory of all properties that are owned by the co-permittees, including the County, six (6) Towns, CPCC and CMS.
2. Prior to March 31st of every year, staff will complete a comparison of the updated inventory to the inventory on file from the previous fiscal year. The inventory will be updated with all new co-permittee properties.
3. Prior to May 31st of every year, staff will evaluate the new properties added to the inventory to determine if the properties have a significant potential to pollute as defined above. This process is as follows:
 - a. The most current aerial imagery available will be used to determine if no buildings are located on the property in which case the property will be identified as not having a significant potential to pollute and will not be included in the Pollution Prevention and Good Housekeeping Program.
 - b. The inventory will be updated to indicate that the property was not included in the Program by placing an “N” in the column entitled “Significant Potential to Pollute” and a “N” in the column entitled “Pollution Prevented or Eliminated.” A comment as to why (i.e. – no building on property) will be added to the inventory. An Activity Report will be completed in Cityworks to document the identification process for properties with no significant potential to pollute. Staff will email their supervisor regarding completion of this evaluation and indicate the Activity Report number.
 - c. Properties with one or more buildings (excluding single family homes) will be field evaluated and the Form for “Evaluating Exposure of Significant Materials” (see Attachment 2) will be completed. The form is divided into three (3) sections, including Exposure to Precipitation, Above Ground Storage Tanks, and Secondary Containment. If the answer is “Yes” to any of the questions under Exposure to Precipitation or “No” to any of the questions under Above Ground Storage Tanks and Secondary Containment, then the facility has a significant potential to pollute unless:
 - i. Written procedures or controls are in place to prevent pollution; or
 - ii. The source(s) of pollution can be permanently eliminated.

If either of these two (2) conditions for exclusion from having a significant potential to pollute currently exist or can be developed, then staff will select the appropriate “Yes” or “No” box on the form and indicate under “Comments” at the end of each section the appropriate exclusion option and whether it currently exists or needs to be developed. If no exclusion option exists, then the appropriate box is selected, and no comment provided.

- d. If the answer is “No” to all the questions under Exposure to Precipitation and “Yes” to all the questions under Above Ground Storage Tanks and Secondary Containment, then the facility does not have a significant potential to pollute. However, there may be pollution sources that are not listed on the form, such as vehicle washing outside or a leaking drum. In such cases, staff will note this under “General Comments” at the bottom of the form. In all such situations, staff must implement immediate actions to remove the pollution source, including issuing a Notice of Violation and/or requiring that SOPs be implemented to eliminate/control the source.
- e. Staff will complete an Activity Report in Cityworks to document the field evaluation and the Form will be attached. Staff will indicate in the Activity Report whether the property has a significant potential to pollute and recommend a course of action. Staff will submit the Activity Report documenting the completion of the field evaluation to their supervisor for review and follow up.
- f. The supervisor will review the Activity Report and discuss with staff as necessary. The supervisor will decide the appropriate course of action and the Activity Report will include a description of that action and document when it is completed. For example, if it is decided that there is no significant potential to pollute, the lead staff will explain this in the Activity Report and update the inventory by placing an “N” in the column entitled “Significant Potential to Pollute” and a “N” in the column entitled “Pollution Prevented or Eliminated.” The Activity Report number will be indicated in the inventory and then closed. No further action is required.
- g. If it is decided that there is a significant potential to pollute, but that one of the two (2) exclusion options described above can be implemented, then the supervisor will assign this work to staff and follow up to ensure completion at which point the Activity Report will be updated with a description of the actions taken and the inventory updated by placing a “Y” in the column entitled “Significant Potential to Pollute” and a “Y” in the column entitled “Pollution Prevented or Eliminated.” A brief description of the actions completed will be provided in the comment column of the inventory. The Activity Report number will be indicated in the inventory and then closed. No further action is required.
- h. If it is decided that there is a significant potential to pollute and the two (2) exclusion options cannot be implemented, then the supervisor will explain this in the Activity Report and update the inventory by placing a “Y” in the column entitled “Significant Potential to Pollute” and a “N” in the column entitled “Pollution Prevented or Eliminated.” A comment will also be added to the inventory explaining why. The Activity Report number will be indicated in the inventory and then closed. The facility will be added to the Pollution Prevention

- and Good Housekeeping Program and the four (4) long-term pollution prevention measures will be implemented as described in this document.
- i. If it is decided that there is no significant potential to pollute but pollution sources are present at the facility that are not listed on the form, then the supervisor will ensure that staff complete the necessary follow up actions to eliminate the source(s). The Activity Report will be updated with a description of the actions taken and the inventory updated by placing a “N” in the column entitled “Significant Potential to Pollute” and a “Y” in the column entitled “Pollution Prevented or Eliminated.” A brief description of the actions completed will be provided in the comment column of the inventory. The Activity Report number will be indicated in the inventory and then closed. No further action is required.
 - j. In some situations, the supervisor may decide that even though a significant potential to pollute does not exist there is a potential to cause negative water quality impacts and sources cannot be effectively eliminated or controlled. In such cases, the supervisor may elect to implement one (1) or more of the four (4) long-term pollution prevention measures described in this document. A brief description of the actions to be undertaken will be provided in the comment column of the inventory. The Activity Report will be updated with a description of the actions taken and the inventory updated by placing a “N” in the column entitled “Significant Potential to Pollute” and a “Y” in the column entitled “Pollution Prevented or Eliminated.” A brief description of the actions completed will be provided in the comment column of the inventory. The Activity Report number will be indicated in the inventory and then closed. No further action is required.
4. Prior to June 30th of every year, staff will contact all co-permittees either by email or letter providing a list of all their facilities and/or operations that have been determined to have a significant potential to pollute and are therefore subject to the Pollution Prevention and Good Housekeeping Program. Co-permittees will be asked to respond back with any additional facilities and/or operations that should be added to the list or indicate that the list is complete. The supervisor may assign field evaluations or other follow up actions as necessary based on these responses to ensure that the inventory is updated as necessary. All the above actions will be documented in an Activity Report in Cityworks with all correspondences attached. The end result will be the completion of the updated inventory prior to June 30th of every year that has been verified in writing by each co-permittee.
 5. The inventory must be completed by June 30th of every year.
 6. If follow up actions are deemed necessary for future fiscal years, the supervisor will be responsible for incorporating these actions into annual Work Plans.
 7. The supervisor will work with the Program Manager to update the Stormwater Plan to include new properties into the Pollution Prevention and Good Housekeeping Program.

Phase II Municipal Facility Inventory (PP-5)
CMS, CPCC, County or Town of XXXX

PID	Physical Address	Property Use	No. of Buildings	Total Acres	Date Evaluated	Staff Performing Evaluation	Significant Potential to Pollute (Y/N)	Pollution Prevented or Eliminated (Y/N)	Activity Report #	Comment / Justification

Form for Evaluating Exposure of Significant Materials

Facility Name (PID):			Facility DB#:
Inspector:		Date:	Town:
NA	Yes	No	<p><u>Exposure to Precipitation:</u> Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either “Yes” or “No.”) If you answer “Yes” to any of these items, the facility is determined to have a significant potential for generating polluted stormwater runoff and is to be incorporated into CMSWS’s Pollution Prevention and Good Housekeeping Program unless written procedures or controls are in place to prevent pollution.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Using, storing, or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials or residuals on the ground or in stormwater inlets from spills/leaks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials or products from past industrial activity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Material handling equipment (except adequately maintained vehicles)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials or products during loading/unloading or transporting activities
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to stormwater does not result in the discharge of pollutants)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials or products handled/stored on roads or railways owned or maintained by the discharger
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Waste material (except waste in covered, non-leaking containers [e.g., dumpsters])
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Application or disposal of process wastewater (unless otherwise permitted)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater outflow
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Empty containers that previously contained materials that are not properly stored (i.e., not closed and stored upside down to prevent precipitation accumulation)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	For any exterior ASTs, as well as drums, barrels, tanks, and similar containers stored outside, has the facility had any releases in the past three (3) years?
			Comments:
NA	Yes	No	Above Ground Storage Tanks (ASTs): If you answer “No” to

			any of the following items, the facility is determined to have a significant potential for generating polluted stormwater runoff and is to be incorporated into CMSWS’s Pollution Prevention and Good Housekeeping Program unless written procedures or controls are in place to prevent pollution
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are exterior ASTs and piping free of rust, damaged or weathered coating, pits, or deterioration, or evidence of leaks?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is secondary containment provided for all exterior ASTs? If so, is it free of any cracks, holes, or evidence of leaks, and are drain valves maintained locked shut?
			Comments:
NA	Yes	No	<u>Secondary Containment:</u> If you answer “No” to any of the following items, the facility is determined to have a significant potential for generating polluted stormwater runoff and is to be incorporated into CMSWS’s Pollution Prevention and Good Housekeeping Program unless written procedures or controls are in place to prevent pollution.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is secondary containment provided for all single above ground storage containers (including drums, barrels, etc.) with a capacity of more than 660-gallons?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is secondary containment provided for above ground storage containers stored in close proximity to each other with a combined capacity of more than 1,320-gallons?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is secondary containment provided for Title III Section 313 Superfund Amendments and Reauthorization Act (SARA) <u>water priority chemicals</u> *?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is secondary containment provided for <u>hazardous substances</u> ** designated in 40 CFR §116?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are release valves on all secondary containment structures locked in the closed position?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is accumulated water within an open secondary containment berm inspected prior to release (using a standard form)?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is water that is contaminated disposed of properly, in accordance with a SOP?
			Comments:

General Comment:

Inspector: _____

Inspector Signature: _____

Appendix E: Stormwater Inspection Checklist for Municipal Facilities



Facility Inspection

StormWater.CharMeck.org

Facility Name:	Inspection # :
Contact:	Permit #:
Inspector:	Receiving Stream:
Inspection Date: Entry Time: Exit Time:	SIC #:

SUMMARY

Facility Description:

File Review/History:

Inspection Summary:

INSPECTION DETAILS

Site Inspection	Deficiency	Comments
Stormwater system (catch basins, inlets, outfalls, etc.)		
Erosion issues		
Structural stormwater control measures (SCMs)		
Illicit discharges/connections		
Aboveground storage tank(s) (ASTs) and any associated venting and/or dispenser(s) – list tank size(s) and contents		
Underground storage tank(s) (USTs) and any associated fill port area(s) and dispenser(s) – list tank size(s) and contents		



To report pollution or drainage problems call: 311
<http://stormwater.charmeck.org>



INSPECTION DETAILS

Site Inspection	Deficiency	Comments
Outdoor material storage area(s)		
Outdoor processing area(s)		
Loading/unloading area(s)		
Vehicle/equipment area(s) - fueling, maintenance, washing, storage, etc.		
Oil/water separator and/or pretreatment		
Waste storage/disposal area(s) - open tops, waste containers, scrap metal bins, etc.		
Food service area(s)		
Indoor material storage area(s)		
Indoor processing area(s)		
Floor drains:		
Spill response equipment		

SWPPP Section	Observed	Comments
Does the facility have a Stormwater Pollution Prevention Plan (SWPPP)?		
Reviewed and updated annually		
Responsible party		
General location (USGS) map		
Detailed site map		
Narrative description of industrial processes		
Feasibility study		
Evaluation of stormwater outfalls (non-stormwater discharge evaluation)		
Stormwater best management practice (BMP) summary		



10/9/2023 2:28:10PM

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INSPECTION DETAILS		
SWPPP Section	Observed	Comments
Secondary containment plan (all necessary secondary containment provided and documented)		
Records on every release from a secondary containment system (for the last 5 years)		
Spill prevention and response procedures (SPRP)		
List of significant spills or leaks (for the last 3 years)		
Solvent management plan (SMP)		
Preventative maintenance and good housekeeping program (PMGHP)		
Facility inspections conducted as required		
Employee training (provided and documented)		
Qualitative/Analytical Monitoring	Observed	Comments
Qualitative monitoring conducted as required		
Analytical monitoring conducted as required		
Analytical monitoring for onsite vehicle and equipment maintenance as required		
Permit and Outfalls	Observed	Comments
Copy of permit and certificate of coverage onsite		
All outfalls observed		
Number of Outfalls Observed		
Representative outfall status documented by DEMLR		
Annual no-exposure self re-certification documented		
Phase II Permit Requirements	Observed	Comments
Is the permittee properly disposing of wastes removed from the streets, parking lots and the MS4 and documenting the quantity (lbs., cubic yards)?		
Were any public transportation (road way) projects constructed within the last year?		
Is the permittee implementing BMPs (and maintaining records) to reduce polluted stormwater runoff from the municipally owned streets, roads, and public parking lots?		



CHARLOTTE

10/9/2023, 2:28:10PM

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INSPECTION DETAILS

Phase II Permit Requirements	Observed	Comments
Is the permittee implementing BMPs (and maintaining records) to reduce polluted stormwater runoff from the municipally owned or maintained stormwater catch basins and conveyance systems?		
Did the Co-Permittee provide pesticide license numbers (indicate license #) for all employees and contractors performing application activities and was license verified on the NC Dept. of Agriculture website (indicate Expiration date)?		
Does the permittee document areas treated with pesticides/herbicides for comparison to annual thresholds?		
Did permittee comply with pesticide limitations specific to the Goose Creek Watershed?		
Is the permittee implementing BMPs to reduce polluted storm water runoff from vehicle and equipment cleaning areas?		



To report pollution or drainage problems call: 311
<http://stormwater.charmeck.org>



Appendix F: Co-Permittee Responsibilities for Phase II Permit Compliance

Co-Permittee Responsibilities for Compliance with Phase Permit Requirements **February 24, 2021**

Provided below is a list of those activities that each co-permittee must complete to comply with Permit requirements working in cooperation with Charlotte-Mecklenburg Storm Water Services (CMSWS). According to the terms of the Permit, each co-permittee is responsible for compliance within their respective jurisdiction.

1. Work with CMSWS to ensure an effective public outreach regarding stormwater quality by making educational materials available in newsletters and/or other regular communications by the co-permittee and by maintaining brochures in a location available to the public as requested by CMSWS. Contact CMSWS if new educational materials are needed.
2. Maintain a link from the co-permittee web site to the CMSWS website.
3. Assist as requested with volunteer programs, including working with CMSWS to maximize volunteer participation, schedule events, collect trash following events, etc.
4. Receive and respond as necessary to reported problems with the storm sewer system within the co-permittee's jurisdiction.
5. Work with CMSWS to update and adopt ordinances required for Permit compliance as requested.
6. Notify CMSWS of any actions necessary to improve the effectiveness of the Phase II Permit compliance program.
7. Ensure compliance with erosion and sediment control requirements at co-permittee construction sites.
8. Ensure that all co-permittee projects comply with post-construction ordinance requirements, including transportation projects. Guidance for ensuring compliance by transportation projects is provided at the following link:
<http://charlottenc.gov/StormWater/Regulations/Documents/PostConstructionPolicyforPublicTransportationProjects.pdf>.
9. Maintain and implement an Operation and Maintenance (O&M) program for municipally-owned or maintained structural stormwater controls installed for compliance with the post-construction ordinances adopted by Mecklenburg County and the Towns of Cornelius, Davidson, Huntersville, Matthews, Mint Hill, and Pineville on June 30, 2007 and by the City of Charlotte on July 1, 2008. At a minimum, the O&M program shall specify that annual inspections are to be performed and the routine maintenance that is to be performed.
10. CMSWS performs the required annual inspections of these stormwater control measures and provides a written report to the co-permittee who is responsible for ensuring that all deficiencies indicated in the report are properly resolved. The co-permittee is to submit documentation of completion to CMSWS.
11. Ensure that co-permittee employees receive the training provided by CMSWS regarding proper pollution prevention and good housekeeping practices at municipal facilities as well as training on recognizing and reporting illicit discharges and improper waste disposal. Keep records of employee training for a minimum of five (5) years.
12. CMSWS performs the required annual inspections of the co-permittee facilities identified as having a significant potential to pollute and provides a written report to the co-

permittee who is responsible for ensuring that all deficiencies indicated in the report are properly resolved. The co-permittee is to submit documentation of completion to CMSWS.

13. Implement the co-permittee's Storm Water Pollution Prevention Plan, including (but not limited to):
 - a. Perform semi-annual inspections of material storage areas.
 - b. Perform annual outfall inspections during dry conditions.
 - c. Keep records of inspections for a minimum of five (5) years.
 - d. Follow procedures when spills occur.
 - e. Keep records of spills for a minimum of five (5) years.
14. Inform CMSWS if properties are purchased or sold so that an inventory of the co-permittee's municipal facilities subject to Permit requirements can be maintained.
15. Implement the following to reduce polluted storm water runoff from the municipally owned streets and public parking lots:
 - a. Continue enforcement of existing litter ordinances.
 - b. Continue existing solid waste collection and recycling services.
 - c. Continue public education to encourage the proper disposal and recycling of waste.
 - d. Sweep municipally owned streets and parking lots in identified problem areas. These problem areas are identified by staff based on accumulations of leaves, trash, debris, blockages, flooding, etc. Parking lot cleaning may also be performed after special events and festivals where additional trash and other pollutants are expected.
 - e. Continue providing trash receptacles at public parking lots and performing scheduled trash pick-up.
 - f. Maintain written records documenting the amount of trash, sediment, and other pollutants removed as well as the estimated cost of disposal for a minimum of five (5) years. Make these reports available to CMSWS by July 31st of every year.
 - g. Ensure that waste collected from street sweeping and parking lot cleaning is properly disposed of.
16. Implement the following to reduce polluted storm water runoff from the municipally owned storm sewer systems:
 - a. Perform catch basin and conveyance system cleaning as well as make repairs to the storm sewer system in identified problem areas. These problem areas are identified by staff based on accumulations of leaves, trash, debris, blockages, flooding, etc.
 - b. If catch basin and conveyance system cleaning reveals the presence of pollutants, such as oil, paint, chemicals, etc., notify CMSWS immediately for the initiation of follow up actions aimed at identifying and elimination pollution sources.
 - c. Maintain written records documenting the amount of trash, sediment, and other pollutants removed as well as the estimated cost of disposal for a minimum of five (5) years. Make these reports available to CMSWS by July 31st of every year.
 - d. Ensure that waste collected from storm sewer system cleaning is properly disposed of.
 - e. Receive and respond to information provided by CMSWS regarding potential maintenance issues.
 - f. Receive and respond to service requests from the public regarding storm drain system maintenance issues.

17. Implement the following to ensure that municipal employees and contractors are properly trained and all Permits, certifications, and other compliance measures for pesticide applicators are followed:
 - a. Verify that employees and/or contractors that apply pesticides are properly licensed and maintain copies of these licenses (update at least annually and within 30 days of hire) and/or license numbers.
 - b. Comply with pesticide application thresholds described in Table 1 below. Each co-permittee is responsible for maintaining a list of all locations treated with the pesticides listed in this table and documenting the date and quantity of material applied. To obtain guidance for compliance with Permit requirements, notify Rusty Rozzelle with CMSWS at 980-314-3217 or at rusty.rozzelle@mecklenburgcountync.gov when either or both of the following conditions are met when applying the pesticides listed in Table 1:
 - Co-permittee believes a treatment event may reasonably exceed an annual applicable threshold quantity as described in the table below.
 - Co-permittees discharges pesticide in response to a declared pest emergency situation.
 - c. Comply with pesticide application limitations in the Goose Creek Watershed specified in Table 2 below.
18. Implement the following to reduce polluted storm water runoff from vehicle and equipment cleaning areas:
 - a. Vehicle washing areas should drain to a permitted sanitary sewer system, if available.
 - b. If no sanitary sewer connection is available, the facility should either wash vehicles at a car wash facility or designate an on-site vehicle washing area that is not directly connected to a storm drain system, such as grassed areas, gravel parking areas, or a water quality BMP. This washing area must be designated on the Site Plan Map within the SWPPP. The following restrictions apply to these designated washing areas not connected to the sanitary sewer system:
 - i. Only biodegradable detergents can be used with a pH between 4.0 and 9.0.
 - ii. Solvents cannot be used to clean vehicles in this area.
 - iii. Only vehicle exteriors should be washed. Engines or oily equipment / parts cannot be washed in these areas.
 - iv. Water usage should be minimized to the extent practicable by using a pressure washer or low flow nozzle.

Table 1: Pesticide Treatment Thresholds

Pesticide Use	Annual Threshold
Mosquitoes and Other Flying Insect Pests	15,000 acres of treatment area (adulticide applications only) ⁽¹⁾
Aquatic Weed and Algae Control - In Water	1,000 acres of treatment area
Aquatic Weed and Algae Control - At Water's Edge	200 linear miles of treatment area at water's edge ⁽²⁾
Aquatic Nuisance Animal Control - In	200 acres of treatment area

Pesticide Use	Annual Threshold
Water	
Aquatic Nuisance Animal Control - At Water's Edge	200 linear miles of treatment area at water's edge ⁽²⁾
Forest Canopy Pest Control	10,000 acres of treatment area
Intrusive Vegetation Control	500 linear miles ⁽³⁾

- (1) Multiple applications to the same area are added together only for mosquito and other flying insect pest control.
- (2) Applications that occur at the water's edge in a ditch or canal are counted only once when one or both sides are treated.
- (3) Applications to both sides of a road are added together for the total miles.

Table 2: Pesticide Application Limitations in the Goose Creek Watershed

Pesticide Active Ingredient	Code/Limitations
Azinphos-methyl	(2)
Benomyl	(1)
Captan	(1)
Carbaryl	(2)
Carbofuran	(1)
Chlorpyrifos	(3)
Diazinon	(2)
Dicofol	(2)
Dimethoate	(2)
Endosulfan	(2)
Esfenvalerate	(1)
Ethion	(2)
Ethoprop	(1)
Fenamiphos	(2)
Fonofos	(2)
Malathion	(2)
Methidathion	(2)
Methomyl	(1)
Mevinphos	(2)
Naled	(1)
Parathion (ethyl)	(2)
Pendimethalin	(2)
Permethrin	(1)
Phorate	(1)
Phosmet	(1)
Phosphamidon	(1)

Pesticide Active Ingredient	Code/Limitations
Propiconazole	(1)
Pyrethrins	(2)
Terbufos	(2)
Trichlorfon	(2)

Code/Limitations:

- (1) This pesticide shall not be applied within 20 yards from the edge of water for ground applications and within 100 yards for aerial applications;
- (2) This pesticide shall not be applied within 40 yards from the edge of water for ground applications and within 200 yards for aerial applications;
- (3) This pesticide shall not be applied within 100 yards from the edge of water for ground applications and within one-fourth mile for aerial applications.