South Carolina NPDES Permit # SCR030000
Small Municipal Separate Storm Sewer System (SMS4)
Annual Report

Permit Coverage #SCR030000 **Reporting Period:** 1/1/2024 – 12/31/2024

Permittee: Georgetown County

Program Name: Stormwater

Reporting for more than one Program: ☐
(Prepare copies of this page for each Program and attach to this report.)

Responsible Official Information
(Enter the information of the principal executive officer, mayor, or other duly authorized employee/elected official.)

Name: Angela Christian **Title:** County Administrator

Telephone Number: (843) 545-3006 **E-mail Address:** achristian@gtcounty.org

Mailing Address: 716 Prince St, Georgetown, SC 29440

Program Manager Information
(Enter the information of the person who is responsible for daily implementation of the program.)

Name: Rodney A Butler **Title:** Stormwater MS4/Watershed Specialist

Telephone Number: (843) 545-3265 **E-mail Address:** rbutler@gtcounty.org

Mailing Address: 129 Screven Street, Georgetown, SC 29440

Certification
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Responsible Official Signature: Angela D Christian **Date:** FEB 14 2025
(The responsible official may authorize another person or person occupying a specific position to certify this report if this authorization is made in writing and submitted to the Department. Please attach a copy of the authorization with this report, if applicable)

Submit the annual report to:
South Carolina Department Environmental Services
Bureau of Water, Water Pollution Compliance Section
2600 Bull Street
Columbia, SC 29201-1708
Questions? Contact (803) 898-4300

This page intentionally left blank.

YEAR 11 NPDES ANNUAL REPORT

Enter Permit Years

Name of Permittee:	Georgetown County

ENTER NAME OF MS4 PERMITTEE ABOVE

Annual Report Information

The following information is applicable to the above-referenced permittee:

§1.4 OBTAINING AUTHORITY

Sec.	Item	Yes	No	NA
1.4.8	Have there been any areas annexed into your MS4 area after you received coverage under this general permit? ANSWER / COMMENT No areas have been annexed into Georgetown County's MS4 area since receiving coverage under this general permit.	☐	☒	☐
1.4.8 & 4.5.4.1	If yes, has your SWMP been updated to include these areas and a schedule for BMP implementation in these areas? ANSWER / COMMENT No areas have been annexed into Georgetown County's MS4 area since receiving coverage under this general permit	☐	☐	☒

§3.1 DETERMINATION OF RECEIVING WATER CONDITIONS AND IMPACTS

Sec.	Item	Yes	No	NA
3.1.1.1	Refer to the most recent CWA §303(d) list approved by EPA to determine WQMS impairment status. Have there been any impaired stations ***added*** to the 303(d) list that your SMS4 discharges to? ANSWER / COMMENT The latest version of the list is the 2022 303(d) list draft and was verified and 2 impaired stations have been added to which Georgetown County's MS4 contributes RT 15105 and RT18169 have been added.	☒	☐	☐
3.1.1.1	Refer to the most recent CWA §303(d) list approved by EPA to determine WQMS impairment status. Have there been any impaired stations ***removed*** from the 303(d) list that your SMS4 discharges to? ANSWER / COMMENT The latest version of the list is the 2022 303(d) list draft was verified and no impaired stations have been removed to which Georgetown County's MS4 contributes.	☐	☒	☐
3.1.1.1	If there have been impaired stations added to or removed from the 303(d) list that your SMS4 discharges to, identify the pollutant(s) of concern (POC) and update POCs in the SWMP. ANSWER / COMMENT Two(2) impaired stations have been added to which Georgetown County's MS4 contributes, adding the POCs of Enterococci and Dissolved Oxygen.	☐	☐	☒
3.1.1.2	Have any new TMDLs been approved that your SMS4 discharges to? ANSWER / COMMENT No new TMDLs have been approved to which the Georgetown County MS4 area contributes.	☐	☒	☐

§3.2 TMDL MONITORING AND ASSESSMENT

Sec.	Item	Yes	No	NA
3.2.1.2.1.d	Does your SMS4 discharge to TMDL waters? ANSWER / COMMENT Georgetown County's MS4 area drains to Murrells Inlet Estuary, which has a TMDL for Fecal Coliform with an effective date of July 9, 2005. Georgetown County's SMS4 area also discharges to the AIWW-Waccamaw River TMDL watershed, impaired for dissolved oxygen. This TMDL states that available data and modeling indicates that stormwater and nonpoint sources do not contribute to the DO depression, and are thus not assigned a WLA.	☒	☐	☐
3.2.1.2.1d	If yes, include the resulting data in SWMP. ANSWER / COMMENT The general permit requirements for the Murrells Inlet TMDL Monitoring and Assessment have been previously completed. As stated in a letter to SC DES, dated February 27, 2015, Horry and Georgetown Counties previously summarized and evaluated monitoring data for the development of the Murrell's Inlet Watershed Plan, which was completed in 2014 and is included as Appendix C of the SWMP. This Plan meets the requirements of Section 3.2, TMDL Monitoring and Assessment, of the general permit.	☐	☐	☒
3.2.1.2.2.c	Have updates to the TMDL Monitoring and Assessment Plans been made? ANSWER / COMMENT The Murrells Inlet Watershed Plan, which includes the requirements of a TMDL Monitoring and Assessment Plan, was previously completed in 2014. Monitoring efforts in the Murrells Inlet Watershed have been ongoing and were recently enhanced to include the fecal coliform analysis of storm-based sampling by an SC DES certified lab, as stated in a letter to SC DES, dated February 27, 2015. Coastal Carolina University (CCU) supports the monitoring of flow into the Inlet at strategic outfalls located in both Georgetown and Horry County, funded by both counties. Georgetown County uses this information to address any immediate threats to the Inlet related to the TMDL.	☐	☒	☐
3.2.1.2.2.d and 3.3.6	Provide a brief narrative on the progress of the TMDL Monitoring and Assessment Plan. ANSWER / COMMENT As stated above, the Murrells Inlet TMDL Monitoring and Assessment Plan has been completed and is included as Appendix C of the SWMP.	☒	☐	☐
Appendix B	Provide a brief narrative identifying the water quality improvements or degradation. ANSWER / COMMENT The Murrells Inlet Watershed Plan presents a fecal coliform trend analysis using data from DES and the Volunteer Monitoring Program, as well as other local sources. Georgetown County, in partnership with Horry County and other interested parties, are implementing various BMPs and measures identified in the Watershed Plan. Continued monitoring efforts will evaluate the watershed scale effectiveness of the BMP implementation. CCU supports monitoring of outfalls located in the watershed to help understand the quality of water flowing into the Inlet.	☒	☐	☐

§3.3 TMDL IMPLEMENTATION AND ANALYSIS

Sec.	Item	Yes	No	NA
3.3.2	Was your SMS4 required to submit a TMDL Implementation Plan? ANSWER / COMMENT The Murrells Inlet Watershed Plan completed in 2014 contains the requirements for the TMDL Implementation Plan, as indicated in a letter to SC DES dated June 3, 2015.	☒	☐	☐
3.3.6	Provide a brief narrative on the progress of the TMDL Implementation and Analysis Plan. ANSWER / COMMENT Georgetown County, in partnership with Horry County and other interested parties, are implementing various BMPs and measures identified in the Watershed Plan. Georgetown County has installed Filtrexx tubes in two locations within the County, installed floating wetlands in a community pond, and designed and installed a constructed wetland to intercept first flush runoff from stormwater prior to its discharge into Murrells Inlet Estuary in Georgetown County. CCU assists the Counties in monitoring the quality of water at these outfalls.	☒	☐	☐

§4.1 PERMIT REQUIREMENTS

Sec.	Item	Yes	No	NA
4.1.6.1, 5.3.1,	Has your SWMP been reviewed and updated to include the status of your compliance with permit conditions, an assessment of the appropriateness of the identified BMP, progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and the measureable goals for each of the minimum control measures. ANSWER / COMMENT Georgetown County's SWMP was reviewed and updated in 2023. The Minimum Measure Permit Requirements tables were appropriate and accurately represent progress. The BMP Minimum Measures Tables are completed with measurable goal updates to show progress for each program component. The BMPs in the SWMP have been developed with the intent of reducing the discharge of pollutants to the MEP. Progress made towards implementing these BMPs indicates progress towards reducing the discharge of pollutants.	☒	☐	☐
4.1.6.2	Have your proposed changes to the stormwater management programs that are established as permit conditions been updated in your SWMP? ANSWER / COMMENT The Georgetown County SWMP was updated in 2023 to record the progress made towards implementing the stormwater management programs established as permit conditions.	☒	☐	☐
4.1.6.3	Include/revise an assessment of controls and the fiscal analysis. In this, include a description of staff resources necessary to meet the requirements of this permit. ANSWER / COMMENT Georgetown County executes a stormwater utility fee to fund its Stormwater Program. This fund is used for staff and overhead expenditures to enable the County to comply with federal regulations as well as protect the community through improved drainage and protection of local waters. Georgetown County understands the importance of the requirements of the permit as a legal obligation as well as a responsibility to protect Georgetown County's water quality. Georgetown County currently has a staff of six (6) employees to assist with the implementation of its Stormwater Program.	☒	☐	☐
4.1.6.4, 5.3.2	Has a summary of data, including monitoring data, that has been accumulated been added to the appendix? ANSWER / COMMENT As discussed in the TMDL Monitoring and Assessment section above, Georgetown County has completed the monitoring and assessment of the Murrells Inlet Watershed required for Section 3.2, TMDL Monitoring and Assessment, of the general permit. Georgetown County, along with Horry County, is currently working to enhance their monitoring efforts to continue monitoring the impacts on water quality.	☐	☐	☒
4.1.6.5	Include a summary describing the number and nature of enforcement actions. ANSWER / COMMENT The County has developed an Enforcement Response Plan (ERP), located in Appendix F of the SWMP, to provide guidance in identifying specific violation types and defining appropriate responses for construction/permitting violations, illicit discharge/illegal connection/improper waste disposal, failure to comply with permanent stormwater management requirements, failure to comply with a permit, and failure to comply with a County request. Enforcement actions taken during the reporting period are described here. Georgetown County actively monitors their SMS4 area to protect its receiving waters. During the reporting period, Georgetown County recorded 9enforcement actions, as follows: • 42 Correction Notices were issued on construction sites. • 3 Stop Work Order issued on a construction site for non-compliance	☒	☐	☐

	All corrective actions were followed up on and resolved			
4.1.6.5	Include a summary describing the number and nature of inspections ANSWER / COMMENT Construction: The County performed 1204 construction inspections during annual 2024. These inspections are documented and filed for each construction project. Post-Construction: The County performed 24 post-construction BMP inspections during the reporting period. These inspections are conducted within 30 days of construction completion. Municipal Facilities: The County performed annual inspections on the three (3) high priority facilities during the reporting period. Illicit Discharges: The County investigated 2 potential illicit discharges. The discharge was determined to be an illicit discharge. The County followed the SOP for illicit discharges involving raw sewage by contacting Georgetown County Water and Sewer District (GCWSD). GCWSD remedied the situation and is currently working on a long term solution for this area.	☒	☐	☐
4.1.6.5	Include a summary describing the number and nature of public education programs. ANSWER / COMMENT Georgetown County maintains a contract with the Coastal Waccamaw Stormwater Education Consortium (CWSEC) to manage the Public Education and Outreach (MCM#1) and Public Involvement/Participation (MCM#2) program components. CWSEC program success is, in part, measured by outreach impacts that represent an estimate of individuals reached through direct and indirect education and involvement activities. It is important to note that CWSEC includes several communities: City of North Myrtle Beach; City of Myrtle Beach; Town of Atlantic Beach; Town of Briarcliffe Acres; Town of Surfside Beach; City of Conway; Horry County; and Georgetown County. The CWSEC annual reports with figures can be found at their website: https://www.clemson.edu/extension/carolinaclear/regional-consortiums/cwsec/index.html Georgetown County has participated in eleven (11) Public Education and Outreach events with local education institutions. The eleven events totaled in approximately 7,500 students. Georgetown County has participated in seven (7) Public Involvement and Participation events within our community. Notable events include distributing 20,000 pet waste bags, hosting Stormwater Awareness week via social media, and three (3) Household Hazardous Waste events. In addition, the County has a comprehensive stormwater website with educational information. There were approximately ~4,000 active users for 2024.	☒	☐	☐
4.2.3.2.7.b	Include an assessment of the effectiveness of the Field Screening component of the IDDE program to determine if the level of effort is adequate in attaining the effective prohibition of non-stormwater discharges into the MS4. ANSWER / COMMENT The field screening measures included in the IDDE program have been included in the *Standard Operating Procedure for Use in Field Investigations for Illicit Discharges* and have been used to effectively investigate reported IDDEs. Any confirmed IDDE's have been removed indicating the Field Screening component is working as intended.	☒	☐	☐
4.2.3.2.7.b	Were there any updates found to be necessary to the Field Screening component? ANSWER / COMMENT A *Standard Operating Procedure for Use in Field Investigations for Illicit Discharges* has been completed and no updates have been needed. Any confirmed IDDE's have been removed indicating the Field Screening component is working as intended.	☒	☐	☐

4.2.3.2.7.e	Include any corrective actions taken/resulting enforcement actions to eliminate illicit discharges. ANSWER / COMMENT Georgetown County observed two illicit discharges within their SMS4 area during the reporting period. No corrective actions were required.	☒	☐	☐

§4.5 REVIEWING AND UPDATING STORMWATER MANAGEMENT PLANS

Sec.	*Item*	*Yes*	*No*	*NA*
4.5.1, 5.3.4	Have you reviewed and updated your SWMP, including changes to any BMP or any identified measureable goals that apply to the program elements? ANSWER / COMMENT Georgetown County's SWMP was reviewed and updated in 2023. The Minimum Measure Permit Requirements tables accurately represent progress and the BMP Minimum Measures Tables were appended with measurable goal updates to show progress for each program component.	☒	☐	☐
5.3.3	Has a summary of the stormwater activities you plan to undertake during the next reporting cycle been developed and updated? ANSWER / COMMENT Georgetown County's SWMP was updated in 2023 to reflect a current schedule of stormwater activities the County plans to undertake to continue compliance with the existing, expired permit. The County will continue the ongoing activities until the release of a new permit.	☒	☐	☐
5.3.5	Is your SMS4 relying on another entity to satisfy some of your permit obligations? ANSWER / COMMENT Georgetown County relies on Clemson University's Carolina Clear Education Program and the Coastal Waccamaw Stormwater Education Consortium (CWSEC), to ensure compliance with the permit for MCM #1 (Public Education and Outreach) and MCM #2 (Public Involvement/ Participation). Georgetown County relies on Coastal Carolina University (CCU) to ensure compliance with the permit for MCM #1 (Public Education and Outreach), MCM #2 (Public Involvement/ Participation), and MCM #3 (Illicit Discharge, Detection and Elimination). CCU conducts various water quality testing for Georgetown County. Georgetown County's contract with Clemson University and Coastal Carolina University is Appendix G of their SWMP. Also, Georgetown County relies on Woolpert. Inc. to ensure compliance with the permit for MCM # 4 (Construction Site Runoff Control). Woolpert, Inc. provides plan review services for the County.	☒	☐	☐
	Provide annual expenditures and proposed budget, including legal restrictions in the use of such funds for the following year. ANSWER / COMMENT Georgetown County executes a stormwater utility fee to fund its Stormwater Program. This fund is used for staff and overhead expenditures to enable the County to comply with federal regulations as well as protect the community through improved drainage and protection of local waters. The annual budget is as follows: · FY2025(actual): $1,555,000.00 · FY2026(Projected): $1,600,00.00	☒	☐	☐

Georgetown County Stormwater Management Plan (SWMP)

Adopted July 1, 2014
Revised March 2016
Revised June 2018
Revised March 2020
Revised August 2021
Revised October 2022
Revised December 2023

129 Screven Street
Georgetown, SC 29440
Telephone: (843) 545-3258

Prepared in accordance with SCDHEC Permit #SCR030000

CERTIFICATION OF STORMWATER MANAGEMENT PLAN

I certify that Georgetown County has taken the necessary steps to obtain and maintain full legal authority to implement and enforce each of the requirements contained in the NPDES General Permit for Storm Water Discharges from Regulated Small Municipal Separate Storm Sewer Systems (SMS4), Permit Number SCR030000.

Angela Christian - Georgetown County Administrator

Angela Christian — Signature

12/31/23 — Date

Table of Contents

*Table of contents follows section numbers of the SMS4 General Permit; accordingly, section numbers of the SWMP are not in continuous sequential order.

List of Tables

Appendices

List of Acronyms and Abbreviations

BMP	Best Management Practice
CEPSCI	Certified Erosion Prevention and Sediment Control Inspector
CSR	Construction Site Runoff
CWSEC	Coastal Waccamaw Stormwater Education Consortium
ERP	Enforcement Response Plan
EPA	Environmental Protection Agency
EPSC	Erosion Prevention and Sediment Control
IDDE	Illicit Discharge Detection and Elimination
IECA	International Erosion Control Association
MEP	Maximum Extent Practicable
MCM	Minimum Control Measure
MS4	Municipal Separate Storm System
NPDES	National Pollutant Discharge Elimination System
NOI	Notice of Intent
PP&GH	Pollution Prevention and Good House Keeping
PCR	Post Construction Runoff
PEO	Public Education and Outreach
PIP	Public Involvement and Participation
SMS4	Small Municipal Separate Storm System
SCDHEC	South Carolina Department of Health and Environmental Control
SOP	Standard Operating Procedure
SWMP	Stormwater Management Plan
SWP3	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
WLA	Waste Load Allocation

Georgetown County, South Carolina
NPDES Stormwater Management Plan (SWMP)

1.0 Introduction

This Stormwater Management Plan (SWMP) is designed to reduce the discharge of pollutants from Georgetown County's Small Municipal Separate Storm Sewer System (SMS4) to the maximum extent practicable (MEP), to protect water quality and to satisfy the appropriate requirements of the Clean Water Act. The contents are expected to change with time due to the iterative process of developing the SWMP recognized by the Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (SCDHEC). EPA predicts that it will likely take two to three SMS4 general permit terms (5-year terms) to fully develop and implement the SWMP. The first permit term focused heavily on data collection, organization, development of necessary programs, and initial implementation. During the current second SMS4 general permit cycle, the SWMP will need to be amended based on the observed effectiveness of existing program components and to address the terms and conditions of the new permit. This document is meant to be a living document that will be revisited on an annual basis to reflect accomplishments, potential revisions to program components, and additions of other or expanded efforts.

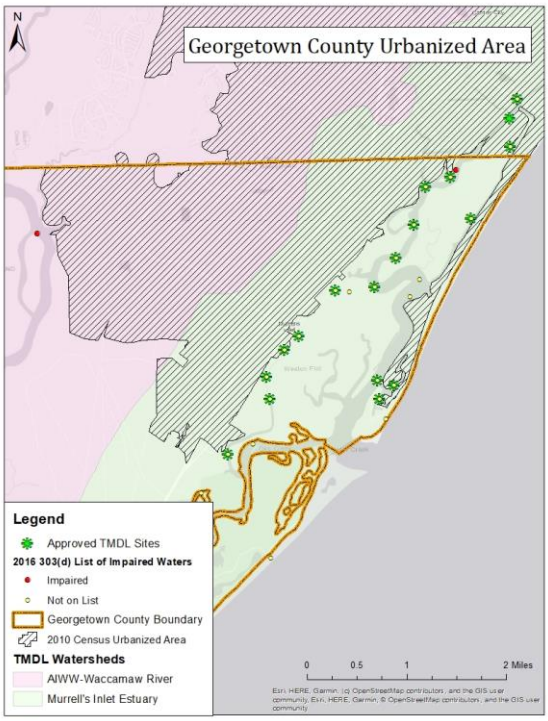
This SWMP addresses the requirements of the NPDES General Permit for Discharges from Regulated SMS4s; Permit No. SCR030000, effective January 1, 2014 and expiring December 31, 2018. The section numbers used in this SWMP correspond with the general permit section numbers.

Updates to the SWMP will be included in Appendix A.

2.0 Notice of Intent (NOI) Information

The following information is applicable to Georgetown County.

Table 1: NOI Information

General Permit Section	NOI Requirement	Description
2.2.1 Information on the Permittee:		
2.2.1.1	Name of Municipality:	Georgetown County
	Mailing Address:	Robert E. Turner, IV, PE Stormwater Division Manager 129 Screven Street Georgetown, SC 29440
	Telephone Number:	(843) 545-3522
2.2.1.2	Public Entity Type:	County
2.2.2 Information on the SMS4:		
2.2.2.1	Map of Georgetown County:	**SMS4 Location:** Georgetown County **SMS4 Center Coordinates:** Latitude: N33° 58.05' Longitude: W79° 01.64' **SMS4 Urbanized Area:** Approximately seven (7) square miles 

General Permit Section	NOI Requirement	Description
2.2.2.2	Major Receiving Waters:	Allston Creek**, Atlantic Ocean**, Collins Creek, Main Creek**, Oaks Creek**, Parsonage Creek**, Waccamaw River*, Woodland Creek**
2.2.2.3	Indian Lands:	No portion of Georgetown County's SMS4 is located on Indian Country Lands.
2.2.2.4	List of Significant Entities within Georgetown County:	The following entities operate a municipal separate storm sewer system within the regulated SMS4 area of Georgetown County: • SCDOT
2.2.2.5	Other Governmental Entities:	**Clemson University Cooperative Extension Service:** Responsible for the Public Education and Outreach and the Public Participation/Involvement components of the NPDES program.
2.2.2.6	BMP Information:	See Section 4.0 for a discussion of the BMPs for each minimum measure. Each minimum measure contains all available information on the BMPs that are to be implemented, their measurable goals, a schedule for their implementation, and the person(s) responsible.

*Listed on the CWA §303(d) list
**Allocated a TMDL

3.0 Special Conditions Applicable to Permitted Stormwater Discharges to Sensitive Waters

The SMS4 general permit requires that Georgetown County determine whether its systems discharge to sensitive waters. For the permit, sensitive waters are waters:

- With a Total Maximum Daily Load (TMDL) developed and approved, or established by EPA,
- Included in the most recent SC DHEC Section 303(d) list,
- In Source Water Protection Areas (SWPA), and
- Pursuant to DHEC Water Classifications & Standards (R.61-68) and Regulations (R.61-69) classified as either:
  - Outstanding National Resource Waters (ONRW)
  - Outstanding Resource Waters (ORW)
  - Trout Waters
  - Shellfish Harvesting Waters (SFH).

3.1 Determination of Receiving Water Conditions and Impacts

The SMS4 general permit requires Georgetown County to determine whether stormwater discharges from any part of the SMS4 contribute one or more pollutants directly or indirectly to an impaired waterbody that is listed in the most recent South Carolina 303(d) list. The list identifies waterbodies that do not currently meet state water quality standards. The list is intended to be used as a tool to determine what types of water quality improvement measures should be taken. To meet this SMS4 general permit requirement, Georgetown County has collected information from SCDHEC on the location of impaired waters, as determined from results of the State's monitoring program, that could potentially be impacted by discharges from Georgetown County's SMS4. Table 2 provides a list of the impaired waterbodies on the 2022 303(d) list that Georgetown County's SMS4 contributes to, either directly or indirectly.

Table 2: 2022 303(d) List of Impaired Stations within Georgetown County's SMS4 Area

Major Receiving Waters	Station Description	Station	Pollutant of Concern	Priority Ranking
Pee Dee	MAIN CREEK 160 YARDS UPSTREAM FROM SHELLFISH SITE 04-27	RT-09113	ENTERO	3
Pee Dee	WACCAMAW RVR AT CHANNEL MARKER 57	MD-138	HG	3
Pee Dee	MAIN CREEK MURRELLS INLET 0.63 MILES NE OF MURRELLS INLET LANDING	RT-15105	ENTERO	3
Pee Dee	WOODLAND CREEK APPROX 0.5 MI SSE OF SHELLFISH SITE 04-31	RT-18169	DO	3

3.2 TMDL Monitoring and Assessment

In compliance with Section 3.2.1 of the SMS4 general permit, TMDL monitoring and assessment plans will be developed for all TMDL waters receiving SMS4 discharges of pollutant(s) of concern, except where Section 3.1.1.2 of the SMS4 general permit is applicable. For TMDLs existing before the effective date of permit coverage, TMDL monitoring and assessment plans will be completed, submitted to SCDHEC, and appended to this SWMP within 12 months of the effective date of permit coverage. For newly established TMDLs, Georgetown County will complete a TMDL monitoring and assessment plan within 12 months of the effective date of the TMDL. As completed, TMDL monitoring and assessment plans will be submitted to SCDHEC and attached to this SWMP in Appendix C. Sampling will be initiated within 18 months of the effective date of permit coverage for TMDLs existing before the effective date of permit coverage. For newly established TMDLs, Georgetown County will initiate sampling within 18 months of the effective date of the TMDL.

Georgetown County, in partnership with Horry County and other stakeholders, completed a Murrell's Inlet TMDL Watershed Plan (TMDL Monitoring and Assessment

Plan) with assistance from SCDHEC Section 319 funding. This plan, included as Appendix C, meets the requirements of Section 3.3 of the general permit.

The AIWW-Waccamaw River is impaired for dissolved oxygen. Stormwater and nonpoint sources do not contribute to the DO depression and are thus not assigned a waste load allocation (WLA). According to the general permit, Georgetown County is thus not responsible for TMDL Monitoring and Assessment for the AIWW-Waccamaw River TMDL.

A list of TMDL watersheds within Georgetown County's regulated SMS4 area, and/or which Georgetown County's SMS4 area drains to, can be found in Table 3.

Table 3: List of Approved TMDLs

TMDL Watershed	Pollutant of Concern	Monitoring Stations	Effective TMDL Date
Murrell's Inlet Estuary	Fecal Coliform	04-16, 04-17A, 04-23, 04-25, 04-27, 04-28, 04-29, 04-30, 04-31, 04-02, 04-03A, 04-03B, 04-04A, 04-06, 04-07, 04-08	7/19/2005
AIWW-Waccamaw River	Dissolved Oxygen	No TMDL Monitoring Sites in Georgetown County	7/27/99

3.3 TMDL Implementation and Analysis

In compliance with Section 3.3.2 of the SMS4 general permit, TMDL implementation and analysis plans will be developed for all TMDL waters receiving SMS4 discharges of pollutant(s) of concern, except where Section 3.1.1.2 of the SMS4 general permit is applicable. TMDL implementation and analysis plans will be completed and submitted to SCDHEC within 48 months from the effective date of permit coverage, or, for TMDLs established after the effective date of permit coverage, within 48 months of the effective date of the TMDL.

3.4 Discharges to Impaired Waterbodies

For impaired waterbodies for which no TMDL has been assigned, protection will be provided through BMP applications conducted through implementation of the six minimum control measures in section 4.2.

3.5 Discharges to Classified Waters

For discharges to Classified Waters, protection will be provided through BMP applications conducted through implementation of the minimum control measures in Section 4.2. The BMP implementation will not cause or contribute to violations of water quality standards in water bodies with impaired monitoring stations. A list of Classified Waters in Georgetown County is provided in the Table 4 below.

Table 4: Classified Waters

Water Body	Classification	Description
Murrells Inlet	SFH	The entire inlet tributary to the Atlantic Ocean

3.6 Discharges to Source Water Protection Areas

For discharges to Source Water Protection Areas, protection will be provided through BMP applications conducted through implementation of the six minimum control measures in Section 4.2.

4.0 Stormwater Management Plan (SWMP)

Table 5: SWMP Requirements

SWMP REQUIREMENTS			
Develop and Implement SWMP	Not Started: ☐ In Progress : ☐ Completed: ☒		
	Section: 4.1.2		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Revise and update written SWMP document and submit the SWMP to SCDHEC Bureau of Water.	Deadline: July 1, 2014	Once	Georgetown County Stormwater Manager
Update Stormwater Management Ordinance	Not Started: ☐ In Progress : ☐ Completed: ☒		
	Section: 4.1.3		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Review and revise the Stormwater Management Ordinance, or adopt any new ordinances or other regulatory mechanisms that provide adequate legal authority to control pollutant discharges into and from the SMS4, and to meet the requirements of the SMS4 general permit.	Deadline: December 31, 2014	Once	Georgetown County Stormwater Manager
Enforcement Response Plan (ERP)	Not Started: ☐ In Progress : ☐ Completed: ☒		
	Section: 4.1.5		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Develop & Implement an enforcement response plan (ERP)	Deadline: December 31, 2014	Once	Georgetown County Stormwater Manager
Update Stormwater Management Plan	Not Started: ☐ In Progress : ☒ Completed: ☐		
	Section: 4.1.10		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Review and revise the SWMP document to keep it up to date during the term of the permit.	Throughout the Permit Term	Annually	Georgetown County Stormwater Manager

4.1.1 Requirements of the NPDES SMS4 General Permit

Georgetown County will implement this SWMP to reduce the discharge of pollutants from its SMS4 to the maximum extent practicable to protect water quality.

4.1.2 SWMP Development

The County developed a written SWMP document that was submitted to SCDHEC Bureau of Water before July 1, 2014. The County has continued to review this document annually and updated it as needed.

4.1.3 Contents of the SWMP

At a minimum, the County must include ordinances, or other regulatory mechanisms, providing the legal authority necessary to implement and enforce the requirements of the SMS4 general permit. See Appendix D for Georgetown County's Stormwater Management Ordinance. The County has reviewed its Stormwater Management Ordinance and verified that it provides adequate legal authority to control pollutant discharges into and from the SMS4 and meets the requirements of the SMS4 general permit.

4.1.4 Requirement to Develop Adequate Legal Authority

At a minimum the legal authority will address the following:

- Authority to Prohibit Illicit Discharges
- Determination of Allowable Non-Stormwater Discharges
- Authority to Prohibit Spills or Other Releases
- Authority to Require Compliance
- Authority to Require Installation, Implementation, and Maintenance of Control Measures
- Authority to Receive and Collect Information
- Authority to Inspect
- Response to Violations
- Monetary Penalties
- Civil/Criminal Penalties
- Interagency Agreements (if applicable)

A certification statement has been included in this SWMP that certifies Georgetown County has taken the necessary steps to obtain and maintain full legal authority to implement and enforce each of the requirements contained in the NPDES SMS4 general permit (see Page i).

4.1.5 Enforcement Measures and Tracking

The County has developed an enforcement response plan (ERP) that sets out Georgetown County's potential responses to violations and addresses repeat and continuing violations through progressively stricter responses as needed to achieve compliance.

4.1.5.2 Enforcement Tracking

The County tracks instances of non-compliance electronically.

4.1.5.3 Recidivism Reduction

The County summarizes inspection results by consuetudinary violators and includes incentives, disincentives, or an increased inspection frequency at the operator's sites.

4.1.6 Report Requirements

Georgetown County will at a minimum submit the following information in the report (See Section 5.3 for details):

- The status of implementing the components of the SWMP that are established as permit conditions;
- Proposed changes to the SWMP that are established as permit conditions;
- Revisions, if necessary, to the assessment of controls and the fiscal analysis, including a description of staff resources necessary to meet the requirements of the permit;
- A summary of data, including monitoring data, that is accumulated throughout the reporting year; and,
- A summary describing the number and nature of enforcement actions, inspections, and public education programs.

4.1.7 SWMP Minimum Control Measure Requirements

Georgetown County SWMP will include the following information for each of the six minimum control measures (MCMs) described in Section 4.2 of this SWMP in detail:

- Best management practices (BMP) that the County or another entity will implement for each of the MCM;
- Measurable goals for each of the BMP including, as appropriate, the months and years in which the County will undertake required actions, including interim milestones and the frequency of the action; and,
- Person, or persons, responsible for implementing or coordinating the BMP for the County's SWMP.

4.1.10 SWMP Modifications

SC DHEC Bureau of Water may notify Georgetown County of the need to modify the SWMP document to be consistent with the permit, in which case Georgetown County will have ninety (90) days to finalize such changes to the program.

Georgetown County will keep the SWMP document up to date during the term of the permit. Where Georgetown County determines that Ordinance modifications are needed to address any procedural, protocol, or programmatic change, such changes must be made as soon as practicable, but not later than 360 days.

4.2 Minimum Control Measures

In compliance with the SMS4 general permit requirements; this SWMP includes a description of the six minimum control measures (MCMs) and details on the development and implementation of the plan to address MCM requirements. The details on each minimum measure include the measurable goals for each proposed BMP, the responsible departments and staff to implement the BMP, and the implementation schedule for the BMP (i.e. start date, frequency of activities, etc.)

4.2.1 Public Education and Outreach (Minimum Measure #1)

4.2.1.1 Minimum Measure #1 Permit Requirements

In order to meet the requirements of Minimum Measure #1, Georgetown County has partnered with Clemson University/Carolina Clear and the Coastal Waccamaw Stormwater Education Consortium (CWSEC) to focus on the development and implementation of educational programs designed to inform the public about the impacts that stormwater discharges could have on local waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff. Georgetown County intends to work in cooperation with Clemson University/ Carolina Clear and the Coastal Waccamaw Stormwater Education Consortium in order to efficiently reach as many citizens as economically possible through public education and outreach efforts.

Table 6: Minimum Measure #1 Permit Requirements

4.2.1.1.1 The Pollutant(s) of Concern (POC) within Georgetown County's Watershed Area(s):
In Georgetown County's watershed area, the potential pollutant of concern (POC) has been determined to be bacteria A description of the pollutant of concern for the County's watershed area is included below.
4.2.1.1.2 Description of the POC(s) Listed Above:
• **Bacteria**: Bacteria typically contributes to stormwater pollution due to animal fecal matter in stormwater runoff, failing septic systems, or sanitary sewer leaks/spills and cross connections.
4.2.1.1.3 Programs Targeted at High Priority Community Issues with the Potential to Decrease the POC's Effect on Water Quality:
Georgetown County utilizes the Coastal Waccamaw Stormwater Education Consortium (CWSEC) to assist in meeting the requirements of Minimum Measure 1 and 2. The Contract can be found in Appendix H.
4.2.1.1.4 The Audience(s) that is Believed to have an Influence on the POC Identified and that is Believed to have an Influence on the Goals and Objectives Identified:
Georgetown County utilizes the Coastal Waccamaw Stormwater Education Consortium (CWSEC) to assist in meeting the requirements of Minimum Measure 1 and 2. The Contract can be found in Appendix H.
4.2.1.1.5 The Message(s) Directed at the Target Audience(s) Listed Above to Achieve the Program Goals and Objectives:
Georgetown County utilizes the Coastal Waccamaw Stormwater Education Consortium (CWSEC) to assist in meeting the requirements of Minimum Measure 1 and 2. The Contract can be found in Appendix H.

4.2.1.1.6 Education Campaign(s) and Materials:
Georgetown County utilizes the Coastal Waccamaw Stormwater Education Consortium (CWSEC) to assist in meeting the requirements of Minimum Measure 1 and 2. The Contract can be found in Appendix H.
4.2.1.1.7 Distribution of Campaign Materials:
Georgetown County utilizes the Coastal Waccamaw Stormwater Education Consortium (CWSEC) to assist in meeting the requirements of Minimum Measure 1 and 2. The Contract can be found in Appendix H.
4.2.1.1.8 Quantitative and/or Qualitative Formative Assessment of Programs:
Georgetown County utilizes the Coastal Waccamaw Stormwater Education Consortium (CWSEC) to assist in meeting the requirements of Minimum Measure 1 and 2. The Contract can be found in Appendix H.
4.2.1.1.9 Utilization of Public Input into the Development of This Program:
Georgetown County utilizes the Coastal Waccamaw Stormwater Education Consortium (CWSEC) to assist in meeting the requirements of Minimum Measure 1 and 2. The Contract can be found in Appendix H.
4.2.1.1.10 Implementation of Program Goals and Objectives:
Georgetown County utilizes the Coastal Waccamaw Stormwater Education Consortium (CWSEC) to assist in meeting the requirements of Minimum Measure 1 and 2. The Contract can be found in Appendix H.
4.2.1.1.11 Process for Annual Adjustment of Program Based Upon Program Assessment:
Georgetown County utilizes the Coastal Waccamaw Stormwater Education Consortium (CWSEC) to assist in meeting the requirements of Minimum Measure 1 and 2. The Contract can be found in Appendix H.

4.2.1.2 Minimum Measure #1 BMP Implementation

Evaluation of the success of this minimum measure will be through careful analysis of the measurable goals for each BMP included in this minimum measure.

To meet the requirements of Minimum Measure #1, Georgetown County will implement the following BMPs:

- Continue Agreement with Clemson University/Carolina Clear and to support the Coastal Waccamaw Stormwater Education Consortium to Implement a Public Education and Outreach Program. See Appendix G for Contract.

Table 7 describes the components of Georgetown County's Public Education and Outreach program.

Table 7: Best Management Practices – Minimum Measure #1

PUBLIC EDUCATION AND OUTREACH BMPS			
Agreement with Clemson University Cooperative Extension Service – Carolina Clear	**Not Started:** ☐ **In Progress :** ☒ **Completed:** ☐		
	Section: 4.2.1.1		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will continue their contract with the Coastal Waccamaw Stormwater Education Consortium to implement a public education/outreach program for the County's regulated area.	Throughout Permit Term	Annually	Georgetown County Stormwater Manager and Clemson University/Carolina Clear
Measurable Goal:			
• A program that provides public education concerning water quality issues in SMS4 regulated area of Georgetown County.			
Measurable Goal Update:			
• Georgetown County continues their contract with the Coastal Waccamaw Stormwater Education Consortium.			
Support Coastal Waccamaw Stormwater Education Consortium (CWSEC)	**Not Started:** ☐ **In Progress :** ☒ **Completed:** ☐		
	Section: 4.2.1.1.3		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will support the Coastal Waccamaw Stormwater Education Consortium by: participating in meetings/workshops, promoting/advertising events, distributing water quality awareness campaign items, and providing other general assistance as resources allow.	Throughout Permit Term	Once	Georgetown County Stormwater Manager
Measurable Goal:			
• Support Coastal Waccamaw Stormwater Education Consortium.			
Measurable Goal Update:			
• Georgetown County continues to support the Coastal Waccamaw Stormwater Education Consortium.			
Assess the Public Education and Outreach Plan	**Not Started:** ☐ **In Progress :** ☒ **Completed:** ☐		
	Section: 4.2.1.1.8		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Assess the Public Education program to determine any necessary changes to the programs goals or objectives.	Target Start Date: June 30, 2016	Annually	Georgetown County Stormwater Manager/CWSEC
Measurable Goal:			
• Identify public education and outreach program deficiencies/limitations by comparing PEO program results to the measurable goals.			
Measurable Goal Update:			
• Georgetown County continues their contract with the Coastal Waccamaw Stormwater Education Consortium.			

Develop Annual Adjustments for the Public Education and Outreach Plan	Not Started: ☐ In Progress : ☒ Completed: ☐ Section: 4.2.1.1.11		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Make adjustments to educational materials and the delivery of such materials to address any shortcomings found as a result of the assessments in Milestone 4.2.1.1.8.	Deadline: December 31, 2016	Annually	Georgetown County Stormwater Manager/CWSEC
Measurable Goal:			
• Revise PEO plan to address any program deficiencies/limitations identified during the annual assessment.			
Measurable Goal Update:			
• Georgetown County continues their contract with the Coastal Waccamaw Stormwater Education Consortium.			

4.2.2 Public Involvement/Participation (Minimum Measure #2)

4.2.2.1 Minimum Measure #2 Permit Requirements

Georgetown County will partner with Clemson University/Carolina Clear and the Coastal Waccamaw Stormwater Education Consortium in order to efficiently reach as many citizens as economically possible through public involvement and participation efforts. Clemson University/Carolina Clear and the Coastal Waccamaw Stormwater Education Consortium will provide the citizens of Georgetown County opportunities to participate in activities and events relating to water quality preservation and water quality education.

Table 8: Minimum Measure #2 Permit Requirements

4.2.2.1.1	Create opportunities for citizens to participate in the implementation of stormwater controls:
	Opportunities for citizen participation in the implementation of stormwater controls in Georgetown County will be provided by Clemson University/Carolina Clear and the Coastal Waccamaw Stormwater Education Consortium.
4.2.2.1.2	Accessing information on this SWMP:
	Georgetown County will include the SWMP on the County's Stormwater Management webpage.
4.2.2.1.3	Incorporate written procedures for implementing the public involvement/participation (PIP) MCM in the SWMP:
	Georgetown County will continue to implement its written procedures (Contract) with Clemson University/Carolina Clear and support the Coastal Waccamaw Stormwater Education Consortium to Implement a Public Involvement and Participation Program.

4.2.2.2 BMP Implementation

The BMPs selected in this section describe how the citizens will be informed about the SWMP and lists activities for public participation. The measurable goals for each BMP for the Public Participation and Involvement minimum measure will be used to evaluate the success of each

BMP. The following sections describe the components of Georgetown County's Public Involvement/Participation program.

In order to meet the requirements of Minimum Measure #2, Georgetown County will:

- Sponsor/Support Citizen Participation Events,
- Provide Access to Information for the SWMP, and
- Incorporate Written Procedures for Implementing MCM#2.

Table 9 describes the components of Georgetown County's Public Involvement/Participation program.

Table 9: Best Management Practices – Minimum Measure #2

PUBLIC INVOLVEMENT/PARTICIPATION BMPS			
Sponsor/Support Citizen Participation Events	**Not Started: ☐ In Progress : ☒ Completed: ☐**		
	Section: 4.2.2.1.1		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Contract with Clemson University and support of the Coastal Waccamaw Stormwater Education Consortium to implement a public involvement/participation program for Georgetown County.	Throughout Permit Term Beginning in Year 1	Annually	Georgetown County Stormwater Manager and Clemson University/Carolina Clear
Measurable Goal:			
• Provide sponsorship/support for the CWSEC events.			
• A program that will provide the citizens of Georgetown County opportunities to participate in activities and events relating to water quality preservation and water quality education.			
Measurable Goal Update:			
• Georgetown County continues their contract with the Coastal Waccamaw Stormwater Education Consortium.			
Provide Access to Information for the SWMP	**Not Started: ☐ In Progress : ☐ Completed: ☒**		
	Section: 4.2.2.1.2		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Ensure the public can easily find information about the SWMP.	December 31, 2014	Once during permit term	Georgetown County Stormwater Manager
Measurable Goal:			
• Georgetown County will include the SWMP on the County's webpage.			
Measurable Goal Update:			
• Georgetown County has posted their SWMP to the Georgetown County Stormwater webpage.			
Written Procedures for Implementing MCM#2	**Not Started: ☐ In Progress : ☒ Completed: ☐**		
	Section: 4.2.2.1.3		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**

Develop written procedures for implementing the public involvement program.	Throughout Permit Term	Annually	Georgetown County Stormwater Manager and Clemson University/Carolina Clear
Measurable Goal:			
• Signed Contract with Clemson University/Carolina Clear.			
Measurable Goal Update:			
• Georgetown County continues their contract with the Coastal Waccamaw Stormwater Education Consortium to implement the public involvement program.			

4.2.3 Illicit Discharge Detection and Elimination (Minimum Measure #3)

4.2.3.1 Minimum Measure #3 Permit Requirements

Georgetown County will locate and eliminate illicit discharges by developing BMPs in accordance with the SMS4 general permit requirements. Priority areas will be established based on the higher likelihood of illicit connections, and outfalls located within the priority areas will be visited to check for dry weather flow. Outfalls with dry weather flow will be screened to identify potential illicit discharges. Prior to illicit tracking activities, the County will develop illicit tracking procedures. After illicit tracking procedures have been established, illicit discharges will be tracked to a source and eliminated when possible. Illicit tracking activities will be documented for review.

Table 10: Minimum Measure #3 Permit Requirements

4.2.3.2.1	Development of the storm sewer system map:
	In previous years, Georgetown County has developed a storm sewer system map showing the location of known outfalls, and names and locations of all waters of the United States that receive discharges from those outfalls. In addition, the County has performed full system inventory in high priority areas of the County. The storm sewer map will be updated as needed to show new outfalls due to new developments.
4.2.3.2.2	Identification of priority areas.
	Georgetown County will identify priority areas for more detailed screening of the SMS4 based on higher likelihood of illicit connections. The County will document the basis for its selection of each priority area and create a list of all priority areas identified in the system no later than 12 months after the effective date of permit coverage. The priority area list will be updated annually to reflect changing priorities and be available for review by the permitting authority.

4.2.3.2.3.a Field screening procedures and implementation:
Georgetown County will conduct dry weather field screening and / or analytical monitoring, when necessary, to identify the source of illicit discharges. At a minimum, Georgetown County will identify all field screening points within the priority areas where field screening and analytical monitoring will take place. A list of screening points will be developed. The County will also conduct field screening and analytical monitoring outside the priority areas at known non-stormwater discharges. The areas and the schedule for conducting the screening, and field screening points will be identified annually. Georgetown County will develop dry weather screening procedures which: • Provide a description of which screening methods will be used and a description as to why it is appropriate. • Provides a description of field screening equipment with respective methodologies for use. All dry weather screening activities will be conducted after 72-hours of continuous dry conditions following at least 0.10 inch of rainfall. The elimination of all illicit discharges will be documented. Documentation procedures will be developed as described in section 4.2.3.2.5/6
4.2.3.2.3.b Field screening assessment:
Georgetown County will assess the effectiveness of the Field Screening component of their IDDE program in the third permit year to determine if the level of effort is adequate in attaining the effective prohibition of non-stormwater discharges into the MS4. Where updates are found to be necessary, Georgetown County will make such changes and include them as part of the re-notification required under Part 2.5 of the SMS4 general permit.
4.2.3.2.3.c Procedures for notifying another MS4 of an illicit discharge:
For non-traditional MS4 permittees, if illicit connections or illicit discharges are observed related to another operator's municipal storm sewer system then Georgetown County will notify the other operator as soon as practical but no later than three (3) business day.
4.2.3.2.3.d Addressing a notification of an illicit discharge by another operator:
Georgetown County will follow appropriate procedures when notified of an illicit discharge by another MS4 operator.
THIS SECTION INTENTIONALLY LEFT BLANK

4.2.3.2.4/5 Tracing the source of an illicit discharge:

Georgetown County will develop procedures for conducting illicit tracking and elimination procedures.

After becoming aware of an illicit discharge, Georgetown County will initiate an investigation(s) to attempt to identify and locate the source of any continuous or intermittent non-stormwater discharge on as soon as practical.

Georgetown County will report immediately the occurrence of any dry weather flow believed to be an immediate threat to human health of the environment to SC DHEC Emergency Response, 1-888-481-0125.

Illicit Discharges suspected of being sanitary sewage and/or significantly contaminated will be considered a high priority and will be reported to appropriate public utility owner as soon as practical.

Investigations of illicit discharges suspected of being cooling water, wash water, or natural flows may be delayed until after all discharges suspected of having the potential for adversely impact either human health or water quality have been investigated, eliminated, and/or resolved.

At a minimum, Georgetown County will document the date(s) the illicit discharge was observed; the results of the investigation; any follow-up of the investigation; and the date the investigation was closed.

4.2.3.2.6 Determining the source of the illicit discharge:

Georgetown County will determine and document through their investigations the source of all confirmed illicit discharges. If the source of the suspected illicit discharge is found to be a suspected non-compliance with an NPDES permit, the appropriate SCDHEC Regional Office will be notified.

a. *If an illicit discharge is found, but within six (6) months of the beginning of the investigation neither the source nor the same non-stormwater discharge has been identified/observed, then Georgetown County will maintain written documentation for review by the permitting authority.*

b. *If the observed discharge is intermittent, Georgetown County will document that a minimum of three (3) separate investigations were made to observe the discharge when it was flowing. If these attempts are unsuccessful, Georgetown County will maintain written documentation for review by the permitting authority. However, since this is an ongoing program, Georgetown County will periodically recheck these suspected intermittent discharges.*

4.2.3.2.7 Corrective Action plan to eliminate illicit discharges:

Once the source of the illicit discharge has been determined, Georgetown County will:

a. *Notify the responsible party of the problem as soon as practical.*

b. *Require the responsible party to conduct all necessary corrective actions to eliminate the non-stormwater discharge within 30 days. When, and if, elimination will take longer than 30 days, Georgetown County will require responsible parties to submit a plan with a schedule for elimination.*

c. *Conduct a follow-up investigation and field screening, consistent with Part 4.2.3.4/5 of this SWMP, to verify that the discharge has been eliminated.*

d. *Document their follow-up investigations.*

e. *Follow the SWMP ERP and include the resulting enforcement actions in the subsequent report.*

4.2.3.2.8 Public reporting mechanism:

Georgetown County will establish an illicit reporting hotline for the public and staff to report illicit discharges. The hotline number is (843) 545-3524.

The County will establish and implement citizen request response procedures in the illicit tracking procedures document created for section 4.2.3.2.4/5. The citizen response procedures in the illicit tracking procedures document will:

a. *Develop a written spill/dumping response procedure for responding to public notices of illicit discharges, the various responsible agencies and their contacts, and who would be involved in illicit discharge incidence response.*

b. *Include procedures for inspections in response to complaints and follow-up inspections as needed to ensure that corrective measures have been implemented by the responsible party to achieve and maintain compliance.*

4.2.3.2.9 Employee training:

Georgetown County will implement a training program for all appropriate municipal staff, which, 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. This BMP will be implemented through training for Pollution Prevention in Section 4.2.6.5.

4.2.3.2 Minimum Measure #3 BMP Implementation

In order to meet the requirements of Minimum Measure #3, Georgetown County has listed BMPs that focus on the detection and elimination of illicit discharges into the SMS4. In order to provide a summative document for the various IDDE permit requirements, Georgetown County will develop a document which includes the following sections: map of priority areas, list of screening points in the priority area, dry weather screening procedures, illicit tracking procedures, illicit elimination procedures, and IDDE documentation procedures. Evaluation of the success of this minimum measure will be based on the level of implementation of the BMPs included in this minimum measure. The following sections describe the components of

the County's Illicit Discharge Detection and Elimination (IDDE) program. Georgetown County will review and update their IDDE manual to incorporate requirements of the new SMS4 general permit (i.e. response timeframes, etc.).

In order to meet the requirements of Minimum Measure #3, Georgetown County will:

- Update the Storm Sewer Map,
- Identify Priority Areas for Illicit Discharges,
- Identify Screening Points,
- Develop Dry-Weather Screening Procedures
- Conduct Field Screening (Dry Weather Screening),
- Develop Illicit Tracking Procedures,
- Conduct Illicit Tracking,
- Eliminate Illicit Discharges,
- Document Illicit Discharge Investigations,
- Assess Field Screening Procedures,
- Develop a Public Reporting Hotline, and
- Provide Employee Training on Illicit Discharge Identification.

The following table describes the components of Georgetown County's Illicit Discharge Detection and Elimination (IDDE) program.

Table 11: Best Management Practices - Minimum Measure #3

IDDE BMPs			
Update Storm Sewer Map	**Not Started:** ☐ **In Progress :** ☐ **Completed:** ☒		
	Section: 4.2.3.2.1		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Update the storm sewer map showing the location of all outfalls and names and locations of all waters of the United States that receive discharge from those outfalls.	Throughout Permit Term	As Needed	Georgetown County Stormwater Manager
Measurable Goal:			
• Update storm sewer map as needed to show new outfalls.			
Measurable Goal Update:			
• Georgetown County has developed a storm sewer map that shows outfalls within the County's SMS4 area.			

Identify Priority Areas	Not Started: ☐ In Progress : ☐ Completed: ☒ Section: 4.2.3.2.2		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Identify illicit priority areas based on an identification of areas with a higher likelihood of illicit connections. The priority areas will be updated annually.	December 31, 2014	Annually	Georgetown County Stormwater Manager
Measurable Goal:			
• Establish priority areas to set the boundaries for SMS4 Dry-Weather Screening for the given permit year.			
Measurable Goal Update:			
• Georgetown County completed an IDDE Priority Analysis Report to identify priority areas.			

Identify Screening Points	Not Started: ☐ In Progress : ☐ Completed: ☒ Section: 4.2.3.2.3a		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Identify all field screening points within the priority area. Include a schedule for conducting the screening.	Deadline: March 31, 2015	Updated Annually	Georgetown County Stormwater Manager
Measurable Goal:			
• A list of all field screening points to be included in the summative Field Screening Document.			
• A schedule for conducting the field screening to be included in the summative Field Screening Document.			
Measurable Goal Update:			
• Georgetown County completed a *Standard Operating Procedures for Use in Field Investigations for Illicit Discharges* document.			

Develop Dry-Weather Screening Procedures	Not Started: ☐ In Progress : ☐ Completed: ☒ Section: 4.2.3.2.3a		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Develop dry-weather screening procedures for identifying potential illicit discharges.	Deadline: December 31, 2014	Once During Permit Term	Georgetown County Stormwater Manager
Measurable Goal:			
• A set of procedures for dry-weather screening activities.			
Measurable Goal Update:			
• Georgetown County completed a *Standard Operating Procedures for Use in Field Investigations for Illicit Discharges* document.			

Conduct Field Screening	Not Started: ☐ In Progress : ☒ Completed: ☐ Section: 4.2.3.2.3a		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Conduct dry weather flow screening at outfalls in the priority area and at known dry weather discharges.	Deadline: December 31, 2015	Annually	Georgetown County Stormwater Manager
Measurable Goal:			
• Locate potential illicit discharges in the priority area.			
Measurable Goal Update:			
• Georgetown County conducts dry weather flow screening at outfalls in the priority area. This is an ongoing effort by the County.			
Develop Illicit Tracking Procedures	Not Started: ☐ In Progress : ☐ Completed: ☒ Section: 4.2.3.2.4/5/8		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will develop procedures for tracking illicit discharges. The illicit tracking procedures will include minimum investigation requirements in section 4.2.3.2.5. In addition, the illicit tracking procedures will include requirements for responding to public notices. (section 4.2.3.2.8.a/b)	Deadline: December 31, 2014	Once During Permit Term	Georgetown County Stormwater Manager
Measurable Goal:			
• A set of procedures for illicit tracking activities.			
Measurable Goal Update:			
• Georgetown County completed a *Standard Operating Procedures for Use in Field Investigations for Illicit Discharges* document.			
Conduct Illicit Tracking/Determine Source of Illicit Discharge	Not Started: ☐ In Progress : ☒ Completed: ☐ Section: 4.2.3.2.4/5		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will conduct illicit tracking at outfalls identified as potential illicit discharges by the field screening effort.	Confirmed illicit discharges will be tracked within a timeframe listed in Table 10 Section 4.2.3.2.4/5	As Needed	Georgetown County Stormwater Manager
Measurable Goal:			
• Determine potential source(s) of illicit discharges identified during field screening.			
Measurable Goal Update:			
• Georgetown County follows their *Standard Operating Procedures for Use in Field Investigations for Illicit Discharges* document.			

Eliminate Illicit Discharges	Not Started: ☐ In Progress : ☒ Completed: ☐ Section: 4.2.3.2.7		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Once the source of an illicit discharge has been determined, the County will follow procedures (a-e) of section 4.2.3.2.7 of the permit to eliminate the illicit discharge.	Confirmed illicit discharges will be eliminated within the timeframe listed in Table 10 Section 4.2.3.2.7.b	As Needed	Georgetown County Stormwater Manager
Measurable Goal: • Documentation of eliminated illicit discharges.			
Measurable Goal Update: • Georgetown County follows the procedures in Section 4.2.3.2.7 of the permit to eliminate these discharges. This is an ongoing effort by the County.			

Document Illicit Discharge Investigations	Not Started: ☐ In Progress : ☒ Completed: ☐ Section: 4.2.3.2.5/6		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will document illicit discharge tracking and elimination activities to include the following information: • Date(s) the illicit discharge was observed • Results of the illicit investigation • Results of any follow-up investigations • Date the investigation was closed • Source of illicit discharge • Documentation for unresolved illicit tracking investigations in which no source is located (as required by section 4.2.3.2.6.a of the permit) • Documentation for intermittent illicit discharges (as required by section 4.2.3.2.6.b of the permit)	Documentation will begin as soon as practical but no later than three (3) business day	As Needed	Georgetown County Stormwater Manager
Measurable Goal: • Document illicit tracking and elimination activities.			
Measurable Goal Update: • Georgetown County maintains an electronic database of illicit discharge tracking and elimination activities.			

Field Screening Assessment	Not Started: ☐ In Progress : ☒ Completed: ☐ Section: 4.2.3.2.3b		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Assess the effectiveness of the Field Screening component of the IDDE program and adjust program if updates are found to be necessary.	Deadline: December 31, 2018	Once During Permit Term	Georgetown County Stormwater Manager

Measurable Goal:			
• Field screening effectiveness in the third annual report.			
Measurable Goal Update:			
• Georgetown County has assessed the effectiveness of their field screening program and determined it is effective in eliminating illicit discharges. The County is working to strengthen their dry weather screening program.			
Develop a Public Reporting Hotline	**Not Started:** ☐ **In Progress :** ☐ **Completed:** ☒		
	Section: 4.2.3.2.8		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will develop a Public Reporting Hotline to report illicit discharges.	Deadline: December 31, 2016	Once During Permit Term	Georgetown County Stormwater Manager
Measurable Goal:			
• Create "hotline" to report illicit discharges.			
Measurable Goal Update:			
• Georgetown County has an IDDE hotline, an online complaint form that is submitted electronically, and a form that can be filled out and mailed or faxed in.			
Provide Employee Training	**Not Started:** ☐ **In Progress :** ☒ **Completed:** ☐		
	Section: 4.2.3.9		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will implement a training program for all appropriate municipal field staff.	Start-up deadline: January 1, 2015	Annually	Georgetown County Stormwater Manager
Measurable Goal:			
• Provide IDDE training to appropriate field staff. This BMP will be implemented through training for Pollution Prevention in Section 4.2.6.5.			
Measurable Goal Update:			
• Georgetown County conducts this training annually.			

4.2.4 Construction Site Stormwater Runoff Control (Minimum Measure #4)

4.2.4.1 Minimum Measure #4 Permit Requirements

Georgetown County will revise the construction program by developing and implementing BMPs in order to meet the SMS4 general permit requirements. The County will update appropriate design requirements, the BMP Design Manual, Stormwater Ordinance and revise the corresponding SWP3 plan review procedures. Site inspection procedures will be updated to conform to the SMS4 general permit requirements, and an enforcement response plan (ERP) will be developed to determine how the County will use specific type of responses to address various types of violations. In addition, the County will develop educational packets for construction operators to educate them about areas in which improvements are needed.

Table 12: Minimum Measure #4 Permit Requirements

4.2.4.4.1 Regulatory requirement for erosion and sediment controls:
Below is a copy of the relevant sections of the existing ordinance which requires erosion and sediment controls as well as sanctions to ensure compliance. Ordinance section requiring erosion and sediment controls can be found in Georgetown County Ordinance Section 3.4 Design and Engineering Standards Ordinance section for sanctions to ensure compliance can be found in Georgetown County Ordinance Section 6.1 Enforcement. A copy of Georgetown County's Ordinance can be found in Appendix D.
4.2.4.4.2 Requirements for erosion and sediment controls and soil stabilization practices:
Georgetown County will provide requirements for construction site operators to implement appropriate BMP such as, a. *Erosion and Sediment Controls, and* *b. Soil Stabilization Practices.*
THIS SECTION INTENTIONALLY LEFT BLANK

4.2.4.4.3 Requirements for pollution prevention measures:

Georgetown County will provide requirements for the design, installation and maintenance of effective pollution prevention measures for construction site operators to:

a. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.

b. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on site to precipitation and to stormwater runoff that may cause adverse impacts to water quality, and,

c. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

d. The following discharges from sites are prohibited:

   i. Wastewater from washout of concrete, unless managed by an appropriate control;

   ii. Wastewater from washout and cleanout of stucco, paint, from release oils, curing compounds and other construction materials

   iii. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and,

   iv. Soaps or solvents used in vehicle and equipment washing.

4.2.4.4.4 Requirements for Stormwater Pollution Prevention Plans (SWP3):

Georgetown County will require each operator of a construction activity to prepare and submit a Stormwater Pollution Prevention Plan (SWP3) prior to the disturbance of land for the SMS4 to review and approve. Requirements for the SWP3 are included in Georgetown County's Plan Review Checklist.

THIS SECTION INTENTIONALLY LEFT BLANK

4.2.4.5 Review of SWP3:

Georgetown County's plan review procedures will at a minimum meet the following:

a. Make clear to operators of construction activity that they are prohibited from commencing construction activity until they receive of written approval of the plans.

b. Approve SWP3 that complies with the technical requirements of Georgetown County's plan review checklist which effectively meets the requirements of NPDES General Permit for Storm Water Discharges from Construction Activities, SCR100000.

c. The SWP3 must include the rationale used for selecting control measures, including how the control measure protects a waterway or stormwater conveyance.

d. Georgetown County will use qualified individuals, knowledgeable in the technical review of SWP3 to conduct reviews.

e. Document the review of each SWP3 plan using a checklist or similar process.

f. Procedures for SWP3 review, including the review of pre-construction site plans, for construction activity that discharge pollutant(s) of concern to TMDL waters and to waters on the 303(d) List of Impaired Waters, the SWP3 must identify potential water quality impacts the permitted discharges may have. The SWP3 shall limit sediment discharges to the MEP, shall protect water quality. Procedures for SWP3 review shall:

   i. Incorporate consideration of potential water quality impacts,

   ii. Include the review of construction site plans,

   iii. For construction projects that disturb less than 25 acres, carefully evaluate all selected BMPs and their ability to control the pollutant(s) of concern.

   iv. For construction projects that disturb 25 acres or more, require a written quantitative and qualitative assessment showing that the selected BMP will control the discharge of the pollutant, or pollutants, of concern from construction and post construction within a TMDL watershed, or to a water on the 303(d) List of Impaired Waters, and,

   v. Require that SWP3 prepared by construction activity applicants for SMS4 review and approval must demonstrate that stormwater discharges will neither cause nor contribute to a violation of water quality standards.

4.2.4.6 Site inspections:

Georgetown County will maintain an inventory of all active construction projects. The inventory will be continuously updated as new projects are permitted and projects are completed. The inventory will contain relevant contact information for each project (e.g., name, address, phone, etc.), the size of the project and area of disturbance. Georgetown County will make the inventory available to SC DHEC upon request. As part of this inventory,

a. Georgetown County will track the number of inspections for the inventoried construction sites throughout the reporting period to verify that the sites are inspected at the minimum frequencies required, and,

b. Document inspections and enforcement activities for each site in the inventory.

Georgetown County will implement procedures for inspecting construction projects in accordance with the frequency listed in the SMS4 General Permit.

Georgetown County will adequately inspect all phases of construction. At a minimum, inspections must occur following installation of initial BMPs, during active construction, and to confirm final site stabilization.

Georgetown County will have trained and qualified inspectors. Georgetown County will also continue to follow, and revise as necessary, written procedures outlining the inspection and enforcement procedures.

Inspections of construction sites must, at a minimum:

a. Check for coverage under SCR100000 by requesting a copy of any application or Notice of Intent (NOI), the stamped approved stormwater pollution prevention plan or other relevant application form during initial inspections.

b. Review the applicable stormwater pollution prevention plan and conduct a thorough site inspection to determine if control measures have been selected, installed, implemented, and maintained according to the plan.

c. Assess compliance with Georgetown County's ordinances and permits related to stormwater runoff, including the implementation and maintenance of designated minimum control measures.

d. Assess the effectiveness of control measures.

e. Visually observe and record non-stormwater discharges, potential illicit connections, and potential discharge of pollutants in stormwater runoff.

f. Provide a written or electronic inspection report generated from findings in the field.

4.2.4.7 Enforcement Response Plan (ERP):
Georgetown County will develop an Enforcement Response Plan (ERP). The ERP will contain descriptions of how Georgetown County will use specific type of responses to address various types of violations. The ERP will include, but is not limited to: a. Types of response; i. Verbal warnings, ii. Written notices, and iii. Escalated enforcement measures such as citations, fines, stop work orders, etc. b. Specific strategies for escalating enforcement response, where necessary, to address persistent, repeat or escalating violations. c. Ensure ERP is reasonably effective in reducing pollutant discharges to the MEP and to protect water quality.
4.2.4.8 SMS4 staff training:
Georgetown County will ensure that all staff, whose primary job duties are related to implementing the construction stormwater program, including permitting, plan review, construction site inspections, and enforcement, is trained to conduct these activities.
4.2.4.9 Construction site operator and public involvement:
4.2.4.9.a Construction operator education:
Georgetown County will continue to require pre-construction meetings with contractors prior to permit issuance in order to address erosion prevention and sediment control issues in which improvements are needed and to enforce any required actions.
4.2.4.9.b Public involvement:
Georgetown County will consider public responses for program modifications during public education and outreach programs.

4.2.4.2 Minimum Measure #4 BMP Implementation

In order to meet the requirements of Minimum Measure #4, Georgetown County has listed BMPs that focus on the reduction of pollutants in stormwater runoff to the SMS4 from construction activities that result from a land disturbance greater than or equal to one acre, or located within 0.5 mile of a receiving waterbody and disturbing 0.5 acre or more. Georgetown County will continue implementing existing BMPs that provide assistance and ensure compliance through routine inspections. Evaluation of the success of this minimum measure will be through careful analysis of the measurable goals for each BMP included in this minimum measure. Measurable goals for each BMP were selected by formulating attainable

goals for the various BMP implementation steps or tasks. In order to meet the requirements of Minimum Measure #4, Georgetown County will:

- Update Stormwater Management Design Manual
- Revise SWP3 submittal and review requirements,
- Develop SWP3 review procedures for discharges to impaired waters,
- Modify and maintain a Construction Site and Site Inspection Inventory,
- Develop/modify site inspection procedures,
- Develop section of ERP for Construction Activities, and
- Develop construction operator training/education.
- Update the County's Stormwater BMP Manual
- Update the County's Stormwater Management Ordinance

The following table describes the components of the Georgetown County's construction site stormwater runoff control program:

Table 13: Best Management Practices - Minimum Measure #4

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL BMPs			
Update Stormwater Management Design Manual	**Not Started:** ☐ **In Progress :** ☒ **Completed:** ☐		
	Section: 4.2.4.4.2 and 4.2.4.4.3		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Update the Stormwater Management Design Manual to include requirements for Erosion and Sediment Controls and Soil Stabilization Practices.	December 31, 2018	Once during permit term	Georgetown County Stormwater Manager
Update the Stormwater Management Design Manual to include requirements for Pollution Prevention Measures listed in Section 4.2.4.4.3 of Table 12.	December 31, 2018	Once during permit term	Georgetown County Stormwater Manager
Measurable Goal:			
• Provide a tool to assist construction site operators to implement appropriate Erosion Prevention and Sediment Control (EPSC) BMPs and Pollution Prevention BMPs.			
Measurable Goal Update:			
• Georgetown County is currently updating the Stormwater Management Design Manual.			
THIS SECTION INTENTIONALLY LEFT BLANK			

Revise SWP3 Submittal & Review Requirements	Not Started: ☐ In Progress : ☒ Completed: ☐ Section: 4.2.4.5		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Update the Stormwater Plan Review Checklist for Design Professionals to ensure SWP3 submittals include a rationale used for selecting control measures, including how the control measure protects a waterway or stormwater conveyance.	December 31, 2018	Once during permit term	Georgetown County Stormwater Manager
Update the Stormwater Plan Review Checklist for Design Professionals to include a statement to operators of construction activity that they are prohibited from commencing construction activity until they receive written approval of the plans.	December 31, 2018	Once during permit term	Georgetown County Stormwater Manager
Update plan review procedures (internal checklist) to address new requirements listed above.	December 31, 2018	Once during permit term	Georgetown County Stormwater Manager
Measurable Goal:			
• Update SWP3 submittal requirement documents and corresponding plan review procedures to include items listed above.			
Measurable Goal Update:			
• Georgetown in is the process of updating their Design Manual and the SWP3 requirements are included in this update.			

Develop SWP3 Review Procedures for Discharges to Impaired Waters	Not Started: ☐ In Progress : ☒ Completed: ☐ Section: 4.2.4.5		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will develop procedures outlined in section 4.2.4.5.f for SWP3 review for construction activity that discharge pollutant(s) of concern to TMDL waters and to waters on the 303(d) List of Impaired Waters.	December 31, 2018	Once during permit term	Georgetown County Stormwater Manager
Measurable Goal:			
• Develop plan review procedures for construction discharges to impaired waters.			
Measurable Goal Update:			
• Georgetown in is the process of updating their Design Manual and construction discharges to impaired waterbodies are included in this update.			

THIS SECTION INTENTIONALLY LEFT BLANK

Maintain Construction Site and Site Inspection Inventory	Not Started: ☐ In Progress : ☒ Completed: ☐		
	Section: 4.2.4.6(a)		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will maintain an inventory of all active construction projects to include information for: • Relevant contact information • The size of the project • Area of disturbance • Number of inspections by Georgetown County for each construction site • Inspection results and enforcement activities	December 31, 2015	As Needed	Georgetown County Stormwater Manager
Measurable Goal:			
• A database (using ENERGOV software) for construction sites to provide general site information and ensure appropriate site inspections are conducted by the construction operator. The database will be available for review upon request.			
Measurable Goal Update:			
• Georgetown County maintains an electronic database for active construction sites. This is an ongoing effort by the County.			

Develop/Modify Site Inspection Procedures	Not Started: ☐ In Progress : ☐ Completed: ☒		
	Section: 4.2.4.6(b-d)		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will modify site inspection procedures to be in compliance with permit section 4.2.4.6(b-d).	December 31, 2015	Once during permit term	Georgetown County Stormwater Manager
Measurable Goal:			
• Develop/Edit site inspection procedures that includes the items listed in section 4.2.4.6(b-d).			
Measurable Goal Update:			
• Georgetown County developed their *Construction Compliance Inspections* Policy and Procedures Manual to ensure compliance with permit section 4.2.4.6(b-d).			

ERP for Construction Activities	Not Started: ☐ In Progress : ☐ Completed: ☒		
	Section: 4.2.4.7		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Develop enforcement responses for permit violations, SWP3 violations, and EPSC BMP installation, operation, and maintenance violations.	Deadline: December 31, 2014	Once during permit term	Georgetown County Stormwater Manager
Measurable Goal:			
• Develop an enforcement response plan to clearly identify types of violations, response to violations, and enforcement measures. The response plan will be made available to construction site operators and SCDHEC.			
Measurable Goal Update:			
• Georgetown County developed an ERP for construction activities.			

MS4 Staff Training	Not Started: ☐ In Progress : ☒ Completed: ☐ Section: 4.2.4.8		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Require construction inspectors and plan reviewers to complete appropriate training.	December 31, 2014	As Needed	Georgetown County Stormwater Manager
Measurable Goal: • Providing adequate training for staff whose primary job duties are related to implementing the construction stormwater program			
Measurable Goal Update: • Georgetown County requires construction inspectors and plan reviewers to complete appropriate training as an ongoing effort.			
Develop Construction Site Operator Education	Not Started: ☐ In Progress : ☒ Completed: ☐ Section: 4.2.4.9a		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will develop and implement an effective communication process with construction contractors to educate them on areas in which improvements are needed and to enforce any required actions.	December 31, 2014	Annually	Georgetown County Stormwater Manager
Measurable Goal: • Continue effective communication with construction contractors.			
Measurable Goal Update: • Georgetown County effectively communicates with construction contractors as an ongoing effort.			
Construction Operator Training/Education	Not Started: ☐ In Progress : ☐ Completed: ☒ Section: 4.2.4.9b		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Georgetown County will implement procedures for receipt and consideration of information submitted by the public.	December 31, 2014	Annually	Georgetown County Stormwater Manager
Measurable Goal: • Implement procedures for receipt and consideration of information submitted by the public.			
Measurable Goal Update: • Georgetown County implements an SOP for receipt and consideration of information submitted by the public.			

4.2.5 Post-Construction Stormwater Management for New Development and Redevelopment (Minimum Measure #5)

4.2.5.1 Minimum Measure #5 Permit Requirements

The post construction stormwater management program is designed to give Georgetown County the authority to require structural and non-structural stormwater quality BMPs on sites being developed. Georgetown County currently provides design requirements to control stormwater discharges from new development and redeveloped sites and has established

performance standards for addressing the first inch of runoff. Georgetown County will improve the post construction program by developing additional or revising existing site performance standards and ensuring post construction BMPs are inspected and maintained appropriately.

Table 14: Minimum Measure #5 Permit Requirements

4.2.5.1.	Post-construction stormwater management program:
	Georgetown County will provide water quality design requirements to control stormwater discharges from new development and redeveloped sites that disturb at least one acre (including projects that disturb less than one acre that are part of a larger common plan of development or sale, LCP) that discharge into an SMS4. The requirements will be updated in their ordinance and also in their Stormwater Management Design Manual.
4.2.5.2	Site performance standards:
	In accordance with Section 4.2.5.2 of the SMS4 general permit, Georgetown County will produce a set of site performance standards which will be applied to all new development and redevelopment sites discharging to Georgetown County's SMS4, which disturb greater than or equal to one acre. These standards will ensure that projects approximate pre-development conditions to the MEP to protect water quality. The appropriate documents will be updated to include any newly established performance standards.
4.2.5.3	Site plan review:
	To ensure that all applicable new development and redeveloped sites conform to the performance standards required in Section 4.2.5.2, Georgetown County will continue project review, approval, and enforcement procedures. Georgetown County will conduct site plan reviews of all new development and redeveloped sites which will disturb greater than or equal to one acre and discharge to the SMS4 (including sites that disturb less than one acre that are part of a LCP). The site plan review will specifically address how the project applicant meets the performance standards and how the project will ensure long-term maintenance of post construction BMP.
4.2.5.4	Long-term maintenance of post-construction stormwater control measures:
	All structural stormwater control measures installed and implemented to meet the site performance standards will be maintained in perpetuity. Georgetown County will ensure the long-term maintenance of structural stormwater control measures installed. Georgetown County will require that property owners or operators of any new development or redeveloped site subject to the site performance standards will provide verification of maintenance for the approved structural stormwater control measures used to comply with the performance standards.

4.2.5.5	Inventory of post-construction stormwater control measures:
	Georgetown County will maintain an inventory of all post-construction structural stormwater control measures installed and implemented at new development and redeveloped sites, including both public and private sector sites located within the permit area. At a minimum, the inventory shall contain all BMP constructed since the effective date starting with the effective date of this permit.
4.2.5.6	Inspections and enforcement:
4.2.5.6.1	Inspection procedures:
	To ensure that all stormwater control measures are operating correctly and are being maintained as required consistent with its applicable maintenance agreement, Georgetown County will conduct inspections of each project site covered under the performance standards listed in the Stormwater Management Design Manual, at least one time during the permit term.
4.2.5.6.2	Post-construction notification:
	Within 30 days of completion of construction of any project required to meet the performance standards, Georgetown County will conduct a post construction inspection to verify that BMP have been installed as per approved plans. Georgetown County will use the existing NOT form as the means for construction operators to notify the County of construction completion.
4.2.5.6.3	Inspection reports:
	Georgetown County will document its inspection findings in an inspection report. Georgetown County will document and maintain records of inspection findings and enforcement actions and make them available for review by the permitting authority.

4.2.5.2 Minimum Measure #5 BMP Implementation

Evaluation of the success of this minimum measure will be through careful analysis of the measurable goals for each BMP included in this minimum measure. Measurable goals for each BMP were selected by formulating attainable goals for the various BMP implementation steps or tasks. In order to meet the requirements of Minimum Measure #5, Georgetown County will:

- Develop Water Quality Design Requirements,
- Develop site performance standards,
- Develop long-term maintenance requirements for post-construction BMPs,
- Create a post-construction BMP inventory, and
- Develop a post-construction BMP inspection program.

The following table describes the components of Georgetown County's Post-Construction stormwater management program:

Table 15: Best Management Practices – Minimum Measure #5

POST-CONSTRUCTION STORMWATER MANAGEMENT BMPS			
Develop Water Quality Design Requirements	Not Started: ☐ In Progress : ☒ Completed: ☐		
	Section: 4.2.5.1		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Develop water quality design requirements to be implemented in the Stormwater Management Design Manual to control stormwater discharges from new development and redeveloped sites that disturb at least one acre and are within ½ mile of a receiving waterbody and disturb 0.5 acre or more.	December 31, 2018	Once during permit term	Georgetown County Stormwater Manager
Measurable Goal:			
• Provide design community with design guidance for Post Construction BMPs in Ordinance and Stormwater Management Design Manual.			
Measurable Goal Update:			
• Georgetown County is currently updating their Stormwater Design Manual, which will include guidance for Water Quality Design Standards.			
Develop Site Performance Standards	Not Started: ☐ In Progress : ☒ Completed: ☐		
	Section: 4.2.5.2		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Edit the Post Construction section of the Stormwater Management Design Manual to include Post Construction Site Performance Standards, including the "first inch" standard.	December 31, 2018	Once during permit term	Georgetown County Stormwater Manager
Measurable Goal:			
• Provide design community with performance and design standards for Post Construction BMPs			
Measurable Goal Update:			
• Georgetown County is currently updating their Stormwater Design Manual, which will include guidance for Post Construction Site Performance Standards.			
Revise Plan Review Checklist & Design Manual for Post Construction SWP3 Submittal Requirements	Not Started: ☐ In Progress : ☒ Completed: ☐		
	Section: 4.2.5.3		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Update the Stormwater Management Design Manual and Plan Review Checklist to include SWP3 submittal requirements for Post Construction Site Performance Standards.	December 31, 2018	Once during permit term	Georgetown County Stormwater Manager

Measurable Goal:
• Update review procedures to address any updated site performance standards.
• Develop SWP3 requirements for Post Construction Site Performance Standards.
Measurable Goal Update:
• Georgetown County is currently updating their Stormwater Design Manual.

Develop Long Term Maintenance Requirements for Post Construction BMPs	Not Started: ☐ In Progress : ☐ Completed: ☒ **Section: 4.2.5.4**		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Develop a long term maintenance agreement form for post construction BMPs to be signed by the property owner. Develop maintenance verification process to ensure post construction BMPs are properly maintained.	December 31, 2015	Update As Needed	Georgetown County Stormwater Manager
Measurable Goal:			
• Develop a post construction BMP maintenance agreement form and a post construction BMP maintenance verification process.			
Measurable Goal Update:			
• Georgetown County's Stormwater Ordinance includes provisions for long term maintenance of post construction BMPs.			
• Georgetown County has developed a long term maintenance agreement.			

Create Post Construction BMP Inventory	Not Started: ☐ In Progress : ☐ Completed: ☒ **Section: 4.2.5.5**		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Develop an inventory of post construction BMPs installed and implemented at new development and re-development sites within the permit area after the effective date of permit SCR030000 (January 1, 2014) and keep it updated.	December 31, 2014	Once during permit term	Georgetown County Stormwater Manager
Update County permitted Post-Construction BMP Inventory.	Throughout Permit Term Beginning in Year 2	Ongoing	Georgetown County Stormwater Manager
Measurable Goal:			
• Provide an inventory of County permitted Post-Construction BMPs.			
Measurable Goal Update:			
• Georgetown County maintains an electronic inventory of County permitted BMPs. This is an ongoing effort by the County that is updated as new BMPs are permitted.			

Post-Construction BMP Inspections Program	Not Started: ☐ In Progress : ☐ Completed: ☒ Section: 4.2.5.6		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Develop procedures and forms for post-construction BMP installation inspections.	December 31, 2014	Once during permit term	Georgetown County Stormwater Manager
Conduct post-construction BMP inspections on County permitted post-construction BMPs within 30 days of construction completion to ensure BMP is installed per approved plans.	Throughout Permit Term Beginning in Year 2	Annually	Georgetown County Stormwater Manager
Develop procedures and forms for post-construction BMP maintenance inspections.	December 31, 2014	Once during permit term	Georgetown County Stormwater Manager
Conduct post-construction BMP inspections on County permitted post-construction BMPs to ensure BMPs are maintained properly after the County is notified through a Notice of Termination (NOT).	Throughout Permit Term Beginning in Year 2	Once during permit term	Georgetown County Stormwater Manager
Document and maintain records of inspection findings and enforcement actions and make them available for review by the permitting authority.	Throughout Permit Term Beginning in Year 2	Annually	Georgetown County Stormwater Manager
Measurable Goal:			
• Develop procedures and forms for Post-Construction BMP installation inspections and include procedures in this document.			
• Inspect all County permitted post-construction BMPs within 30 days of construction completion.			
• Develop procedures and forms for Post-Construction BMP maintenance inspections and include procedures in this document.			
• Inspect appropriate construction sites to ensure County permitted post-construction BMPs are maintained and operating correctly.			
• Provide documentation of Post-Construction BMP inspections.			
Measurable Goal Update:			
• Georgetown County has developed procedures and forms for Post Construction BMP installation and maintenance inspections.			
• Georgetown County inspects all post construction BMPs within 30 days after construction.			
• Georgetown County performs maintenance inspections on Post Construction BMPs annually.			
• Georgetown County maintains electronic records of inspections and enforcement actions.			

4.2.6 Pollution Prevention / Good Housekeeping (Minimum Measure #6)

4.2.6.1 Minimum Measure #6 Permit Requirements

In order to meet the requirements of Minimum Measure #6, Georgetown County will implement a range of BMPs targeted to reduce pollutants from County-Owned facilities and storm sewer systems. A Countywide inventory of major municipal facilities will be developed, and each facility will be assessed for the potential pollutant discharges. Based on the assessment, a list of high priority facilities will be developed, and annual inspections will be conducted at the high priority facilities. Georgetown County will prioritize their owned and/or operated stormwater management systems and implement a maintenance schedule. All County-Owned structural controls (stormwater BMPs) will be inspected and maintained. In addition, the County will develop a set of pollution prevention measures for operation and maintenance activities. Georgetown County will provide training to appropriate employees to ensure pollution prevention and good housekeeping activities are practiced throughout the County's separate departments.

Table 16: Minimum Measure #6 Permit Requirements

4.2.6.1	Development of a municipal facility and stormwater control inventory:
	Georgetown County will update and maintain an inventory of municipally-owned and stormwater controls that are not covered under a separate general or individual NPDES permit (i.e. industrial, solid waste, etc.). Examples of these types of facilities may include but are limited to composting facilities, equipment storage and maintenance facilities, landscape maintenance on municipal property, material storage yards, public buildings, golf courses, public work yards, recycling facilities, salt storage facilities, municipally owned and/or maintained structural stormwater controls. Georgetown County will also include a list of industrial facilities owned or operated by the County that are subject to SCDHEC NPDES General Permit for Storm Water Discharges associated with Industrial Activity (SCR000000) or individual NPDES permits for discharges of storm water associated with industrial activity that ultimately discharge to the County's SMS4. The SCDHEC permit number or a copy of the Industrial NOI form for each facility will be included.
4.2.6.2	Municipally-owned or operated facility assessment:
4.2.6.2.1	Comprehensive assessment of pollutant discharge potential:
	Georgetown County will develop a comprehensive assessment of all County-owned or operated facilities identified in Part 4.2.6.1 at least once during the permit term and include it in the permit reapplication for their potential to discharge pollutants in stormwater.
4.2.6.2.2	Identification of high priority facilities:
	Georgetown County will identify "high-priority" facilities that have a high potential to generate stormwater pollutants.

4.2.6.2.3	Documentation of comprehensive assessment results:
	Georgetown County will document the results of the assessments and maintain copies of all site evaluation checklists used to conduct the comprehensive assessment. The documentation will include the results of Georgetown County's initial assessment, any identified deficiencies and corrective actions taken.
4.2.6.3	Annual comprehensive inspections of high priority facilities:
	Starting no later than 24 months from the effective date of coverage and at least once per year thereafter, a comprehensive inspection of "high priority" facilities (Part 4.2.6.2.2), including all stormwater controls, must be performed by Georgetown County. Specific attention will be given to waste storage areas, dumpsters, vehicle and equipment maintenance/fueling areas, material handling areas, and similar potential pollutant-generating areas. The yearly inspection results will be documented, and records will be maintained by Georgetown County. The inspection report will also include any identified deficiencies and the corrective actions taken to fix the deficiencies.
4.2.6.4	Storm Sewer System Maintenance Activities – SMS4 Maintenance:
4.2.6.4.1	Assessment/prioritization of stormwater management systems/structures:
	Georgetown County will prioritize their owned and /or operated storm water management systems / structures and implement a maintenance schedule.
4.2.6.4.2	Municipal activities and operation:
	Georgetown County will develop a set of pollution prevention measures that, when applied during municipal O&M activities, will reduce the discharge of pollutants in stormwater. Municipal operation and maintenance activities to be considered include but are not limited to; pavement and rights-of-way maintenance, bridge maintenance, cold weather operations, and municipally sponsored events.
4.2.6.4.3	Maintenance of municipally owned and/or maintained structural stormwater controls:
	Georgetown County will inspect, and maintain, wherever and whenever necessary, all County owned or maintained structural stormwater controls. Georgetown County will also maintain all municipally owned green infrastructure practices through regularly scheduled maintenance activities.
	THIS SECTION INTENTIONALLY LEFT BLANK

4.2.6.5	Employee training and education requirements:
	Georgetown County will develop an annual employee training program for appropriate employees involved in implementing pollution prevention and good housekeeping practices. *This annual training will include a general stormwater education component, any new technologies, operations, or responsibilities that arise during the year, and the Permit Requirements that apply to the staff being trained.* *A description of the program will be maintained for review by the permitting authority.* *Georgetown County will also identify and track all personnel requiring training and records must be maintained.* *Training will begin within the first year from the effective date of permit authorization.*
4.2.6.6	Requirements for contractor oversight:
	Contractors hired by Georgetown County to perform municipal maintenance activities will be contractually required to comply with all of Georgetown County's stormwater control measures, good housekeeping practices, and facility-specific stormwater management procedures. *Georgetown County will provide oversight of contractor activities to ensure that contractors are using appropriate control measures and procedures.*

4.2.6.2 Minimum Measure #6 BMP Implementation

In order to meet the requirements of Minimum Measure #6, Georgetown County will:

- Develop a Municipal Facility Inventory
- Conduct Assessment of Non-Permitted Municipal Facility & Identify High Priority Facilities
- Conduct High Priority Facility Inspections
- Prioritize Stormwater Management Systems/Structures
- Develop and Implement Pollution Prevention Measures for Operation and Maintenance Activities
- Inspect and Maintain County-Owned Structural Controls (stormwater BMPS)
- Conduct Pollution Prevention and Good House Keeping Employee Training
- Provide Contractor Oversight.

The following table describes the components of Georgetown County's pollution prevention/good housekeeping for municipal operations program:

Table 17: Best Management Practices – Minimum Measure #6

POLLUTION PREVENTION / GOOD HOUSEKEEPING BMPS			
Municipal Facility Inventory	Not Started: ☐ In Progress : ☐ Completed: ☒		
	Section: 4.2.6.1		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Develop an inventory of all County-owned facilities and stormwater controls that are not covered under a separate NPDES permit In addition, include a list of all municipally owned facilities that are covered under a separate NPDES permit.	December 31, 2014	Once during the permit term	Georgetown County Stormwater Manager
Measurable Goal:			
• An inventory of non-permitted municipal facilities			
• A list of all municipally owned facilities that are covered under a separate NPDES permit.			
Measurable Goal Update:			
• Georgetown County maintains an inventory of all non permitted County-owned facilities and all municipally owned facilities under a separate NPDES permit.			
Assessment of Non-Permitted Municipal Facilities	Not Started: ☐ In Progress : ☐ Completed: ☒		
	Section: 4.2.6.2		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Create a comprehensive assessment of all municipally-owned or operated facilities.	December 31, 2014	Once during permit term	Georgetown County Stormwater Manager
Based on the results of the assessment, identify high priority facilities and document results.	December 31, 2015	Once during permit term	Georgetown County Stormwater Manager
Measurable Goal:			
• Identify high priority facilities.			
• Documentation of results.			
Measurable Goal Update:			
• Georgetown County has identified a list of high priority facilities.			
Conduct High Priority Facility Inspections	Not Started: ☐ In Progress : ☒ Completed: ☐		
	Section: 4.2.6.3		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Create a high priority inspection report template with sections for identified deficiencies and corrective action taken for each site inspection.	December 31, 2015	Once during permit term	Georgetown County Stormwater Manager
Conduct annual facility site inspections including evaluations of potential "pollutant generating" areas and document inspection results.	Throughout Permit Term Beginning in Year 3 (January 1, 2016)	Annual	Georgetown County Stormwater Manager
Measurable Goal:			

- A high priority facility inspection report form.
- Conduct annual inspections and determine potential "polluting generating" areas at high priority facilities.
- Documentation of facility inspection report forms.

Measurable Goal Update:

- Georgetown County has developed a high priority inspection report form. Annual inspections will begin in Permit Year 3.
- Georgetown County has been annual inspections on high priority facilities.

Prioritization MS4 Stormwater Management Systems/Structures	Not Started: ☐ In Progress : ☒ Completed: ☐ Section: 4.2.6.4.1		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Prioritize storm water management systems / structures.	December 31, 2016	Once during permit term	Georgetown County Stormwater Manager
Implement a maintenance schedule for stormwater management systems/structures	December 31, 2018	Once during permit term	Georgetown County Stormwater Manager

Measurable Goal:

- A schedule to maintain the stormwater management system.

Measurable Goal Update:

- The stormwater system priority list has been developed. Georgetown County is working to develop a stormwater system maintenance schedule.

Develop Pollution Prevention Measures for Operation and Maintenance Activities	Not Started: ☐ In Progress : ☐ Completed: ☒ Section: 4.2.6.4.2		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Develop a written set of pollution prevention measures for municipal operation and maintenance activities.	December 31, 2015	Once during permit term	Georgetown County Stormwater Manager
Implement pollution prevention measures for municipal operation and maintenance activities.	January 1, 2017	Throughout permit term	Georgetown County Stormwater Manager

Measurable Goal:

- Create a set of pollution prevention measures for municipal operation and maintenance activities.

Measurable Goal Update:

- Georgetown County created pollution prevention measures for municipal operation and maintenance activities. Additionally, each high priority site has an individualized SWPPP.

Inspect and Maintain County Owned Structural Controls	Not Started: ☐ In Progress : ☒ Completed: ☐		
	Section: 4.2.6.4.3		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Conduct inspections and perform necessary maintenance for County owned structural controls.	December 31, 2015	Annually	Georgetown County Stormwater Manager
Measurable Goal:			
• Inspection and maintenance reports.			
Measurable Goal Update:			
• Georgetown County inspects and maintains County owned structural controls annually.			

Pollution Prevention and Good House Keeping Employee Training	Not Started: ☐ In Progress : ☒ Completed: ☐		
	Section: 4.2.6.5		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Develop an annual employee training program for appropriate employees involved in implementing pollution prevention and good housekeeping practices. Include training for IDDE.	Deadline: December 31, 2014	Once During Permit Term	Georgetown County Stormwater Manager
Create a list of employees that have been identified for pollution prevention training.	Deadline: December 31, 2014	Annually	Georgetown County Stormwater Manager
Conduct pollution prevention and good housekeeping employee training.	December 31, 2015	Annually	Georgetown County Stormwater Manager
Measurable Goal:			
• A pollution prevention employee training plan/program and training logs.			
Measurable Goal Update:			
• Georgetown County conducts pollution prevention and good housekeeping training with identified staff annually.			

Provide Contractor Oversight	Not Started: ☐ In Progress : ☐ Completed: ☒		
	Section: 4.2.6.6		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Provide oversight of contractor activities to ensure that contractors are using appropriate control measures and procedures to comply with all SMS4 stormwater control measures, good housekeeping practices, and facility-specific stormwater management procedures.	Deadline: December 31, 2015	Throughout Permit Term	Georgetown County Stormwater Manager
Measurable Goal:			
• Georgetown County overseeing contractors.			
Measurable Goal Update:			
• Georgetown County provides oversight for contractors to ensure permit compliance.			

4.5 Reviewing and Updating Storm Water Management Plans

Table 18: Reviewing and Updating SWMP

SWMP REQUIREMENTS			
Update Storm Water Management Plan	Not Started: ☐ In Progress : ☒ Completed: ☐		
	Section: 4.5.1 & 4.5.2		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Review and revise the SWMP document to keep it up to date during the term of the permit.	December 31, 2018	Annually	Georgetown County Stormwater Manager
Storm Water Management Plan Updates Required by SCDHEC	Not Started: ☐ In Progress : ☒ Completed: ☐		
	Section: 4.5.3		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
SCDHEC requested changes to the SWMP	December 31, 2018	As Required	Georgetown County Stormwater Manager

This SWMP is a living document and will be updated and revised throughout the permit term. In accordance with Section 4.5.2 of the SMS4 general permit, additions (but not subtracting or replacing components) to the SWMP will be made at any time with a written notification made to SCDHEC.

Any changes intended to replace an ineffective or unfeasible BMP with an alternate BMP will be requested and submitted in written form to SCDHEC at any time. Unless denied SCDHEC, changes proposed in accordance with the criteria below will be deemed approved and may be implemented sixty (60) days from submittal of the request. If request is denied, SCDHEC will send Georgetown County a written response giving a reason for the decision. The modification requests must include the following:

- An analysis of why the BMP is ineffective or infeasible (including cost prohibitive),
- Expectations on the effectiveness of the replacement BMP, and
- An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.

Additionally, SCDHEC may request Georgetown County to make changes to the SWMP at any time to:

- Address documented impacts on receiving water quality caused, or contributed to, by discharges from the SMS4;
- Include more stringent requirements necessary to comply with new Federal statutory or regulatory requirements; or
- Include such other conditions deemed necessary by the Department to comply with the goals and requirements of the Clean Water Act.

Changes requested by SCDHEC must be made in writing, set forth the time schedule for the County to develop the changes, and offer the County the opportunity to propose alternative program changes to meet the objective of the requested modification. All changes required by SCDHEC will be made in accordance with South Carolina Water Pollution Control Permits Regulation 61-9 124.5, 122.62, or as appropriate 122.63.

5.3 Reporting

Table 19: Reporting

REPORTING			
1st Report	**Not Started: ☐ In Progress : ☐ Completed: ☒**		
	Section: 5.3		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Complete and Submit 1st Report (covering years 1 and 2).	April 01, 2016	Once	Georgetown County Stormwater Manager
2nd Report	**Not Started: ☐ In Progress : ☐ Completed: ☒**		
	Section: 5.3		
Milestone(s)	**Schedule/Deadline**	**Frequency**	**Responsible Party**
Complete and Submit 2nd Report (covering years 3 and 4).	July 4, 2018	Once	Georgetown County Stormwater Manager
3rd Report	**Not Started: ☐ In Progress : ☐ Completed: ☒**		
	Section: 5.3		
Milestone(s)	**Schedule**	**Frequency**	**Responsible Party**
Complete and Submit 3rd Report (covering years 5 and 6).	April 1, 2020	Once	Public Works Department

Unless DHEC requires more frequent reports, reports will be submitted based on the following schedule:

1. The first report covering years 1 and 2 must be submitted to the Department twenty-seven (27) months after the effective date of the permit.

2. The following report, covering years 3 and 4 shall be submitted 180 days before the permit expiration date as part of the re-notification.

3. While, and if the expired permit is continued, reports are due every year on the anniversary date of the expired permit.

4. SCDHEC released a letter, dated December 3, 2019, indicating that the 3rd annual report should be due to April 2, 2020, and shall cover years 2018 and 2019. The letter also indicated that the annual report and associated appendices, including the updated SWMP, shall be submitted electronically. Georgetown County complied with this letter.

The permit indicates that all reports shall be sent to the address below unless the Department instructs permittees to submit via alternate mechanisms (i.e. electronic mechanisms):

SCDHEC Bureau of Water
Water Pollution Compliance & Enforcement
2600 Bull Street
Columbia, SC 29201-1708

All reports will include:

- The status of the County's compliance with permit conditions, an assessment of the appropriateness of the identified BMP under Part 4, progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and the measurable goals for each of the minimum control measures;

- Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP;

- A summary of the storm water activities the County plans to undertake during the next reporting cycle (including an implementation schedule);

- Proposed changes to the County's SWMP, including changes to any BMP or any identified measurable goals that apply to the program elements; and

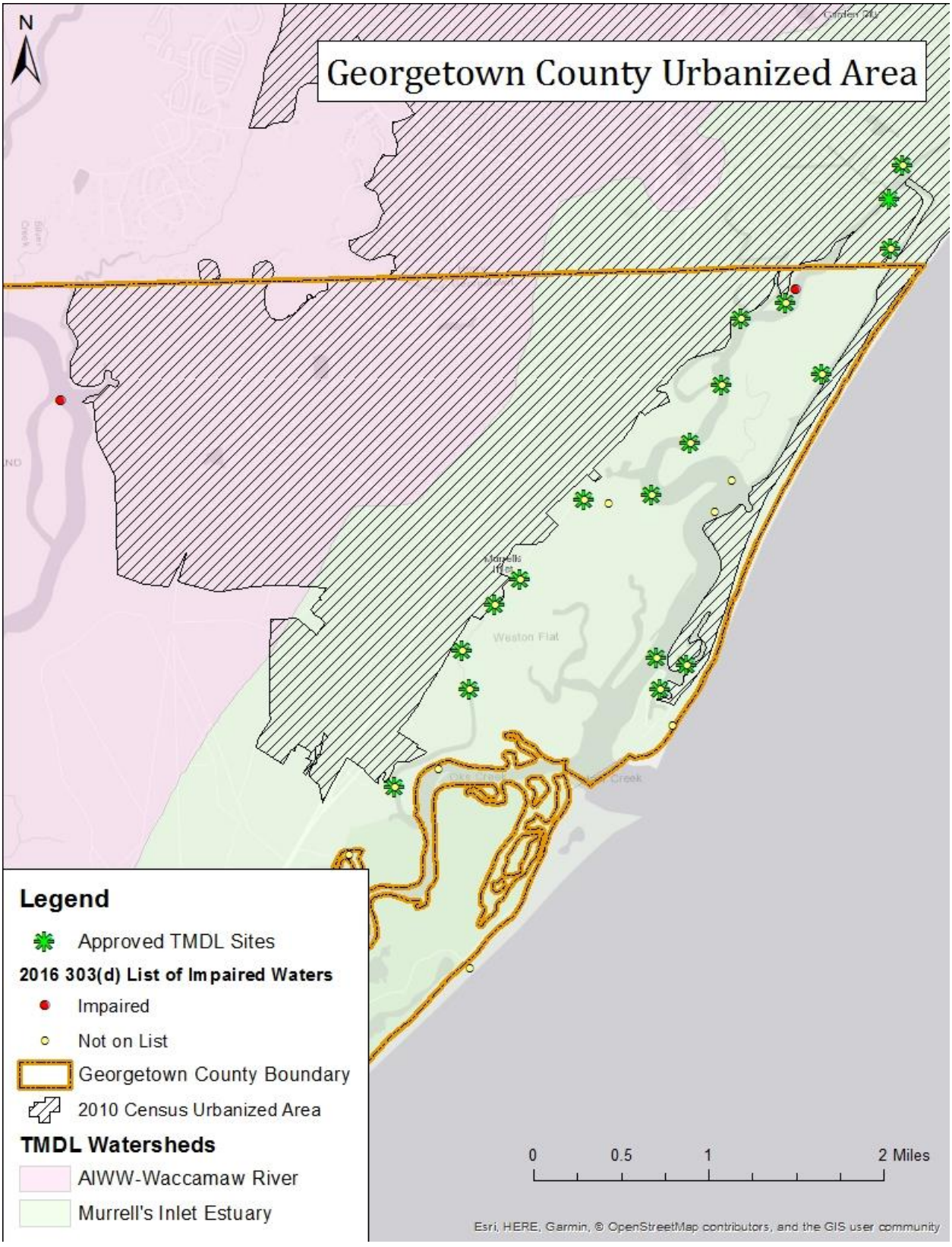
- Notice that the County is relying on another entity to satisfy some of the County's permit obligations (if applicable).

- Information requested in the permit including, but not limited to: sections 1.4.7, 3.1.1.1, 3.2.1.1, 3.2.1.2.2, 3.3.6, 4.1.6 and in the additional conditions applicable to NPDES MS4 permits contained in Appendix B of the SMS4 general permit.

Appendix A
Georgetown County
Revisions Sheet

Date	Description of Update or Revision
December 2015	Updates to the Minimum Measure tables to reflect the current status of each milestone.
	Interim dates that were not set by the permit were adjusted, if needed.
March 2016	The impaired stations list was updated from the 2012 303(d) list to the 2014 303(d) list. The changes that were made are listed in the 2016 Annual Report and are reflected in the current SWMP.
	The TMDL list was verified at the time of the 2016 Annual Report.
June 2018	The impaired stations list was updated from the 2014 303(d) list to the 2016 303(d) list. The changes that were made are listed in the 2018 Annual Report and are reflected in the current SWMP.
	The TMDL list was verified at the time of the 2018 Annual Report.
March 2020	Updates to the Minimum Measure tables to reflect the current status of each milestone.
	The reporting schedule was updated to reference the SCDHEC letter dated December 3, 2019 indicating the report to cover years 5 and 6; due April 1, 2020.
June 2020	The impaired stations list was updated from the 2016 303(d) list to the 2018 303(d) list.
August 2021	The SWMP was reviewed for accuracy; no changes were made.
October 2022	The impaired stations list was updated from the 2018(d) list to the 2020(d) list draft. Additionally, the SWMP was reviewed for accuracy, several date edits were made.
December 2023	The impaired stations list was updated from the 2020(d) list draft to the 2022(d) list. Permittee Mailing Address updated. Two (2) new WQMS were added to impaired station list (RT-15105 and RT-18169). The SWMP was reviewed for accuracy. Corrections were made to the Table of Contents and List of Tables regarding page numbering.

Appendix B
Georgetown County
Urbanized Area


Georgetown County Urbanized Area
N
Legend
Approved TMDL Sites
2016 303(d) List of Impaired Waters
Impaired
Not on List
Georgetown County Boundary
2010 Census Urbanized Area
TMDL Watersheds
AIWW-Waccamaw River
Murrell's Inlet Estuary
0
0.5
1
2 Miles
Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

Appendix C
TMDL Monitoring and Assessment Plans

Murrells Inlet Sampling Report – Draft

Georgetown County, SC

October 2020

WOOLPERT

ARCHITECTURE | ENGINEERING | GEOSPATIAL

Introduction and Background

The Murrells Inlet Estuary TMDL for fecal coliform, developed in July 2005, initiated efforts by Georgetown County and Horry County to conduct monitoring efforts in the watershed and develop a plan to improve the water quality. To supplement SCDHEC data, volunteers associated with Murrells Inlet 2020, a non-profit local revitalization group, began collecting bi-weekly grab samples in 2008 for bacteria and other parameters at eight locations in Murrells Inlet. Based on these efforts and in partnership with the Waccamaw Regional Council of Government, Coastal Carolina University, and other local stakeholders, Georgetown and Horry Counties applied for and received Section 319 funding from SCDHEC to summarize and evaluate monitoring data for the development of the Murrells Inlet Watershed Plan, completed in 2014. This Monitoring Plan meets the objectives of Section 3.2, TMDL Monitoring and Assessment, and Section 3.3, TMDL Implementation and Analysis, of the SCDHEC SMS4 General Permit (SCR030000). While these efforts put Georgetown and Horry Counties nearly 30 months ahead of the schedules laid out in the permit, certain details associated with the TMDL permit requirements were not addressed.

As required under Section 3.3.4 of the SMS4 General Permit, Georgetown and Horry Counties (Counties) need to conduct BMP performance monitoring to assess potential water quality improvements after implementation of BMPs, and samples must be analyzed by a SCDHEC certified laboratory for fecal coliform. The SMS4 General Permit requires the following under Section 3.3.4:

> *"…… the TMDL Implementation Plan shall include proposed monitoring to be used to evaluate the effectiveness of the BMP and facilitate the iterative revision of the BMP Implementation Plan to achieve progress towards addressing the TMDL's WLA as long as the intended uses are not supported."*

The Counties installed a pilot floating wetland BMP in the Point Drive Canal sub-watershed at Woodland Drive Pond, near the outlet of the highly developed, 245-acre sub-watershed. Two monitoring stations were established: one at the upstream road crossing of Marina Colony Pond (MCP) at Hammock Avenue to represent baseline conditions in a developed watershed, and one at Woodland Drive Pond (WDP) to evaluate the effectiveness of the floating wetland on bacteria removal. Wet-weather based grab sampling was conducted at both stations for four storm events during an initial one-year period, with samples collected by Coastal Carolina and analyzed at their SCDHEC certified laboratory. In addition to assessing water quality during wet weather conditions, the Counties were interested in determining estimated pollutant loadings coming from each monitored watershed. Figure 1 shows the location of the two stations and their respective watersheds.

Figure 1: Map of the relative locations of the monitoring stations to Murrells Inlet.

Figure 2 shows the size and general makeup of the monitoring station watersheds. The WDP watershed is 245 acres of mostly high density residential development. In contrast, the MCP watershed is 87 acres of a mix of lower density development, commercial, and undeveloped land.

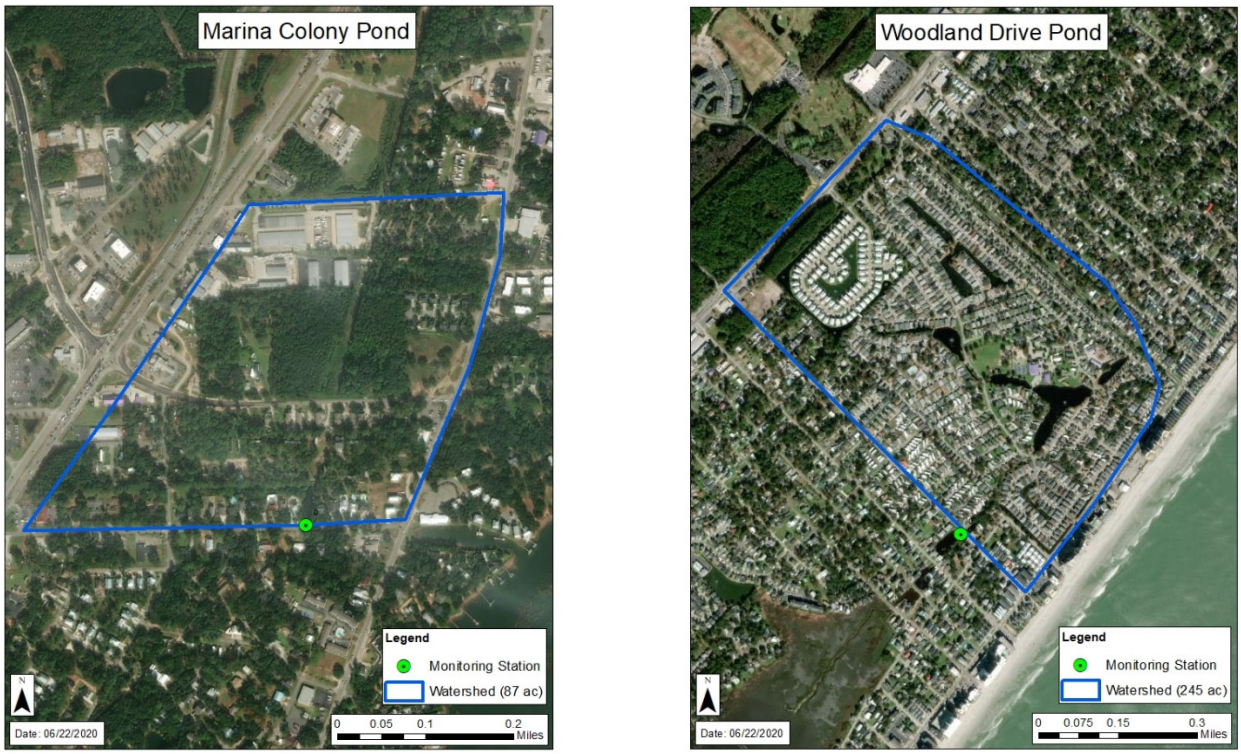


Figure 2: Maps of the Marina Colony Pond and Woodland Drive Pond watersheds.

Methods

Real-time water quantity data, rainfall data, and grab samples were collected to provide data about the watershed dynamics and to estimate bacteria pollutant loads. "Sontek IQ Pipe" flow measurement instruments were installed in pipes carrying pond discharge at both sites. At MCP, the Sontek was installed in the single outlet pipe of the pond. During dryer periods at this site, water would not flow through this pipe until the pond water level rose to the elevation of the pipe, resulting in periods with no flow data collection. At WDP, the Sontek was installed in one barrel of the two-barrel pond outlet. It was mutually agreed upon by all parties that flow data from the one barrel could be extrapolated to approximate the coarse pollutant loadings sought by this monitoring study. A tipping bucket rain gauge was installed at WDP to provide local rainfall data, representative of the rainfall experienced at both sites. WDP was chosen for the rain gauge because the lack of tree cover compared to MCP presented the best opportunity for reliable rainfall data collection.

Grab sample collection and lab analysis was carried out by staff from Coastal Carolina University's Environmental Quality Lab (EQL). Woolpert provided sampling oversight and guidance on when to collect samples, with the goal of collecting samples for at least one rain event per season, in accordance with the Monitoring Plan. The sampling strategy for each storm event was tailored to the unique observed and anticipated rainfall patterns for each individual event based on the real-time data and rainfall predictions,

and to fit within the EQL's sampling time constraints. After sample collection, the EQL performed fecal coliform, *Enterococci*, and *E. coli* analyses for each grab sample.

In general, an individual sampling effort consisted of four discrete grab samples taken at each site at the same times, spaced 15-30 minutes apart. The goal was to sample shortly after significant rainfall, during the rising limb of the runoff hydrograph at each site such that samples were representative of the initial runoff during a storm event. This approach provides the best estimate of pollutant load contributions attributed to stormwater runoff. Differences in the size and makeup of the watersheds caused them to exhibit different runoff responses in terms of both amount and timing of runoff flows. Therefore, samples may not line up with the same part of the hydrograph at both sites, but all samples were taken after significant rainfall and are representative of wet weather conditions. Runoff responses and sample timing for each sampling effort will be displayed visually in the following section.

Storm Event Grab Sampling

Grab sampling summary figures were created for each of the four storm events to display the bacteria concentration results along with rainfall and runoff patterns at the sites. Cumulative rainfall is represented by the blue line in each figure. WDP flowrate and bacteria concentrations are represented by the grey line (flowrate) and grey dots (bacteria concentrations, specific parameter indicated by shading). Note that the flowrate shown for WDP is the measured flowrate through one pipe of the double barrel outfall configuration. MCP flowrate and bacteria concentrations are represented by the orange line (flowrate) and orange dots (bacteria concentrations, specific parameter indicated by shading).

The x-axis represents the full 24-hour period of time for the sampling date, indicating when rainfall and runoff occurred and when samples were collected. The right y-axis represents flowrate (cfs) and cumulative rainfall values (inches), displayed at the same scale. The left y-axis represents bacteria concentrations (MPN/100ml) that vary by orders of magnitude, displayed using a logarithmic scale. The minimum and maximum values for the axes of the grab sampling summary figures were kept consistent in order to facilitate visual comparisons between rainfall, runoff, and bacteria concentration observations.

Appendix A includes a summary table of all collected grab samples during this sampling effort.

The results from the first sampling event, associated with 2.26 inches of rainfall on October 26, 2018, are shown in Figure 3.

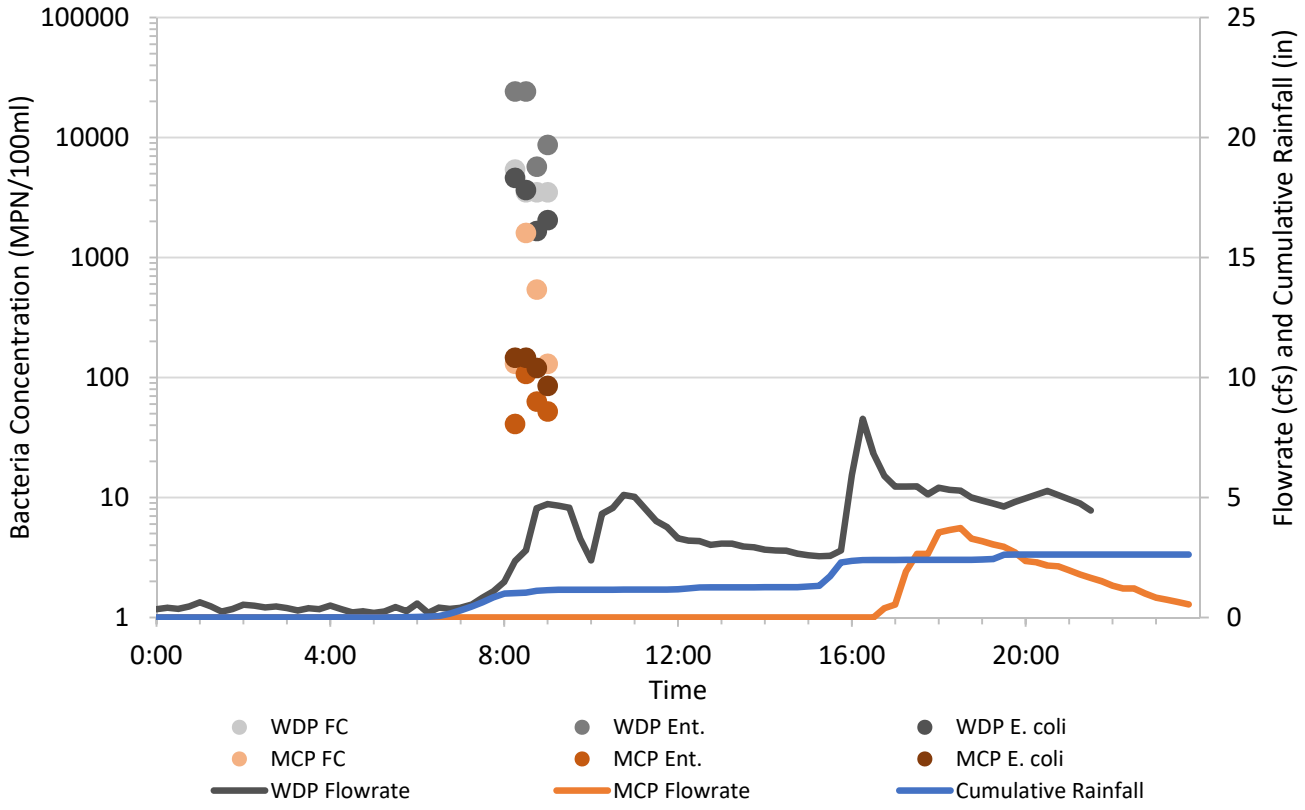


Figure 3: Results from grab sampling on 10/26/18. Total rainfall was 2.62 inches.

The October 2018 storm event consisted of two main periods of rainfall. Sampling occurred after the first period of rainfall, lining up with the rising limb of the runoff hydrograph at WDP. Flow was seen later at MCP than at WDP, after the sampling period, due to differences in site hydrology. In the absence of flow through the outlet pipe, samples at MCP were collected adjacent to the pipe. The median fecal coliform concentration at MCP was 335 MPN/100ml while the median fecal coliform concentration at WDP was 3,500 MPN/100ml (fecal coliform is the pollutant of concern in the Murrells Inlet Estuary). The largest differences in observed bacteria concentrations between the sites were observed during this storm event.

The results from the second sampling event, associated with 3.32 inches of rainfall on December 14, 2018, are shown in Figure 4.

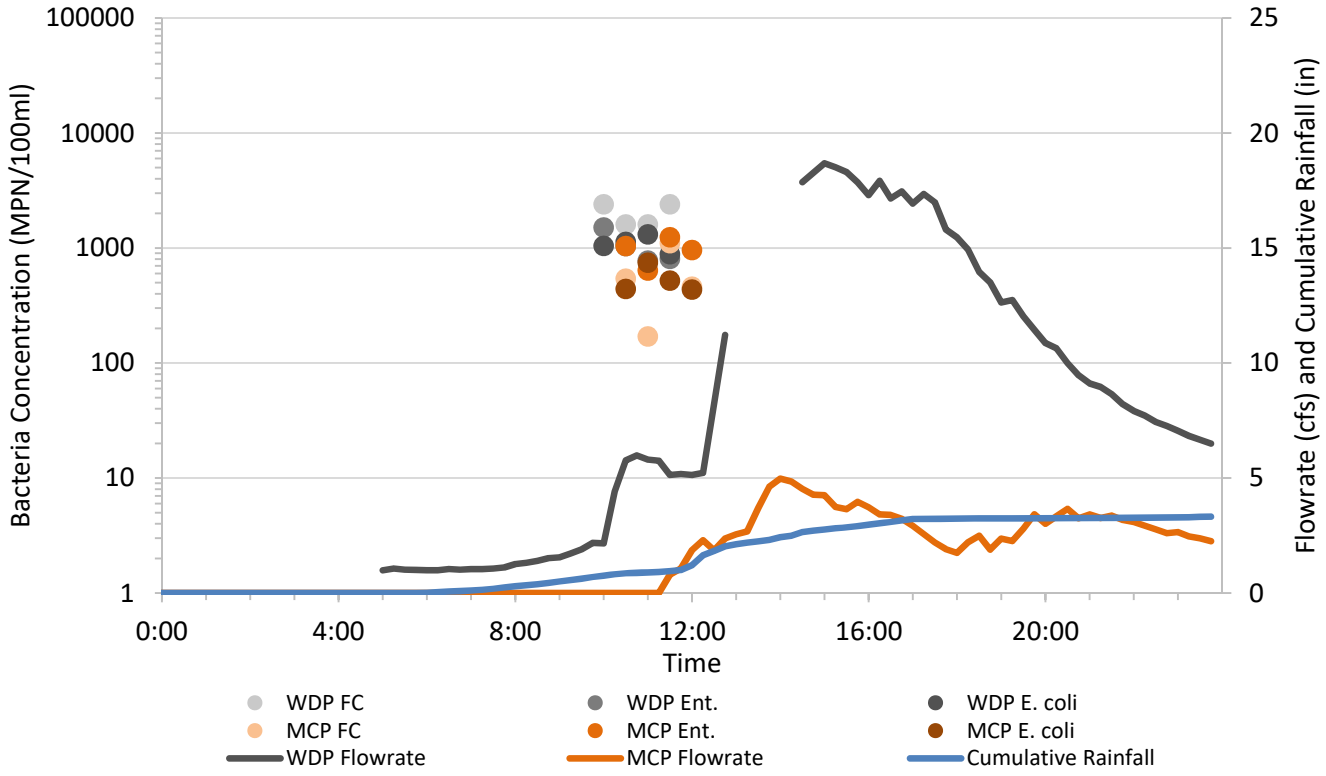


Figure 4: Grab sampling results from 12/14/18. Total rainfall was 3.32 inches.

The December 2018 storm event consisted of relatively steady rainfall for the duration of the storm. Sampling at both sites coincided with the initial rising limb of the runoff hydrograph. Rainfall continued and flowrates increased after the sampling period at both sites. The gap in WDP flow data is due to a brief period when data was identified as unreliable, likely due to debris temporarily covering the sensors on the Sontek instrument. The median fecal coliform concentration at MCP was 500 MPN/100ml and the median fecal coliform concentration at WDP was 2,000 MPN/100ml. In general, the observed bacteria concentrations were higher at WDP for this storm event, and the overall difference between the two was not as large as was observed during the previous sampling effort in October 2018.

The results from the third sampling event, associated with 3.58 inches of rainfall on April 19, 2019, are shown in Figure 5.

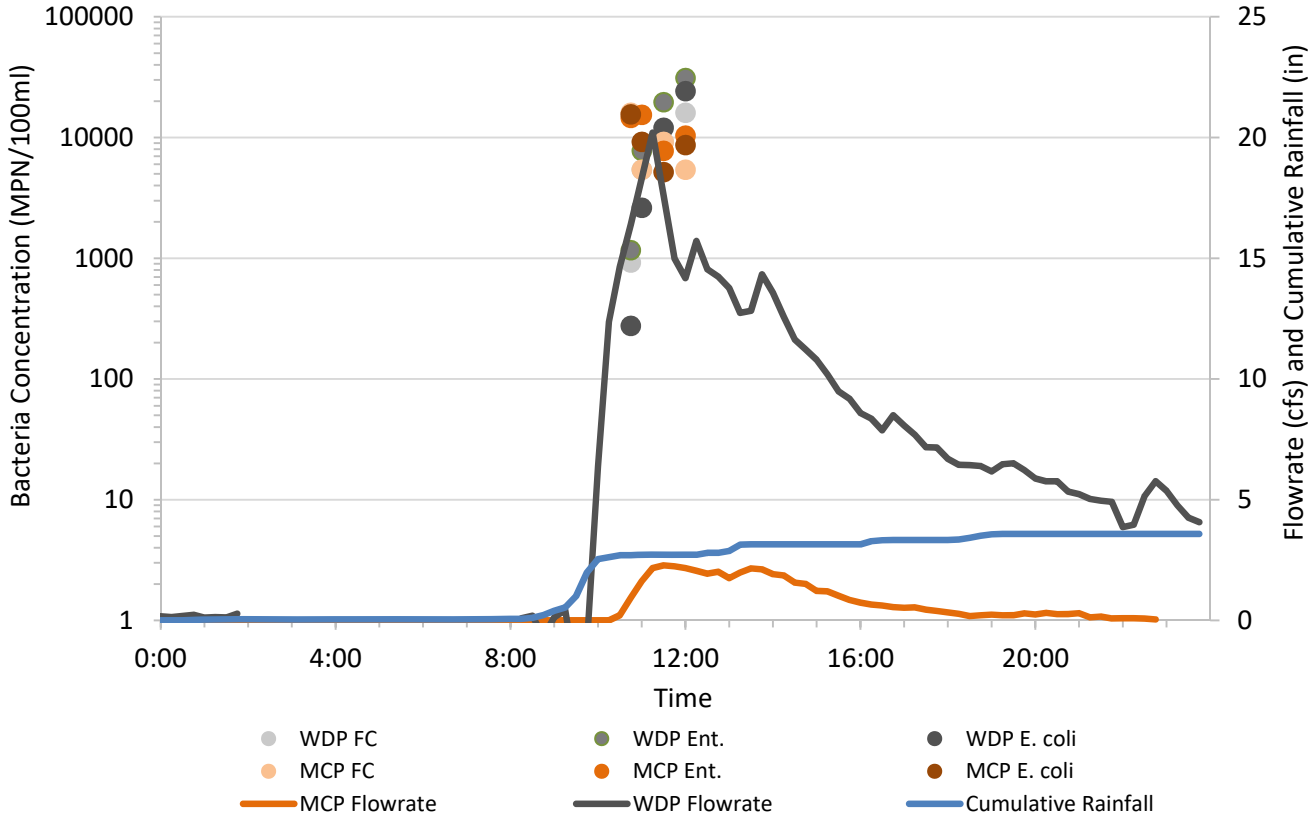


Figure 5: Grab sampling results from 4/19/19. Total rainfall was 3.58 inches.

The April 2019 storm event consisted mostly of one main period of intense rainfall, causing a steep and rapidly rising runoff hydrograph at both sites. The data and sample results included the highest rainfall, flowrates, and bacterial concentrations of all sampling events. At WDP, grab sampling coincided with the latter part of the rising limb of the runoff hydrograph and the brief peak and beginning of the falling limb. At MCP, grab sampling coincided with the majority of the rising limb as well as the initial portion of an extended peak of the runoff hydrograph. The data from this storm event provides a clear visualization of how the hydrology varies between the sites; the WDP watershed shows a very quick runoff response and the MCP watershed shows a delayed, gradual, and smaller runoff response. The median fecal coliform concentration at both sites was 7,300 MPN/100ml, higher than the median concentrations from the other sampling events. Though the median concentrations were the same, the spread of the data varied in a unique way. At WDP fecal coliform concentrations increased (from 920 to 16,000 MPN/100ml) as the storm progressed, whereas at MCP they stayed similar throughout the sampling period.

The results from the fourth sampling event, associated with 0.66 inches of rainfall on October 16, 2019, are shown in Figure 6.

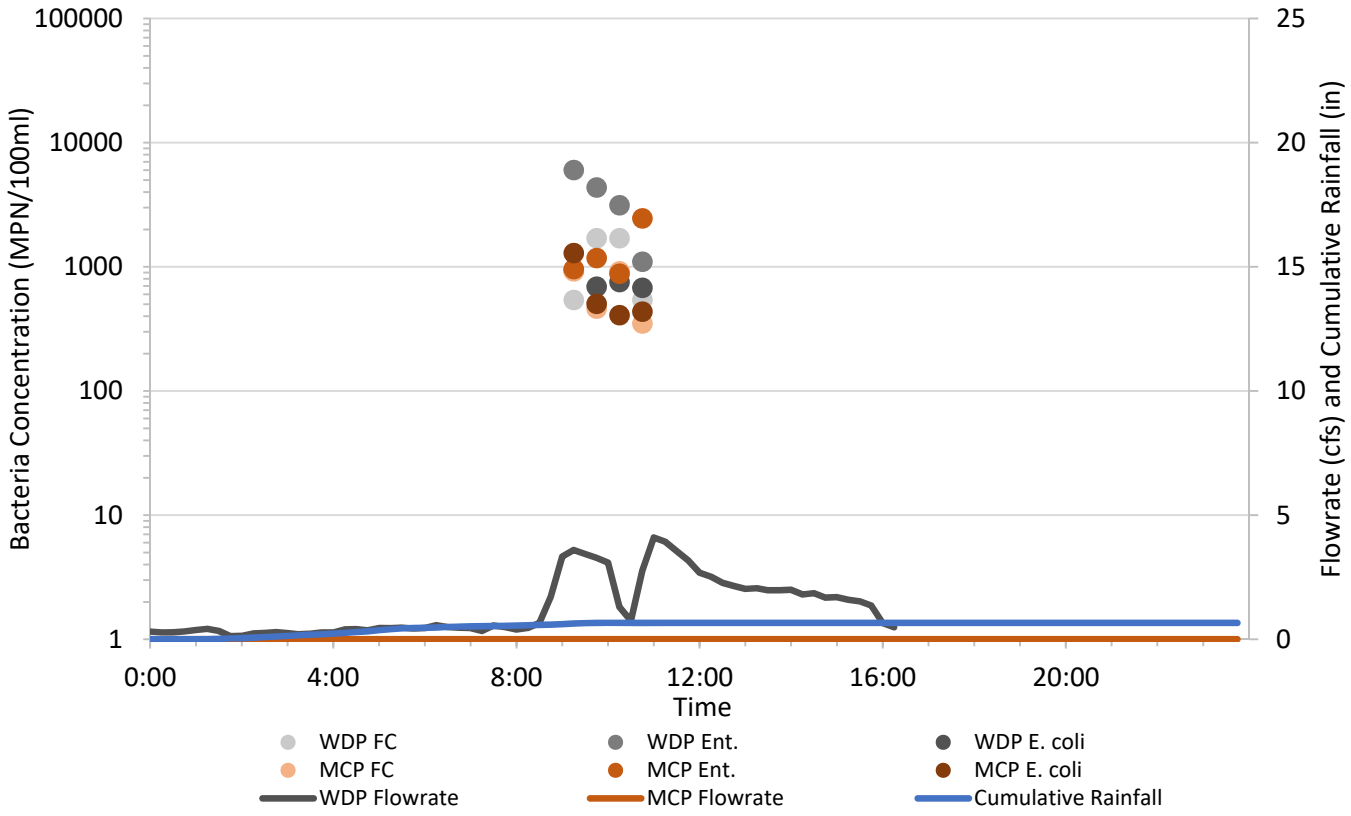


Figure 6: Grab sampling results from 10/16/19. Total rainfall was 0.66 inches.

The October 2019 storm event consisted of relatively gradual and constant rainfall. The comparatively small amount of rainfall generated a small runoff response at WDP, but no runoff was observed at MCP (the pond water level did not get high enough to discharge through the pipe where the Sontek is located). This storm event occurred after a very dry summer season, contributing to dry antecedent moisture conditions, a low water level in the pond at MCP, and the absence of measured flow from the pond during these wet weather conditions. In the absence of flow through the outlet pipe, samples at MCP were collected adjacent to the pipe. The median fecal coliform concentration was 690 MPN/100ml at MCP and 1,120 MPN/100ml at WDP, with the overall spread indicating similar bacteria concentrations present at the sites.

Results and Discussion

Looking at the entire dataset for the four sampling efforts (Appendix A), there was a large amount of variability in the results, with bacteria concentrations ranging from below 100 MPN/100ml to more than 20,000 MPN/100ml, and most results being of the "hundreds" or "thousands" order of magnitude. The data provides several interesting glimpses at bacteria concentrations during wet weather conditions in the Murrells Inlet watershed. However, these results represent a limited dataset, from which limited

"conclusions" should be drawn. The following discussion is of observed trends within the dataset and is not intended to make firm conclusions or state statistical significance.

To continue the discussion of fecal coliform median values, MCP had a lower median fecal coliform concentration than WDP on three of the four sampling efforts and an equal concentration on the fourth one. This matches the overall visual spread of the data in the grab sampling figures; bacteria concentrations at MCP tended to be lower than or similar to those at WDP. Relevant to those observations, it is important to keep in mind that MCP experienced much smaller peak flowrates and later hydrograph peaks than WDP due to differences in watershed hydrology. For this reason, samples that were collected during the rising limb and peak of the hydrograph at WDP represented earlier portions of the hydrograph at MCP, potentially before the bulk of stormwater influence reached the system or while the pond at MCP was still filling up but not yet discharging through the outlet pipe. Due to frequent dry antecedent moisture conditions, the pond at MCP frequently had a normal stage below the outlet pipe during this study. This was particularly true in the Summer and early Fall, as indicated by the flow data for the October 2018 and October 2019 storm events. In addition to these differences in hydrology and runoff patterns, the MCP and WDP watersheds contained different types of land use. The higher density residential land use in the WDP watershed may contribute additional or different sources of bacteria at WDP compared to the low density residential, commercial, and undeveloped land uses in the MCP watershed.

The highest bacteria concentrations were observed in both watersheds during the April 2019 storm event, which had the highest amount of total rainfall (3.58 inches). This was also the warmest month in which wet weather sampling was able to be conducted (October 2018, December 2018, April 2019, October 2019). There were no opportunities for wet weather sampling in the summer season due to the general dry conditions, and unpredictable summer rainfall frequently occurs late in the evening outside of available laboratory sampling times. Fecal bacteria tend to thrive during warmer temperatures and higher concentrations observed in warmer months is typical of stormwater sampling for bacteria parameters.

Bacteria concentrations did not appear to change noticeably at a given site as the storm progressed within each sampling time window, with the one exception of the April 2019 storm event at WDP. As mentioned previously, bacteria concentrations observed at WDP during the April 2019 storm event appeared to increase as intense rainfall fell over a short period of time, causing a steep increase in the runoff hydrograph. The concurrence of this brief and intense rainfall with the sampling window was fortunate and created a unique snapshot of bacteria concentrations during those conditions. The absence of any observed trends for other storm events may have been attributable to the relatively short length of the sampling period relative to storm duration. Storms with a longer duration of rainfall, such as the December 2018 storm event, would require additional sampling spaced over much longer intervals to make observations about changes in bacteria concentrations over the course of a storm event.

Regardless of season, almost all samples analyzed exceeded the SCDHEC water quality standard for Shellfish Harvesting Waters (SFH) for the respective bacteria parameter. All fecal coliform samples exceeded SCDHEC's water quality standard of 43 MPN/100ml. All *Enterococci* and *E. coli* samples exceeded SCDHEC's water quality standard of 104 MPN/100ml and 349 MPN/100ml respectively, with the exception of samples collected at MCP during the October 2018 storm event. Though in excess of these standards, the bacteria concentrations observed were overall typical of wet weather stormwater flows in urban areas.

Annual Load Projections

The methodology to calculate coarse estimates of annual pollutant loads from a limited number of samples is founded in the assumptions that the conditions during the sampled portions of the storm event are representative of the entire storm event and also that the sampled storm events are representative of an entire year of rainfall. Due to the extreme variability present in rainfall patterns and bacteria concentrations observed in this study, which are typical of stormwater sampling for bacteria parameters, these are not assumptions that can be made confidently from this limited dataset of 16 samples from four storm events.

With those assumptions and cautions in mind, coarse estimates of annual projected loads for fecal coliform, *Enterococci*, and *E. coli* bacteria were calculated for both sites as follows.

First, the load associated with each individual sample was calculated by multiplying the sample concentration by the sample's flow volume (flow rate at the time of the sample multiplied by time interval between samples). Then, the sampling bacteria load was calculated as the sum of the individual sample loads. This is represented by the following equation:

$$sampling\ bacteria\ load = \sum_{i=1}^{4} (bacteria\ concentration_i * flowrate_i * time\ interval\ between\ samples)$$

The flow volumes used in calculations for WDP were doubled to account for the double barrel outfall configuration discussed previously.

It was assumed that the sampling bacteria load was representative of the entire storm bacteria load. Therefore, the storm bacteria load was calculated from the sampling bacteria load by multiplying by the ratio of total storm flow volume to total sampling flow volume. This is represented by the following equation:

$$storm\ bacteria\ load = sampling\ bacteria\ load \left(\frac{total\ storm\ flow\ volume}{total\ sampling\ flow\ volume}\right)$$

Each storm bacteria load was divided by the storm rainfall total to calculate the storm load per 1-inch of rainfall. An average was taken of the storm loads per 1-inch of rainfall to determine the average load per 1-inch to be assigned to each inch of annual rainfall. This was multiplied by the annual 2019 rainfall in Murrells Inlet (54.82" per WDP rain gauge) to calculate the total annual bacteria load for 2019. Lastly, the annual loads from each site were divided by the respective drainage area, to account for the difference in watershed area. This is represented by the following equation:

$$annual\ bacteria\ load\ per\ acre = \frac{average\ unit\ load\ per\ inch\ of\ rainfall * annual\ rainfall}{draiange\ area}$$

This ultimately provided an annual load per acre for each watershed and each bacteria parameter that was analyzed, shown in Figure 7.

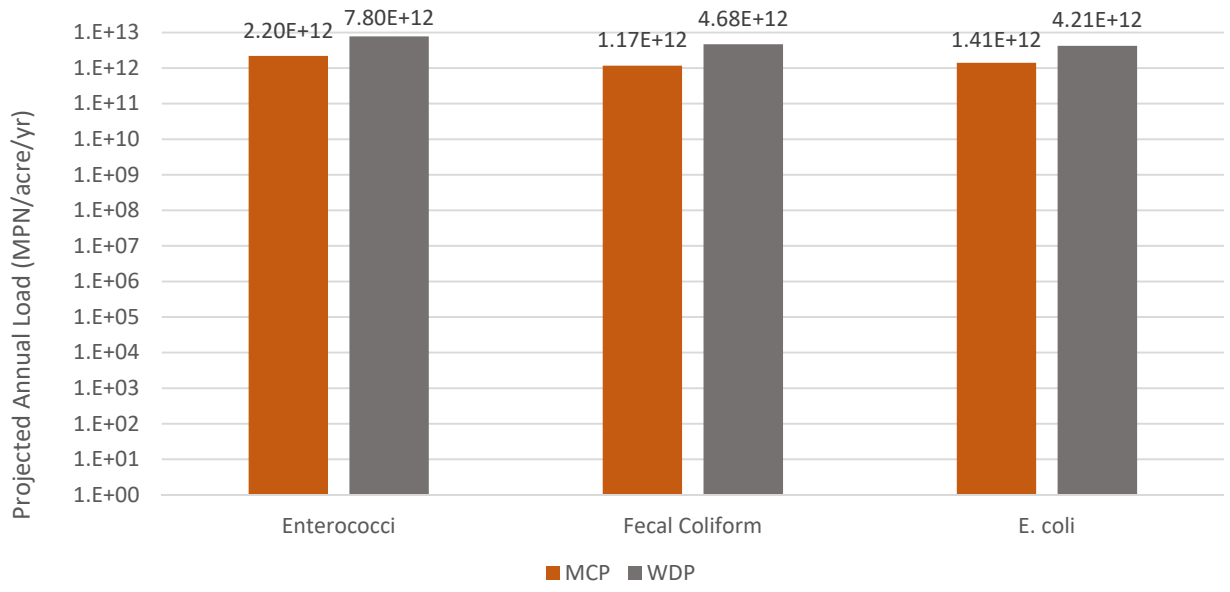


Figure 7: Coarse annual load projections of *Enterococci*, fecal coliform, and *E. coli* bacteria in 2019.

WDP had an annual projected load for fecal coliform bacteria of 4.68×10^{12} MPN/acre/yr, compared to 1.17×10^{12} MPN/acre/yr for MCP. A similar trend was present for the other bacteria parameters. While WDP did produce higher projected annual loads for all three types of bacteria, it is important to keep in mind that the results are of the same order of magnitude. Given the assumptions made and uncertainties involved in the projections of annual loads from 16 samples across four storms, these results should not be interpreted as a statement of statistical difference. Rather, this analysis provides the Counties with a general idea of estimated annual loads of bacteria from the developed areas of the Counties.

Conclusions and Next Steps

This sampling effort has provided data on the bacteria concentrations present during wet weather conditions within the Murrells Inlet watershed. They were observed to be variable and typically higher than the SCDHEC water quality standard for Shellfish Harvesting Waters (SFH) for the respective bacteria parameters, but overall typical of wet weather stormwater flows in urban areas. The annual bacteria load on a per-acre basis was coarsely estimated for each watershed based on bacteria concentration data from the samples collected. Though the watersheds varied in terms of land use, hydrology, and stormwater features, the coarse estimate of annual bacteria loading was of the same order of magnitude for both watersheds.

Potential next steps for monitoring in the Murrells Inlet watershed to address the TMDL for fecal coliform bacteria may include some or all of the following:

- Continued sampling utilizing the same approach to gain additional data;
- Sampling at additional locations within each watershed to identify priority areas; and/or
- Pairing sampling for bacteria concentrations with advanced sampling utilizing Microbial Source Tracking, a technology that uses DNA markers to identify potential sources of bacteria such as dogs, birds, humans, deer, livestock, or other animals.

Appendix A – Grab Sampling Data

Site Location	Sample ID	Fecal Coliform (MPN/100mL)			
		Date			
		10/26/18	12/14/18	4/19/19	10/16/19
Marina Colony Pond	MCP-1	130	540	920	920
Marina Colony Pond	MCP-2	1,600	170	5,400	460
Marina Colony Pond	MCP-3	540	1,100	9,200	920
Marina Colony Pond	MCP-4	130	460	16,000	350
Marina Colony Pond Summary Statistics	**Median**	335	500	7,300	690
	Max	1,600	1,100	16,000	920
	Min	130	170	920	350
Woodland Drive Pond	WDP-1	5,400	2,400	16,000	540
Woodland Drive Pond	WDP-2	3,500	1,600	5,400	1,700
Woodland Drive Pond	WDP-3	3,500	1,600	9,200	1,700
Woodland Drive Pond	WDP-4	3,500	2,400	5,400	540
Woodland Drive Pond Summary Statistics	**Median**	3,500	2,000	7,300	1,120
	Max	5,400	2,400	16,000	1,700
	Min	3,500	1,600	5,400	540

Site Location	Sample ID	*Enterococci* (MPN/100mL)			
		Date			
		10/26/18	12/14/18	4/19/19	10/16/19
Marina Colony Pond	MCP-1	41	1,040	1,166	959
Marina Colony Pond	MCP-2	107	636	7,746	1,178
Marina Colony Pond	MCP-3	63	1,240	19,608	880
Marina Colony Pond	MCP-4	52	960	31,062	2,755
Marina Colony Pond Summary Statistics	**Median**	58	1,000	13,677	1,069
	Max	107	1,240	31,062	2,755
	Min	41	636	1,166	880
Woodland Drive Pond	WDP-1	24,196	1,508	14,540	6,015
Woodland Drive Pond	WDP-2	24,196	1,040	15,402	4,352
Woodland Drive Pond	WDP-3	5,717	776	7,746	3,130
Woodland Drive Pond	WDP-4	8,664	844	10,344	1,100
Woodland Drive Pond Summary Statistics	**Median**	16,430	942	12,442	3,741
	Max	24,196	1,508	15,402	6,015
	Min	5,717	776	7,746	1,100

Site Location	Sample ID	*E. coli* (MPN/100mL)			
		Date			
		10/26/18	12/14/18	4/19/19	10/16/19
Marina Colony Pond	MCP-1	146	441	275	1,288
Marina Colony Pond	MCP-2	146	744	2,613	504
Marina Colony Pond	MCP-3	120	521	12,033	408
Marina Colony Pond	MCP-4	85	435	24,196	435
Marina Colony Pond Summary Statistics	**Median**	133	481	7,323	470
	Max	146	744	24,196	1,288
	Min	85	435	275	408
Woodland Drive Pond	WDP-1	4,611	1,043	15,531	933
Woodland Drive Pond	WDP-2	3,654	1,130	9,208	691
Woodland Drive Pond	WDP-3	1,664	1,314	5,172	754
Woodland Drive Pond	WDP-4	2,046	882	8,664	677
Woodland Drive Pond Summary Statistics	**Median**	2,850	1,087	8,936	723
	Max	4,611	1,314	15,531	933
	Min	1,664	882	5,172	677

Appendix D
Georgetown County
Stormwater Management Ordinance

Addendum to Agenda Item 11b.
Ordinance 2014-44
October 28, 2014

Georgetown County, South Carolina

Stormwater Management Ordinance 2014

As of October 28, 2014

STORMWATER MANAGEMENT ORDINANCE
TABLE OF CONTENTS

SECTION

ARTICLE I. GENERAL PROVISIONS

SECTION A. Title Authority, Purpose, Objectives, Application

Title

The provisions of this Ordinance shall constitute and be known as the "Stormwater Management Ordinance 2014 for Georgetown County, South Carolina".

Authority

This Ordinance is adopted pursuant to the authority conferred upon Georgetown County (the "County") by the South Carolina Constitution, the South Carolina General Assembly and in compliance with the requirements imposed upon the County by National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Regulated Small Separate Storm Sewer Systems (SMS4), SCR030000 issued in accordance with the Federal Clean Water Act, the South Carolina Pollution Control Act, and regulations promulgated there under.

Purpose

The purpose of this Ordinance is to protect, maintain, and enhance the public health, safety, and general welfare by establishing minimum requirements and procedures to control the adverse effects of increased stormwater runoff associated with both future land development and existing developed land within the County. Proper management of stormwater runoff will minimize damage to public and private property, ensure a functional drainage system, reduce the effects of development on land and stream channel erosion, assist in the attainment and maintenance of water quality standards, enhance the local environment associated with the drainage system, reduce local flooding, maintain as nearly as possible the pre-developed runoff characteristics of the area, and facilitate economic development while mitigating associated flooding and drainage impacts.

Objectives

The objectives of this Ordinance include the following.

1. Protect, maintain, and enhance the short-term and long-term public health, safety, and general welfare. This objective will be achieved by:

    a. Establishing minimum requirements and procedures to control the adverse effects of increased stormwater runoff associated with both future land development and existing developed land within Georgetown County;

    b. Providing proper management of stormwater runoff to minimize damage to public and private property and reduce the effects of land disturbing activities on land and stream channel erosion;

    c. Protecting, preserving, and enhancing water quality and fish and wildlife habitat within Georgetown County and in downstream receiving waterbody; and,

d. Alleviating street and property flooding and its adverse impacts caused by urban development.

2. Comply with Federal and corresponding state stormwater discharge (NPDES) regulations (40 CFR 122.26 and SC Regulation 61-9.122.26) developed pursuant to the Clean Water Act and to assure Georgetown County the authority to take any action required by it to obtain and comply with its National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Regulated Small Separate Storm Sewer Systems (SMS4), SCR030000. Among other things, these regulations require Georgetown County to establish legal authority which authorizes or enables Georgetown County at a minimum to:

a. Comply with State and Federal requirements related to stormwater management developed pursuant to the Clean Water Act;

b. Prohibit illicit connections and discharges to the Georgetown County stormwater collection system (or SMS4);

c. Control the discharge of spills and prohibit dumping or disposal of materials other than stormwater into the Georgetown County SMS4;

d. Control the contribution of pollutants from stormwater discharges associated with construction land disturbance activities and the quality of stormwater discharge from residential, commercial and industrial developments;

e. Require erosion and sediment controls to minimize the discharge of pollutants to protect water quality to the maximum extent practicable

f. Define procedures for site plan review, inspection, and enforcement;

g. Define procedures for receipt and consideration of information submitted by the public;

h. Require installation, implementation, and maintenance of control measures for owners/operators of construction sites, new development and redevelopment to minimize the discharge of pollutants to the Maximum Extent Possible (MEP) and to protect water quality;

i. Request from operators of construction sites, new or redeveloped land, including industrial and commercial facilities information including, but not limited to, specific requirements to control construction and post-construction discharges of pollutants in Stormwater, and enforce, penalize, stop work, and require compliance for controlling pollutants from these sources;

j. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition of illicit discharges to the Georgetown County SMS4;

k. Enable enforcement of all said authorizations against responsible parties and require

recovery and remediation costs from responsible parties and escalate corrective response consistent with its enforcement response plan developed for persistent non-compliance, repeat or escalating violations, or incidents of major environmental harm; and

l. Implement the programs of the Georgetown County Stormwater Management Plan (SWMP).

m. To ensure that no property owner shall obstruct or alter the flow, location or carrying capacity of a stream, channel or drainage swale to the detriment of any other property owner, whether upstream or downstream.

3. This Ordinance is to be construed to further its purpose of controlling and reducing pollutant discharges to the Georgetown County Stormwater System and to the Waters of the State to assure the obligations under its NPDES permit issued by the Department of Health and Environmental Control (DHEC) as required by 33 USC 1342 and 40 CFR 122.26.

4. Require plans to minimize the transport of pollutants to the local stormwater drainage system by requiring approval and implementation of Stormwater Management and Sediment Control Plans for an example but not limited to activities which may have an adverse impact on Georgetown County waters.

5. Establish procedures, which minimize damage from flooding caused by development, while recognizing that natural fluctuations in water levels are beneficial.

6. Require construction, where possible, of drainage facilities/systems, which aesthetically and functionally approximate natural systems.

7. Establish procedures for the planning and implementation of stormwater improvements using a basin-wide or sub-basin approach which considers the total stormwater basin system, or major portions of the basin system, beyond individual subdivisions and developments.

8. To design, construct, and maintain stormwater management facilities to minimize mosquito-related problems.

9. To protect the water quality of the ocean and the physical characteristics of the beach area by minimizing the rates, volumes, and velocities of stormwater entering drainage systems discharging to the beach.

Application

(a) The application of this Ordinance and the provisions expressed herein shall be the minimum stormwater management requirements and shall not be deemed a limitation or repeal of any other powers granted by State statute. In addition, if site characteristics indicate that complying with these minimum requirements will not provide an adequate design or protection for local property or residents, the designer should work with the stormwater division that best meets the reasonable application and intent of this ordinance. The Stormwater Engineer or designee shall be responsible for the coordination and enforcement of the provisions of this Ordinance.

(b) It is the goal of the Georgetown County Council that the provisions of this Ordinance will result in a reduction of the discharge of pollutants to the Georgetown County Stormwater System and its receiving waterbody to the maximum extent practicable using management practices, control techniques and system, design and engineering methods or such other programs or controls as are required by Georgetown County's NPDES SMS4 general permit or authorized by law.

(c) The provisions of this Ordinance apply throughout the unincorporated areas of Georgetown County.

SECTION B. Definitions

For the purpose of this Ordinance, definitions contained in South Carolina Code of Regulations 61-9.122.2 and 72-301, and SC Construction General Permit 2013, are incorporated herein by reference. Where the same words are defined in both the aforementioned regulations, but are not the same, the definitions contained in R. 61-9.122.2 will be used for the purposes of this Ordinance.

1. Accidental Discharge shall mean a discharge prohibited by this Ordinance into the drainage system, which occurs by chance and without planning or consideration prior to occurrence.

2. Adequate channel shall mean a natural or man-made channel or pipe which is capable of conveying the runoff from the design storm events without flooding existing structures or causing property damage.

3. As-built plan shall mean a set of engineering or site drawings that delineate the specific permitted stormwater management facility (ies) and BMPs as actually constructed, as outlined in the Georgetown County Stormwater Design Criteria Manual.

4. Berm shall mean a mound of soil, either natural or man-made, intended to buffer land uses or limit access.

5. Best management practices (BMPs) shall mean a wide range of management procedures, schedules of activities, prohibitions on practices and other management practices which have been demonstrated to effectively control the quality and/or quantity of stormwater runoff and which are compatible with the planned land use.

6. Buffer shall mean an area within a property or site, generally adjacent to and parallel with the property line, consisting of natural existing vegetation, designed to treat stormwater runoff from construction activities.

7. Construction General Permit (CGP) NPDES General Permit for Stormwater Discharges from Construction Activities SCR 1000000 authorizes Stormwater discharges from large and small construction activities where those discharges enter Surface Waters of the State or a Municipal Separate Storm Sewer System (MS4) leading to Surface Waters of the State subject to the conditions as set forth in the permit. The permit also addresses post-construction discharges, both water quality and quantity, through the regulations listed under SC Code of Regulations 72-307, Specific Design Criteria, Minimum Standards and Specifications.

8. County shall mean Georgetown County, South Carolina.

9. County Council shall mean the duly elected council within Georgetown County.

10. Stormwater Engineer shall mean the Stormwater Engineer of Georgetown County, South Carolina.

11. Clean Water Act shall mean the Federal Water Pollution Act, as amended (33 U.S.C. 1251 et.seq).

12. Conveyance shall mean stormwater features designed for the movement of stormwater through the drainage system, such as concrete pipes, ditches, depressions, swales, channels etc.

13. Culvert shall mean a structure designed to convey a watercourse under a roadway, railway, pedestrian walk, or through an embankment.

14. Design report shall mean the report that accompanies the Stormwater Management and Sediment Control Plan and includes data used for engineering analysis, results of all analysis, design and analysis calculations (including results obtained from computer programs), and other engineering data that would assist the Stormwater Engineer in evaluating proposed stormwater management facilities.

15. Design storm events shall mean the frequency storm used for the design of stormwater management facilities (two, ten, twenty-five and 100 year frequency storms).

16. Designer shall mean a registered professional with the State of South Carolina who is licensed to prepare plans and studies required by this Ordinance.

17. Detention structure shall mean a permanent stormwater management structure whose primary purpose is to temporarily store stormwater runoff and release the stored runoff at controlled rates.

18. Developed land use conditions shall mean the land use conditions according to the current County Land Use Map or proposed site plan. Also the conditions which exist following the completion of the land disturbing activity in terms of topography, vegetation, land use and rate, quality, volume or direction of stormwater runoff.

19. Developer shall mean the legal or beneficial owner(s) of a parcel of any land included in a proposed development. Also, the holder of an option or contract to purchase, or any other person having enforceable legal or proprietary interest in such land.

20. Development activity should generally mean any of the following actions undertaken by a public or private individual or entity:
    a. the division of a parcel of land into two (2) parcels or other divisions by plat or deed and is part of larger common plan of development;
    b. the construction, installation or alteration of a structure, impervious surface, or drainage facility;
    c. any land change, including, without limitation, demolition, clearing, tree removal, grubbing, stripping, dredging, grading, excavating, transporting and filling of land; and,
    d. adding, removing, exposing, excavating, leveling, grading, digging, burrowing, dumping, piling, dredging, or otherwise disturbing the soil, vegetation, mud, sand or rock of a site.

21. Drainage System shall mean all structures used to convey stormwater runoff.

22. Easement shall mean a grant of one (1) or more property rights by a property owner to or for use by another person or entity, not inclusive of fee simple ownership.

23. Erosion shall mean the wearing away of land surface by the action of wind, water, gravity, ice, or any combination of those forces.

24. Erosion and sediment control shall mean the restriction and management of solid material, both mineral and organic, during a land disturbing activity to prevent its transport out of the disturbed area by means of air, water, gravity, or ice.

25. Exemption shall mean those land disturbing activities that are not subject to the sediment and stormwater requirements contained in this Ordinance.

26. Existing land use conditions shall mean the land use conditions shown on the 2005 GIS Map aerial photos available on the Georgetown County Website.

27. Filter strips shall mean vegetated sections of land designated to accept runoff as overland sheet flow from upstream developments.

28. Flood shall mean a general and temporary condition of partial or complete inundation of land areas from the overflow of inland waters, tidal conditions, or the unusual and rapid accumulation of runoff of surface waters from any source.

29. Grading shall mean excavating, filling (including hydraulic fill) or stockpiling of earth material or any combination thereof, including the land in its excavated or filled condition.

30. Illicit connection shall mean a connection to the drainage system of any discharge that is not composed entirely of stormwater runoff and is expressly prohibited by this Ordinance.

31. Impervious shall mean the condition of being impenetrable by water.

32. Imperviousness shall mean the degree to which a site is impervious.

33. Impervious surface shall mean a surface that has been highly compacted or covered with a layer of material so that it is highly resistant to infiltration by water.

34. Infiltration shall mean the passage or movement of water through the soil profile.

35. Land disturbing activity shall mean any use of the land by any person that results in a change in the physical characteristics or topography that may cause erosion and contribute to sediment and alter the quality and/or quantity of stormwater runoff.

36. Linear Projects shall mean any project that is over 1,000 total linear feet.

37. Lot shall mean a piece, parcel, tract or plot of land intended as a unit for building development or other purpose, for purposes of sale, rent, or lease.

38. Maintenance shall mean any action necessary to preserve stormwater management facilities in proper working condition, in order to serve the intended purposes set forth in this Ordinance and to prevent structural failure of such facilities. Maintenance shall not include actions taken solely for the purpose of enhancing the aesthetics aspects associated with stormwater management facilities and BMPs.

39. Minor Subdivision shall mean the division of land as defined in the current Georgetown County Land Development Regulations.

40. Non-erodible shall mean a material, e.g., natural rock, riprap, concrete, plastic, etc., that will not experience surface wear due to natural forces of wind, water, ice, gravity or a combination of those forces.

41. Nonpoint source pollution shall mean pollution contained in stormwater runoff from undefined, diffuse sources.

42. One hundred-year frequency storm shall mean a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of once in 100 years. It also may be expressed as an exceedance probability with a 1 percent chance of being equaled or exceeded in any given year.

43. On-site stormwater management shall mean the design and construction of a facility necessary to control stormwater runoff within and for a single development.

44. Owner shall mean the person in who is vested the fee ownership, dominion, or title of the property. This term may also include a tenant, if chargeable under his lease for the maintenance of the property, and any agent of the owner or tenant including a developer.

45. Person shall mean any association, company, corporation, firm, individual, organization, or partnership, singular or plural, of any kind.

46. Person responsible for the land disturbing activity shall mean the:

    a. person who has or represents having financial or operational control over the land disturbing activity; and/or

    b. landowner or person in possession or control of the land who directly or indirectly allowed the land disturbing activity or has benefited from it or who has failed to comply with any provision of this Ordinance.

47. Pollution shall mean the contamination or other alteration of any water's physical, chemical or biological properties, including change in temperature, taste, color, turbidity, or odor of such waters or the discharge of any liquid, gaseous, solid, radioactive, or other substance into any such waters that is harmful, detrimental or injurious to the public health, safety or welfare or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish, or other aquatic life.

48. Preliminary plat shall mean the preliminary plat pursuant to the current Georgetown County Land

Development Regulations.

49. Private shall mean property or facilities owned and maintained by individuals, corporations, and other organizations and not by Georgetown County.

50. Procedure shall mean a procedure adopted by Georgetown County to implement a regulation or regulations adopted under this Ordinance, or to carry out other responsibilities as may be required by this Ordinance or other codes, ordinances, or resolutions of Georgetown County.

51. Receiving Water Body is all regularly tidally influenced salt and fresh water marsh areas, all lakes or ponds which are used primarily for public recreation or a public drinking water supply, and other water bodies within the coastal zone, excluding wetlands, swamps, ditches and stormwater management ponds which are not contiguous via an outfall or similar structure with a tidal water body.

52. Regional stormwater management shall mean the design and construction of a facility necessary to control stormwater runoff within or outside a development and for one or more developments.

53. Registered Civil Engineer shall mean a registered professional engineer in good standing with the South Carolina Board of Registration for Professional Engineers and Land Surveyors.

54. Registered Land Surveyor shall mean a professional registered land surveyor in good standing with the South Carolina Board of Registration for Professional Engineers and Land Surveyors.

55. Registered Landscape Architect shall mean a landscape architect properly registered and licensed to conduct work in South Carolina.

56. Responsible personnel shall mean any foreman, superintendent, or similar individual that is the on-site person in charge of land disturbing activities.

57. Retention structure shall mean a permanent structure whose primary purpose is to permanently store a given volume of stormwater runoff. Release of the given volume is by infiltration, overflow structures, and/or evaporation.
58. Sediment shall mean solid particulate matter, both mineral and organic, that has been or is being transported by water, air, ice, or gravity from its site of origin.

59. Site shall mean any lot, plot, parcel or tract of land.

60. Single family residence – separately built shall mean a noncommercial dwelling that is occupied exclusively by one family and not part of a residential subdivision development permitted prior to 1992.

61. Stabilization shall mean the installation of vegetative or structural measures to establish a soil cover to reduce soil erosion by stormwater runoff, wind, ice and gravity.

62. Stage work or stage construction shall mean a plan for the staged construction of stormwater facilities where portions of the facilities will be constructed as different stages of the proposed development are started or completed.

63. Stop-work order shall mean an order directing the person responsible for the land disturbing activity to cease and desist all work on the site.

64. Stormwater Concept Plan shall mean the overall proposed concept for a storm drainage system to serve the entire development including future phases. The concept plan shall include stormwater management structures and BMPs, and supporting documentation as specified in this Ordinance and the Georgetown County Stormwater Design Manual, for each proposed private or public development to the extent permitted by law. Also included are the supporting engineering calculations and results of any computer analysis, if necessary.

65. Stormwater management shall mean, for: quantitative control, a system of vegetative or structural measures, or both, that control the increased volume and rate of stormwater runoff caused by manmade changes to the land; qualitative control, a system of vegetative, structural, or other measures that reduce or eliminate pollutants that might otherwise be carried by stormwater runoff.

66. Stormwater Management and Sediment Control Plan shall mean the set of drawings and other documents that comprise all of the information and specifications for the drainage systems, structures, concepts and techniques that will be used to control stormwater and sediment as required by this Ordinance and the County Stormwater Design Criteria Manual. Also included are the supporting engineering calculations and results of any computer analysis.

67. Stormwater Design Manual (Georgetown County) shall mean the current version of the manual of design, performance, and review criteria for stormwater management practices, prepared under the direction of the Stormwater Administrator. A pdf version of the current manual can be downloaded on the Georgetown County Website. Those persons seeking reliance on the manual shall assume the burden of ensuring that the manual to which they refer is the most current version.

68. Stormwater management facilities shall mean those structures and facilities that are designed for the collection, conveyance, storage, treatment and disposal of stormwater runoff into and through the drainage system. In most cases stormwater management facilities will refer to facilities whose primary purpose is related to the quantity of stormwater while BMPs primary purpose will be related to water quality concerns of stormwater.

69. Stormwater runoff shall mean the direct response of a watershed to precipitation and includes the surface and subsurface runoff that enters a ditch, stream, storm drain or other concentrated flow during and following the precipitation.

70. Subdivision shall mean a division of a parcel of land as defined by the Georgetown County Land Development Regulations, as amended. The definition includes all land divisions involving a new street or change in existing streets. It includes re-subdivisions involving the further division or relocation of lot lines of any lot lines of any lot or lots within a previously approved or recorded subdivision as well as combinations of recorded lots. The following exceptions are included within this definition only for the purpose of requiring that Georgetown County Stormwater be informed and have a record of the subdivisions.
    a. Combining or re-combining portions of previously platted lots where the total number of lots is not increased and the resultant lots are equal to the ordinance standards.
    b. Dividing land into parcels of five (5) acres or more where no new street is involved.

c. Combining or re-combining entire lots of record where no new street or change of existing street in involved.

71. Swale shall mean a structural measure with a lining of grass, riprap or other materials, which can function as a detention structure or BMP and convey stormwater runoff without causing erosion.

72. Ten-percent point is the location in the drainage system downstream from the proposed development, where the proposed development represents less than ten (10) percent of the total watershed draining to this location.

73. Two-Year frequency storm shall mean a storm that is capable of producing rainfall expected to be equal or exceeded on the average of once in 2 years. It may also be expressed as an exceedance probability with a 50 percent chance of being equaled or exceeded in any given year.

74. Ten-year frequency storm shall mean a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of once in 10 years. It may also be expressed as an exceedance probability with a 10 percent chance of being equaled or exceeded in any given year.

75. Twenty-five year frequency storm shall mean a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of once in 25 years. It may also be expressed as an exceedance probability with a 4 percent chance of being equaled or exceeded in any given year.

76. Hundred -Year frequency storm shall mean a storm that is capable of producing rainfall expected to be equal or exceeded on the average of once in 100 years. It may also be expressed as an exceedance probability with a 1 percent chance of being equaled or exceeded in any given year.

77. Variance shall mean the modification of the minimum stormwater management requirements for specific circumstances where strict adherence of the requirements would result in unnecessary hard-ship and not fulfill the intent of this Ordinance.

78. Violation shall mean any action (knowingly or otherwise) that creates or has the potential to create an adverse impact due to flooding or water quality impairment, as a result of non-conformance with the Stormwater Management Ordinance.

79. Waiver shall mean the relinquishment from stormwater management requirements by the Stormwater Administrator for a specific land disturbing activity on a case-by-case review basis, based on detailed engineering analysis submitted by the owner or their representative.

80. Water quality shall mean those characteristics of stormwater runoff from a land disturbing activity that relate to the physical, chemical, biological, or radiological integrity of water.

81. Water quantity shall mean those characteristics of stormwater runoff that relate to the rate and volume of the stormwater runoff within the development and to downstream areas resulting from land disturbing activities.

82. Watershed shall mean the drainage area contributing stormwater runoff to a single point.

83. Wetland shall mean those areas that are inundated or saturated by surface or ground water at a

frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include swamps, marshes, bogs, and similar areas as determined by the South Carolina Department Health and Environmental Control or the United States Army Corps of Engineers.

SECTION C. Scope of Ordinance

1. No person shall conduct any land disturbing activities without having provided for appropriate stormwater management measures that control or manage stormwater runoff, in compliance with this Ordinance, unless exempted.

2. The provisions of this Ordinance shall apply throughout the unincorporated areas in Georgetown County, South Carolina.

3. The County Stormwater Division shall be responsible for the coordination and enforcement of the provisions of this Ordinance,

4. The Georgetown County Stormwater Design Manual shall give guidance to persons preparing Stormwater Management and Sediment Control Plans, and designing or operating stormwater management systems.

5. The application of this Ordinance and the provisions expressed herein shall be the minimum stormwater management requirements and shall not be deemed a limitation or repeal of any other local requirements authorized by State or Federal statutes. Where other requirements are more stringent those shall apply. This Ordinance does not eliminate the necessity for obtaining other permits as may be required by other governmental entities.

6. The same design standards will be used for drainage systems, stormwater management facilities, and BMPs that will be either privately or publicly owned/maintained.

7. No person shall conduct any land disturbing activity that will displace sediment onto adjacent parcels, public property, or roads both during and after construction. The property must be designed to account for all grading and drainage issues that will keep the sediment from running off the offending property and creating a private action/nuisance.

SECTION D. Authority of the Department

1. The Public Services Department, administered by the County Stormwater Division, shall have the authority to carry out and enforce all regulations and procedures adopted to implement this Ordinance.

2. The County Stormwater Division can:

   a. administer, coordinate and oversee, the design, construction, and operation and maintenance of County stormwater facilities and conveyances;

   b. establish or oversee establishment of development standards and guidelines as it relates to

stormwater;

c. determine the manner in which stormwater facilities should be operated;

d. inspect private systems which discharge to a public drainage system;

e. require compliance with maintenance requirements;

f. advise the other County Departments and Divisions on issues related to stormwater;

g. protect facilities and properties controlled by the County and prescribe how they are used by others as it relates to stormwater;

h. require proposed developments, not exempt from this Ordinance, to comply with the terms of this Ordinance;

i. develop programs or procedures to control the discharge of pollutants into the public drainage system; and

j. Implement the Stormwater Management Plan (SWMP) as submitted to DHEC for compliance with the MS4 NPDES permit for Georgetown County, South Carolina.

SECTION E Permitting Requirements and Exemptions

All land disturbance activities are required to obtain a Georgetown County Land Disturbance Permit unless otherwise exempt from the provisions of the Ordinance and the requirements of providing stormwater management measures.

- Sites disturbing 25 acres or more shall be required to submit a written quantitative and qualitative assessment showing that the selected BMP will control the discharge of the pollutant or pollutants of concern from construction and post-construction within a Total Maximum Daily Load (TMDL) watershed or to a water on the 303(d) List of Impaired Waters. In addition, the permittee shall conduct onsite water quality monitoring during construction and provide the analysis to the County Stormwater Division as part of the permit compliance, during construction.
- Site disturbing land that discharge to a TMDL watershed or to impaired waters must notify Georgetown County Stormwater Division when applying for a Land Disturbance Permit. Permittees must identify the pollutant of concern and demonstrate how their land disturbance activity shall not discharge that pollutant as part of the review process.

Even if exempt from this Ordinance, the following, as well as all land disturbing activity is not allowed to divert water to adjacent property to cause a nuisance and/or property damage and should comply with the intent of this ordinance. The following exempt activities are also not exempt from implementing proper sediment, water diversion, and erosion control best management practices.

The following activities are exempt from the Georgetown County Land Disturbance Permitting Requirements:

1. Construction or improvement of a single-family residence (single family residence – separately

built), as defined by this ordinance, or their accessory buildings, or mobile home.

2. Minor land disturbing activities that disturb less than one (1.0) acre of land area and is not part of lager common plan of development and not with ½ mile of a receiving water body.

3. Any maintenance or renovation of an existing structure or system not materially changing, or creating land disturbance to do so, or affecting the rate, concentration or volume of stormwater runoff.

4. Land disturbing activities on agricultural land for production of plants and animals useful to man, including but not limited to: forages and sod crops, grains and feed crops, tobacco, cotton, and peanuts; dairy animals and dairy products; poultry and poultry products; livestock, including beef cattle, sheep, swine, horses, ponies, mules, or goats, including the breeding and grazing of these animals; bees; fur animals and aquaculture, except that the construction of an agricultural structure of one or more acres, such as broiler houses, machine sheds, repair shops and other major buildings and which require the issuance of a building permit will require the submittal and approval of a drainage plan prior to the start of the land disturbing activity.

5. Land disturbing activities undertaken on forest land for the production and harvesting of timber and timber products under the condition that the practices included in the South Carolina Forestry Commission's "Best Management Practices for Forestry" are implemented.

6. Activities undertaken by persons who are otherwise regulated by the provisions of the Stormwater Management and Sediment Reduction Act as set forth in Section 48-14-40 of the 1976 Code of Laws of South Carolina as amended.

8. Activities undertaken by persons who are otherwise regulated by the provisions of Chapter 20 of Title 48, the South Carolina Mining Act Discharges of dredged or fill material into waters of the United States which are regulated under section 404 of the Clean Water Act (CWA).

SECTION F. Stormwater Design Manual

To assist in the design and evaluation of stormwater management facilities in Georgetown County, a Stormwater Design Manual has been developed. Design procedures and criteria are presented for conducting hydrologic, hydraulic evaluations and evaluation of Best Management Practices (BMPs). Although the intention of the manual is to establish uniform design practices, it neither replaces the need for engineering judgment nor precludes the use of information not presented. Other accepted engineering procedures may be used to conduct hydrologic and hydraulic studies if approved by the County. This Stormwater Design Manual is adopted by Georgetown County by reference in this Ordinance. The Georgetown County *Stormwater Design Manual* will be reviewed and updated, if necessary, and any changes adopted by the Georgetown County Council by resolution.

ARTICLE II. STORMWATER CONCEPT, STORMWATER MANAGEMENT AND SEDIMENT CONTROL PLANS

SECTION A. Scope of plans

1. The following items relate to the general scope of plans required by this Ordinance.

    a. In developing plans for subdivisions, individual lots in a residential development may be considered to be separate land disturbing activities and may require individual permits. The subdivision development, as a whole, shall be considered to be a single land disturbing activity. Hydrologic parameters that reflect the ultimate subdivision development shall be used in all engineering calculations.

    b. If individual lots or sections in a subdivision are being developed by different property owners, all land disturbing activities related to the subdivision shall be covered by the approved Stormwater Management and Sediment Control Plan for the subdivision. A statement shall be included on the final plat that all activities, including activities by individual lot owners, will be carried out in accordance with the approved Stormwater Management and Sediment Control Plan and the recorded BMP agreement for the subdivision.

    c. For developments that have different planned phases of development, one permit will be issued for each phase of development and new permits will be required for each phase of development. A detailed phasing plan and calculations can submitted for review and conceptually approval to expedite the permitting process for each future phase of development. The sequencing of sediment controls and the stormwater management facilities shall be required for each phase of development.

2. In subdivisions, the following requirements apply.

    a. The design surface runoff across lots shall not have erosive velocities.

    b. Lots shall be graded such that surface runoff does not cross more than one lots before it is collected in a conveyance system of either an open ditch less than three (3) feet in depth, closed conduits, or a combination of both.

3. General Grading: the following requirements apply:

    a. Must meet Georgetown County's Flood Damage Prevention Ordinance, or the current building code requirements whichever is stricter.

    b. In cases where the lot is designed to be lower than the road and is intended to drain away from the road to a rear or side lot swale, ditch, pond or water course, the first floor shall be at least 12 inches above all surrounding ground at a distance of 10 feet around the structure.

4. For all land disturbing activities, concentrated stormwater runoff leaving a development site must be discharged directly into a well-defined, natural or man-made point of legal positive outfall consisting of a receiving channel or culvert pipe. If the receiving outfall system is found to be inadequate, the developer must either improve the receiving outfall system to an adequate condition, or attenuate the runoff from the site to a discharge rate that can be accommodated by the outfall system. Newly constructed channels shall be designed to adequately convey the runoff from the upstream drainage basin. Velocity dissipation devices and/or erosion control measures shall be placed at the outfall of all stormwater management facilities as necessary to provide a protected flow

path(s). If a stormwater system is discharged into existing wetlands, the proposed water surface elevation, within and adjacent to the wetlands, must be determined and maintained for design conditions that will not significantly disrupt the hyperperiod of the wetland or alter the ground water elevations.

The development site should be designed to maximize the amount of rainfall that infiltrates into the soils and minimize the amount of direct flow into public drainage facilities, adjoining streets, waterbodies, watercourses, and wetlands, to the extent feasible.

5. Design configurations, which create stagnant water conditions, such as hydraulically dead end canals, are prohibited regardless of the type of development.

6. Concentrated stormwater shall not be discharged directly into wetlands without first routing through some type of approved water quality BMP.

7. Linear projects shall require detailed Erosion and Sediment control plan as well as a C-SWPPP as required under DHEC CGP regulations.

8. For redevelopment sites show the ten (10) and twenty five (25) – year flood elevations for any Flood Prone Areas on or within one hundred (100) feet of the property. The source of these elevations shall also be shown on the plans.

9. A downstream analysis shall be provided to determine the effects from the project downstream and any potential flooding issues. The procedures to provide the analysis are found in the Georgetown County Stormwater Design Manual.

SECTION B. Stormwater Management and Sediment Control Plans and Approval Process

1. Unless granted an exemption from this Ordinance, a Stormwater Plan for each land disturbing activity shall be submitted for review and approval by the Stormwater Administrator prior to submission of the Stormwater Management and Sediment Control Plan and construction plans for the entire land disturbing activity, or any portion thereof.

2. The Stormwater Plan may be reviewed, with the designer, after the County's review, where it will be approved, approved with changes, or rejected. If rejected, changes, additional analysis, or other information needed shall be identified and presented to the designer.

3. Upon approval of the Stormwater Plan, the applicant may proceed with the development of the Stormwater Management and Sediment Control Plan, prepared in accordance with the Georgetown County Stormwater Design Manual (as part of the construction plans).

4. All plans which are subject to approval by the Georgetown County Planning Commission shall be submitted to the Planning Department and shall be subject to the review and approval time frames established by the Planning Commission. The required set of plans will correspond to those established by the Planning Department. These plans shall not be forwarded to the Georgetown County Planning Commission for their review and consideration until the Stormwater Management and Sediment Control Plans have been approved by the Stormwater Division.

5. All other Stormwater Management and Sediment Control Plans as required by this Ordinance shall be submitted to the Georgetown County Stormwater Division for review and approval. The applicant shall submit one (1) copy (unless the plans are submitted digitally) or three (3) copies of the final plans in accordance with the Georgetown County Stormwater Design Manual.

6. All minor and major subdivision plats for the development shall be consistent with the Stormwater Plan required in Paragraph 1 above.

7. Should any Stormwater Management and Sediment Control Plan involve any stormwater management facilities or land to be dedicated to public use, the same information shall also be submitted for review and approval to the division having jurisdiction over the land and the Stormwater Administrator for stormwater management review and approval. This Stormwater Management and Sediment Control Plan shall serve as the basis for all subsequent construction.

8. A Stormwater Management and Sediment Control Plan shall not be considered approved without the inclusion of a Georgetown County approval stamp with a signature and date of a County Stormwater Division Staff member on the plans. The Georgetown County stamp of approval on the plans is solely an acknowledgement of satisfactory compliance with the requirements of these regulations. The Georgetown County approval stamp does not constitute a representation or warranty to the applicant or any other person concerning the safety, appropriateness or effectiveness of any provision, or omission from the Stormwater Management and Sediment Control Plan.

9. Upon approval of the Stormwater Management and Sediment Control Plan a conditional letter of approval (CLA) shall be issued to the applicant or their representative for projects within the MS4 Area. The CLA shall be submitted to DHEC within 90 days for a NPDES permit, if after 90 days the NPDES permit has not been applied for then the approvals shall become null and void. The plans shall have to be resubmitted or a variance will have to be given by the Stormwater Administrator. Upon receiving the NPDES permit from DHEC, Georgetown County shall issue a Land Disturbance permit which shall remain valid for five (5) years from the date of issuance. If the project has not been started, or completed within the required time frame another permit will have to be applied for along with a new NPDES permit.

10. A Notice of Intent (as per DHEC most recent approved forms) shall be submitted along with the Stormwater Management and Sediment Control Plans, and shall be completely filled out and signed by the owner or person financially responsible for the project.

11. A properly executed Stormwater BMP Maintenance Agreement with attachment "A" BMP Maintenance Plan and Inspection Form shall be submitted with the permit application.

SECTION C. Stormwater Plan Requirements

Stormwater Plan requirements are contained within the Georgetown County Stormwater Design Manual.

SECTION D. Approval and Permit Requirements

1. No site development or subdivision plan approval shall be issued or modified without the following items, unless exempted by this ordinance.

a. An approved Stormwater Concept Plan or Stormwater Management and Sediment Control Plan, as appropriate.

b. An approved NPDES permit issued by DHEC.

c. Right of entry given to Georgetown County for County personnel to enter property for inspections or emergency maintenance if necessary.

d. Any off-site easements needed. Easements for stormwater management facilities should be identified and recorded prior to issuance of any land disturbance permit.

e. The drainage plan will not be considered approved without the inclusion of an approval stamp with a signature and date on the plans by the Stormwater Division. The stamp of approval on the plans is solely an acknowledgement of satisfactory compliance with the requirements of these regulations. The approval stamp does not constitute a representation or warranty to the applicant or any other person concerning the safety, appropriateness or effectiveness of any provision, or omission from the drainage plan.

f. Wetland areas shall not be disturbed or altered until documentation is provided to the Stormwater Division showing that the applicant has received all state and federal permits, including Nationwide Wetland Permits, and a copy of the Corp of Engineers letter of verification for wetlands.

2. No final certificate of occupancy permit shall be issued without the following items.

a. Recorded easements for stormwater drainage systems, management facilities, and BMPs.

b. Receipt of an as-built plan, signed and sealed by a registered professional engineer stating that the project was built in compliance with the permitted stormwater plan.

3. In addition to the plans and permits required from Georgetown County, applicants shall obtain all state and Federal permits required for the proposed development.

SECTION E. Financial Guarantees

1. General. Financial guarantees may be posted in lieu of completing improvements required by this Ordinance to allow for the recording of a final plat or to obtain building permits for properties for which ownership will be transferred or to receive certificates of occupancy. A financial guarantee is not required to be posted prior to obtaining model home permits once a preliminary plan has received conditional approval. Acceptance of financial guarantees is discretionary and Georgetown County reserves the right to refuse a financial guarantee for any remaining improvements and require that such improvements be completed before the recording of a final plat or issuance of building permits or issuance of certificate of occupancy. Acceptance of a financial guarantee by Georgetown County shall not be construed as an obligation to any other agency, utility or property owner within affected developments.

2. Submittal. Financial guarantees shall be submitted to the Stormwater Division and follow

procedures enumerated below. Failure to follow these procedures may delay the approval of such guarantee and recording of a final plat or issuance of building permits or certificates of occupancy. An itemized cost estimate shall be submitted for the improvements that the financial guarantee will cover. Such estimate shall bear the original signature and seal of a licensed professional engineer, be on company letterhead, and be in a form acceptable to the Stormwater Division. Cost estimates may include, but are not limited to the following:

a. Storm drainage systems and erosion control measures.

b. Street improvements including curbs, gutter, temporary cul-de-sacs and required grassing or landscaping within the rights-of-way or easements.

c. South Carolina State road right-of-way improvements upon agreement between Georgetown County and South Carolina Department of Transportation.

Upon receipt of an itemized cost estimate, the Stormwater Division shall forward such estimate to the appropriate departments or agencies for review.

1. Acceptance of Financial Guarantees. The Stormwater Division may accept letters of credit or cash deposits as financial guarantees to ensure the completion of public or private improvements in accordance with the requirements enumerated below. Approved guarantees shall be independent of the development project's construction loan. The Stormwater Division shall not accept any guarantee that requires drawdowns for monthly expenditures. Approved letter of credit shall adhere to the following standards:

(a) Be equal to 125% of the approved cost estimate;

(b) Be issued for an initial coverage period not less than 12 months from the date that the final plat is submitted for recording;

(c) Be irrevocable, unconditional and subject to presentation for drawing within the State of South Carolina;

(d) Be payable to Georgetown County;

(e) Be for no less than $10,000 of construction cost; and

(f) Be issued by a bonafide financial institution authorized to do business and located within the State of South Carolina.

Approved cash deposits shall adhere to the following standards:

(a) Be equal to 125% of the approved cost estimate;

(b) Be for no less than $1,000 of construction cost; and

(c) Made payable by cashier's check to Georgetown County.

Cash deposits are deposited upon receipt with the Georgetown County Finance Department. Improvements

guaranteed by such deposits shall be completed within 12 months. After 12 months, the County, or its contractor, may enter upon the lot or parcel of land and use the funds set forth by the financial guarantee to complete the improvements such that no life safety issues are present.

SECTION F. Professional Registration Requirements

Stormwater and Stormwater Management and Sediment Control Plans and design reports that are incidental to the overall or ongoing site design shall be prepared, and stamped/sealed by a qualified registered Professional Engineer, Tier 2B Land Surveyor or Landscape Architect, using acceptable engineering standards and practices. All other Stormwater Concept and Stormwater Management and Sediment Control Plans and design reports shall be prepared, and stamped/sealed by a qualified registered Professional Engineer, using acceptable engineering standards and practices.

The engineer, surveyor, or landscape architect shall provide services only in areas of their competence, and shall undertake stormwater engineering only when qualified by education and/or experience in stormwater engineering. In addition, the engineer, surveyor, or landscape architect must certify that the plans have been designed in accordance with this Ordinance and the standards and criteria stated or referred to in this Ordinance.

SECTION G. Fees

A Schedule of Fees is included in the Georgetown County Stormwater Design Manual.

ARTICLE III. OWNERSHIP AND COUNTY PARTICIPATION

SECTION A. Ownership of Stormwater Management Facilities and BMPs

1. All stormwater management facilities and BMPs shall be privately owned and maintained. The owner of all private facilities shall grant to the County, a perpetual, non-exclusive easement that allows for public inspection and emergency access.

2. All stormwater management measures relying on designated vegetated areas or special site features shall be privately owned and maintained as defined on the Stormwater Management and Sediment Control Plan.

SECTION B. County Participation

When a project site is located in areas that experience flooding or in an area predetermined to flood with additional impervious area, the Stormwater Division may determine that additional storage capacity beyond what is required by the applicant for on-site stormwater management is necessary to enhance or provide for the public health, safety and general welfare, to correct unacceptable or undesirable existing conditions or to provide protection in a more desirable fashion for future development, the Stormwater Division may:

1. Require that the applicant grant any necessary easements over, through or under the applicant's property to provide access to or drainage for such a facility;

2. Require that the applicant attempt to obtain from the owners of property over, through or under where the stormwater management facility is to be located, any easements necessary for the

construction and maintenance of same (and failing the obtaining of such easement the County may, at its option, assist in such matter by purchase, condemnation, dedication or otherwise with any cost incurred thereby to be paid by the County);

ARTICLE IV. CONSTRUCTION, INSPECTION AND MAINTENANCE

SECTION A. Construction and Inspection

1. Before commencing any work the applicant shall notify the Stormwater Division and schedule a pre-construction meeting prior to implementing the Stormwater Management and Sediment Control Plan for all projects requiring a land disturbance permit. At which time, the Georgetown County Land Disturbance Permit shall be issued for that project.

2. The Stormwater Engineer or its designee, bearing proper credentials and identification, may enter and inspect all County permitted properties for regular inspections, periodic investigations, monitoring, observation measurement, enforcement, sampling and testing, to effectuate the provisions of this ordinance during construction.

3. The Stormwater Division shall maintain a file of inspection reports that includes the following.
   a. The date and location of the site inspection.
   b. Whether the approved plan has been properly implemented.
   c. Any approved plan deficiencies and any actions taken.

4. Any portion of the work, which does not comply with the approved permitted Stormwater Management and Sediment Control Plan, shall be noted and promptly corrected by the applicant.

SECTION B. Maintenance Responsibility

A permanent maintenance plan for each stormwater management facility will be included in the in the application to perform a land disturbance activity. As part of the maintenance plan, the owner of such facility shall specifically agree to be responsible for permanent maintenance and provide a BMP Maintenance Agreement with Attachment "A" describing the maintenance of each BMP for the facility. An inspection form shall be included for review and approval. This agreement, maintenance plan, and inspection form must be recorded with the County Register of Deeds prior to and as part of the issuance of County Land Disturbance permit. To transfer maintenance responsibility, a letter of acceptance by the entity accepting permanent maintenance responsibility shall be filed with the Stormwater Division.

All temporary and permanent on-site stormwater management facilities and BMPs required by this Ordinance shall be maintained by the owner during and after site development. The owner shall provide adequate ingress and egress for Georgetown County personnel to inspect the premises at reasonable times. For purposes of this section, the term owner shall also mean Homeowner Association or other collective member organizations.

All subdivision and/or land development plans containing streams, channels, drainage swales, storm sewers or other conveyance systems that cross property boundaries shall contain the following note and is enforceable by this ordinance:
"No property owner shall obstruct or alter the flow, location or carrying capacity of a stream, channel or drainage swale to the detriment of any other property owner, whether upstream or downstream. "

SECTION C. Failure to Maintain

Should the owner fail to properly maintain the drainage system, stormwater management facilities, and/or BMPs as required by this Ordinance, the Stormwater Division shall give written notice to the owner of record as appears on the latest property tax rolls in accordance with the enforcement section of this ordinance to order the corrective action necessary. Should the owner fail, within the time frame provided in the enforcement section from the date of the notice, to take corrective action to the satisfaction of the Stormwater Administrator or appeal the notice and order, the County may enter upon the lands, take corrective action as the Stormwater Engineer may deem necessary, and file an action against the owner for the costs thereof.

ARTICLE V. DETECTION AND REMOVAL OF ILLICIT CONNECTIONS AND DISCHARGES AND IMPROPER DISPOSAL

SECTION A. Illicit Connections, Illicit Discharges and Improper Disposal

1. It is unlawful for any person to connect any pipe, open channel, or any other conveyance system that discharges anything except stormwater or unpolluted water, which is approved by the Stormwater Division, into receiving waters.

2. It is unlawful for any person to continue the operation of any such illicit connection regardless of whether the connection was permissible when constructed. Improper connections in violation of this ordinance will be disconnected and redirected, if necessary and at no cost to the owner, to the satisfaction of the Stormwater Division and any other federal, state, or local agencies or departments regulating the discharge.

3. It is unlawful for any person to throw, drain, run or otherwise discharge to any component of Georgetown County's Stormwater System or to the Waters of the State or to cause, permit or allow to suffer to be thrown, drained, run, or allow to seep or otherwise discharge into such system or receiving water all matter of any nature excepting only such stormwater or surface water runoff as herein authorized.

4. The following activities are exempt from the provision of this section and are not considered illicit discharge:

    a. Unpolluted industrial cooling water, but only under the authorization and direction of the Stormwater Administrator or his designee and appropriate NPDES permit.

    b. Water line flushing required by a government agency, diverted stream flows, rising ground waters, and unpolluted pumped ground waters, and unpolluted ground water infiltration.

    c. Discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual car washing, dechlorinated swimming pool discharges, flows from riparian habitats and wetlands, and street wash water.

    d. Discharges or flows from firefighting activities.

5. In the event of an accidental discharge or an unavoidable loss into the Georgetown County Stormwater System of any pollutant, the person concerned will inform the Georgetown County Stormwater Division as soon as possible, of the nature, quantity and time of occurrence of the discharge. The person concerned must take immediate steps to contain the discharge, treat the discharge or other actions to minimize effects of the discharge on the Stormwater System and receiving waters. The person will also take immediate steps to ensure no recurrence of the discharge.

SECTION B. Detection of Illicit Connections and Improper Disposal

1. The Stormwater Division will take appropriate steps to detect and eliminate illicit connections to Georgetown County Stormwater System, including the adoption of a program to screen illicit discharges and identify their source or sources.

2. The Stormwater Division shall take appropriate steps to detect and eliminate improper discharges, including programs to screen for disposal and programs to provide for public education, public information on proper disposal.

SECTION C. Stormwater Monitoring

The Stormwater Division may monitor the quantity of, and the concentration of pollutants in stormwater discharges from the areas and/or locations designated in the County's Stormwater Management Plan.

SECTION D. Illicit (Dry-weather) Inspections

1. The Stormwater Administrator or its designee, bearing proper credentials and identification, may enter and inspect all properties for regular inspections, periodic investigations, monitoring, observation measurement, enforcement, sampling and testing, to effectuate the provisions of this ordinance. The Stormwater Division will duly notify the owner of said property or the representative on site.

2. Upon refusal by any property owner to permit an inspector to enter or continue an inspection, the inspector may terminate the inspection or confine the inspection to areas concerning which no objection is raised. The inspector shall follow current procedures for inspection for illicit discharges and illegal connections.
3. In the event that the Stormwater Division appropriately credentialed designee reasonably believes that discharges from the property into the Georgetown County Stormwater System may cause an imminent and substantial threat to human health or the environment, the inspection may take place at any time and without notice to the owner of the property or a representative on site. The inspector should present proper credentials upon reasonable request by the owner or representative.
4. Inspection reports shall be maintained in a permanent file located in the Stormwater Division's office.

ARTICLE VI. NOTICE OF VIOLATIONS, PENALTIES, and ABATEMENT

SECTION A. Notice of Violations

Upon determination that a violation of any of the provisions of this Ordinance has occurred, the Stormwater

Division shall provide the property owner, permittee, and/or the violator notification as follows:

1. Verbal notification at the time of inspection or discovery of violation if owner, permittee, and/or violator are present. Correction Notice documenting violation and description of remedy shall be sent via certified mail following the inspection.
2. Written notification using a correction notification. A correction notification contains but is not limited to the following information:
    - the date,
    - owner or permittee,
    - permit number when applicable,
    - location of violation,
    - description of violation, including the applicable Ordinance section related thereto;
    - time frame (date) to make corrections
3. Once a correction notification time frame passes without corrections made a Stop Work order shall be issued.
4. If a violation of this Ordinance is occurring, causing significant damage to downstream property or structures, the Stormwater Division can issue an immediate stop-work order.

SECTION B. Issuance of stop-work orders

A stop-work order may be issued if one or more of the following violations have been committed:

1. Violation(s) of the conditions of the Stormwater Management and Sediment Control Plan approval;

2. Construction not in accordance with the intent of the approved stormwater plans;

3. Approval of a Stormwater Management and Sediment Control Plan has not been obtained;

4. Non-compliance with correction notice(s); or

5. The existence of an immediate danger in a downstream area

If one or more of these conditions are found a written stop work order shall be, as soon as practicable, served upon the owner or authorized representative and the time in which to correct the deficiencies shall be specified. All work on site or at the specified location must stop immediately. Correction of these violations must be started immediately or the owner shall be deemed in violation of this Ordinance. All other inspections for the site shall be discontinued until the deficiencies are addressed and field verified.

Prior to lifting of the stop work order, a stop work order fee as per the Schedule of Fees listed in the Design Manual with a minimum of $250, shall be paid.

Corrective Action

In the event a violation of this Ordinance has not been corrected within the determined timed period for correction, the County, or its contractor, may enter upon the lot or parcel of land and correct the violation, and the costs incurred as a result of such action (including inspection, administration, labor and equipment costs, and fees) will be collected from the financial guarantee, if in place and sufficient to cover such costs, or an action may commence against the property owners(s) or contractor to collect the costs.

SECTION C: Permit Suspension and Revocation

A Georgetown County Land Disturbance Permit may be suspended or revoked if one or more of the following violations have been committed:

1. Violations of the conditions of the approved and stamped Stormwater Management Plan
2. Construction not in accordance with the letter or intent of the approved stamped plans
3. Non-compliance with the correction notice or stop work order(s),
4. The existence of an immediate danger in an area negatively impacted by the permitted site.

Work authorized by permits issued under this Ordinance must be completed within five years after the date of issuance. The time limit may be extended for good cause showing that due diligence toward completion of the work has been made as evidenced by significant work progress. An extension only may be granted if the permittee agrees to accept additional conditions which would bring the project into compliance. The time periods required by this subsection must be acted upon during the decision process of an administrative or a judicial appeal of the permit issuance.

SECTION D: After-the-fact Permits

The Georgetown County Stormwater Division does not have authority to consider an after-the-fact application unless:

1. All fines are paid before application.
2. The permit would legitimize an activity that is a routine permitting matter that will meet all of the standards set forth by this Ordinance.
3. Any portion of the activity or structure that is in violation of the Ordinance is corrected prior to the approval of an after-the-fact permit.
4. Mitigation for any damage caused by the activity has been completed.

SECTION E: Civil and Criminal Penalties

Civil Penalties

Any person or entity that violates any provision of this Ordinance shall be assessed a violation and subsequent violation fee. Violations are defined in the definition section of this ordinance and a Schedule of Fees is outlined in the Georgetown County Stormwater Design Manual.

Criminal Penalties

In addition to any applicable civil penalties, any person or entity that negligently, willfully or intentionally violates any provision of this Ordinance will be charged by the Stormwater Division with a misdemeanor and shall be upon being found guilty by the Georgetown County Magistrate's Court, punished within the jurisdictional limits of Court.

SECTION F: Additional Legal Measures

1. Where the County is fined and/or placed under a compliance schedule by the state or federal government for a violation(s) of its NPDES permit, and the County can identify the person(s) who caused such violation(s) to occur, the County may pass through the penalty and cost of compliance to that person(s) to be enforced through an action filed in the 15th, judicial circuit or other appropriate Court.
2. The County Attorney, or his designee, may institute injunctive, mandamus or other appropriate

action or proceedings at law or equity, including criminal conviction, for the enforcement of this Ordinance or to correct violations of this Ordinance, and any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus or other appropriate forms of remedy or relief.

SECTION G. Waivers

An applicant may submit for a waiver from the provisions provided for by this Ordinance as allowed in the Stormwater Design Manual. The applicant must submit a written request for a waiver stating the reason for requesting the waiver, with supporting data, for granting the request. The request shall include descriptions, drawings, calculations and any other information that is necessary to evaluate the waiver.

SECTION H. Variances from requirements

The Director of Public Services may grant a variance from the requirements of this ordinance if exceptional circumstances applicable to a site exist such that strict adherence to the provisions of the ordinance will result in unnecessary hardship and will not fulfill the intent of the ordinance.

1. A written request for a variance shall be required and shall state the specific variance sought and the reasons, with supporting data, for their granting. The request shall include descriptions, drawings, calculations and any other information that is necessary to evaluate the proposed variance.

2. The Stormwater Engineer will conduct a review of the request for a variance and submit a report to the Director of Public Services within 30 days.

A variance review fee is required upon submitting a project requesting a variance from the Ordinance. The Stormwater Design Manual has a schedule of fees to follow when submitting for a variance.

SECTION I. Appeals

Any person aggrieved by a decision or Notice of Violation may appeal the same by filing a written notice of appeal with the County within 30 days of the issuance of said decision or Notice of Violation. No extensions will be granted once the 30-day period of appeal has expired if the person to whom the decision or notice of violation is directed fails or neglects to appeal the notice of violation within 30 days of the issuance of said decision or Notice of Violation, the decision or violation becomes final. The County shall provide an appeals form to the applicant for use in submitting for a decision of appeal. The form will contain the name of the party requesting review of the decision or notice of violation, the permit number or other information sufficient to identify the decision, order, action or inaction which is the subject of review; and the relief requested The County Council shall appoint a Stormwater Appeals Board for the purposes of hearing appeals to decisions by the Stormwater Engineer regarding the enforcement and interpretation of this ordinance.

Appeal of Decision

Any person aggrieved by the decision of the County may appeal the decision of the Stormwater Division as follows:

1. The aggrieved party shall make a written request to the Stormwater Division of an

appeal of the Stormwater Division's decision.

2. The Director of Public Services, within a reasonable time, shall schedule a meeting of the Stormwater Appeals Board.
3. The aggrieved party will be allowed to present its appeal to the Stormwater Appeals Board as outlined in procedures developed by the Board for the hearing of appeals.
4. The Board will then make a decision related to the appeal and will inform the applicant of the results of its decision.
5. Should the applicant disagree with the decision of the Stormwater Appeals Board, they may appeal the decision to the Georgetown County Court of Common Pleas in accordance with its rules and procedures.

SECTION J: Stormwater Appeals Board (SWAB)

There is hereby created the Georgetown County Stormwater Appeals Board to be composed of seven (7) members appointed in accordance with the Chapter 2, Article IV, Division 1 of the Georgetown County Code of Ordinances outlining General Provisions for all Georgetown County Boards and Commissions.

The composition of the committee shall be comprised of a number of Georgetown County residents including, if available, resident technical advisors that to some degree possess past or present experience in the field of storm water management and associated subjects.

Purpose

The principal purpose of the Stormwater Appeals Board is to act as an appeals board for citizen storm water appeals pursuant to the Appeals section of this Ordinance and shall also sserve as the Stormwater Advisory Committee as needed.

Decision of the Board

The Board shall adopt by-laws reflecting their purpose and shall make all appeals decisions based upon the evidence presented before it while utilizing this Ordinance and no other as its guide and shall notify the owner and the Stormwater Administrator in writing thereof. The Board shall meet no more than once a month, if needed, and the date of its meeting shall be reflected in the by-laws.

Oversight

The Stormwater Engineer for Georgetown County shall act as the liaison for the Stormwater Appeals Board. The Stormwater Administrator shall report all actions taken by the committee to the Director of Public Services and in turn the Director shall report all actions to the County Administrator for dissemination to Georgetown County Council.

ARTICLE VII. MISCILANEOUS PROVISIONS

SECTION A. Public Review and Input

All Georgetown County Land Disturbance Permits applications submitted for approval shall be given Public Notice as follows:

1. Georgetown County will advertise each application on the County website home page for a period

of ten days.

2. A sign advertising that this site is under review for a Land Disturbance Permit with the Georgetown County Stormwater Division, shall be placed on the main parcel of the project being submitted for land disturbance permit review for a period of ten days.
3. A letter shall be sent to all adjacent property owners informing them of the submittal to Georgetown County Stormwater for a land disturbance permit.
4. Comments received as a result of the County advertisement will be reviewed by the County Stormwater Division.
5. The County Stormwater Division Manager shall have the sole discretion to act on comments received.
6. A public hearing will be scheduled and held by the County Stormwater Division when 20 or more comments are received.

SECTION B. Conflict with other laws

Whenever the provisions of this Ordinance impose more restrictive standards than are required in or under any other ordinance, the regulations herein contained shall prevail. Whenever the provisions of any other ordinance require more restrictive standards than are required herein, the requirements of such shall prevail.

SECTION C. Severability

If any term, requirement or provision of this Ordinance or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Ordinance or the application of such terms, requirements and provisions to persons or circumstances other than those to which it is held invalid or unenforceable, shall not be affected thereby and each term, requirement or provision of this Ordinance shall be valid and be enforced to the fullest extent permitted by law.

SECTION D. Amendments

This Ordinance may be amended in the manner as prescribed by law for its original adoption. Before the Georgetown County Council amends this Ordinance, it must seek the advice of the Stormwater Administrator who will make a recommendation for each amendment within thirty (30) days of this request.

SECTION E. Liability

Neither the approval of a plan under the provisions of this Ordinance nor the compliance with the provisions of this Ordinance shall relieve any person from the responsibility for damage to any person or property otherwise imposed by law nor shall it impose any liability upon the County for damage to any person or property.

SECTION F. Effective date

The Ordinance shall be effective upon the third reading.

Dated this _____ day of _____ , 2014.

GEORGETOWN COUNTY COUNCIL

_____
Johnny Morant - Chairperson - District 7

_____ _____
Jerry Oakley - District 1 Ron Charlton - District 2

_____ _____
Leona Myers-Miller - District 3 Lillie Johnson - District 4

_____ _____
Austin Beard – District 5 Bob Anderson – District 6

ATTEST

_____
Theresa Floyd, Clerk to Council

FIRST READING:

SECOND READING:

THIRD READING:

Appendix E
Standard Operating Procedures for Use in Field Investigations for Illicit Discharges

SECTION: Department of Public Services Stormwater

TITLE: Illicit Discharge Detection and Elimination (IDDE) Inspections, Tracking, Reporting, and Resolution

POLICY NUMBER: 504-901-2023-SOP001

SUBJECT: Standard procedure to perform inspections of County outfalls, predetermined high-risk areas, and requested areas to determine the presence of an Illicit Discharge. Dry weather and high-risk area inspections of stormwater systems and outfalls are a primary means of detecting illicit discharges, eliminating potential pollutant sources, and identifying any necessary maintenance or repairs.

PURPOSE: Facilitate how to track an illicit, how to impose corrective actions of an illicit, and how to report an illicit discharge.

POLICY:

Inspection Procedure

- Perform frequent inspections on outfalls with suspected illicit discharges. areas.
- Check the outfall's dimensions, shape, and component material.
- Characterize and record the outfall's dimensions, shape, and component material.
- Perform frequent inspections of high priority with suspected illicit discharges.
- Perform inspections of a requested area. (i.e. Citizen request, consultant request, and other request associated with a potential illicit discharge).
- Conduct inspections during dry weather periods. A dry weather period is defined as 72 hours with no rain.
- Characterize and record observations on basic sensory and physical indicators (e.g., odor, color, oil sheen).
- If an obvious illicit discharge is encountered (such as raw sewage, paint, etc.) follow the reporting procedure below.
- Analyze inspection results for trends and evaluate the effectiveness of the IDDE program.

Reporting and Tracking Procedure

- Contact Supervisor
- Photograph the discharge or illegal connection.
- Complete the IDDE Hotline Tracking Sheet. See appendix A.
- Complete a Correction Order letter and give to the property owner, if applicable. See appendix B.
- Complete a Notice of Violation letter and give to the property owner, if applicable. See appendix C.
- Complete a Final Notice of Violation letter and give to the property owner, if applicable. See appendix D.
- Follow the Notice of Violation procedures that is included in the Georgetown County, South Carolina Stormwater Management Ordinance.
- If dry weather flow is present at the outfall, and the flow does not appear to be an obvious illicit discharge (e.g., flow is clear, odorless, etc.), attempt to identify the source of the flow (intermittent stream etc.), then document the discharge for future comparison.

- Use available resources (County system inventory, storm drain maps, GIS, etc.) to follow the discharge upstream to the source of the discharge and document investigation.
- **If sewer odor is detected** inform supervisor immediately and contact **GCWSD (843-237-9727)**. Report your location to sewer authority.
- Discharges of large spills (**1500 gallons or more**) to the storm drainage system must be reported to **SC DHEC spill hotline, 1-888-481-1025.**

Safety

- Always wear appropriate PPE
- Never put yourself in danger.
- Identify yourself as a Georgetown County Employee.

APWA CHAPTER POLICY CROSS REFERENCES:

28.5-Stormwater and Flood Management-System Inflow of Polluted Runoff

Appendix A: IDDE Tracking Sheet

Georgetown County
Department of Public Services
Stormwater Division

Illicit Discharge Hotline Incident Tracking Sheet

Incident ID: *[# assigned by office]*				
Call Date:		**Precipitation (inches) in past 24-48 hrs:**		
Call time:		YES		NO
Incident time:		**Incident date:**		
Caller contact information (*optional*):				
Incident Location *(complete one or more below)*				
Latitude and longitude:				
Stream address or outfall #:				
Closest street address:				
Nearby landmark:				
Primary Location Description	**Secondary Location Description:**			
Stream corridor (In or adjacent to stream)	Outfall	In-stream flow	Along banks	
Upland area (Land not adjacent to stream)	Near storm drain	Near other water source (storm water pond, wetland, etc.):		
Narrative description of location:				

Upland Problem Indicator Description		
Dumping	Oil/solvents/chemicals	Sewage
Wash water, suds, etc.	Other: _____	

Stream Corridor Problem Indicator Description				
Odor	None	Sewage	Rancid/Sour	Petroleum (gas)
	Sulfide (rotten eggs); natural gas	Other: Describe in "Narrative" section		
Appearance	"Normal"	Oil sheen	Cloudy	Suds
	Other:			
Floatables	None:	Sewage (toilet paper, etc)	Algae	Dead fish
	Other:			
Narrative description of problem indicators:				
Suspected Violator (name, personal or vehicle description, license plate #, etc.):				

Stormwater Division
129 Screven Street Georgetown, SC 29440
Phone: 843-545-3524 • Fax: 843-545-3005
• email: stormwater@gtcounty.org

Appendix B: Correction Order Letter

Georgetown County
Department of Public Services
Stormwater Division
Innovative Leadership & Teamwork!

Date:

Re: Illicit Discharge Corrective Order

Dear property owner,

The purpose of this letter is to serve notice that you are in violation of the *Georgetown County, South Carolina Stormwater Management Ordinance 2014-44, ARTICLE V. Detection and Removal of Illicit Connections and Discharges and Improper Disposal*. The location of the illicit discharge is at (insert address or other positional info). (Add text to describe illicit discharge).

This violation is a first offense based on an inspection conducted on X/X/20XX. The Georgetown County Stormwater Division requests that you remove the illicit discharge immediately before additional action is necessary. Georgetown County Stormwater personnel will revisit the referenced site location in approximately two weeks to see if you have removed the illicit discharge. If a hazardous condition warrants, an inspection may be sooner than two weeks.

Failure to comply with this Corrective Order may result in further action as listed in *Georgetown County, South Carolina Stormwater Management Ordinance 2014-44, ARTICLE VI. Notice of Violations, Penalties, and Abatement*

Please contact this office with any questions.

Sincerely,

Stormwater Division
129 Screven Street • Georgetown, SC 29440
Phone: 843-545-3524 • Fax: 843-545-3005 • email: stormwater@gtcounty.org

Appendix C: Notice of Violation Letter

Georgetown County
Department of Public Services
Stormwater Division
Innovative Leadership & Teamwork!

Date:
Re: Notice of Violation

Dear property owner,

The purpose of this letter is to serve notice that you are in violation of the *Georgetown County, South Carolina Stormwater Management Ordinance 2014-44, ARTICLE V. Detection and Removal of Illicit Connections and Discharges and Improper Disposal*. The location of the illicit discharge is at (insert address or other positional info). (Add text to describe illicit discharge).

Any person or entity that violates any provision of this Ordinance shall be assessed a violation and subsequent violation fee. Violations are defined in the definition section of the ordinance and a Schedule of Fees is outlined in the Georgetown County Stormwater Design Manual. You will be fined (list amount per day based on major or minor violation) until the illicit discharge is corrected.

This violation is due to failure to comply with a past corrective order resulting from an inspection conducted on X/X/20XX. The Georgetown County Stormwater Division requests that you remove the illicit discharge immediately before additional action is necessary. Georgetown County Stormwater personnel will revisit the referenced site location in approximately two weeks to see if you have removed the illicit discharge. If a hazardous condition warrants, an inspection may be sooner than two weeks.

Failure to comply with this Notice of Violation prior to the re-inspection will result in an immediate report to the Georgetown County Magistrate's Court.

Please contact this office with any questions.

Sincerely,

Stormwater Division
129 Screven Street • Georgetown, SC 29440
Phone: 843-545-3524 • Fax: 843-545-3005 • email: stormwater@gtcounty.org

Appendix D: Final Notice of Violation Letter

Georgetown County
Department of Public Services
Stormwater Division
Innovative Leadership & Teamwork!

Date:
Re: Final Notice of Violation

Dear property owner,

The purpose of this letter is to serve notice that you are in violation of the *Georgetown County, South Carolina Stormwater Management Ordinance 2014-44, ARTICLE V. Detection and Removal of Illicit Connections and Discharges and Improper Disposal*. The location of the illicit discharge is at (insert address or other positional info). (Add text to describe illicit discharge).

Previous requests to you to remove the discharge have been unsuccessful. Therefore, the Georgetown County Stormwater Division has reported the violation to the Georgetown County Magistrate's Court.

Please contact this office with any questions.

Sincerely,

Stormwater Division
129 Screven Street • Georgetown, SC 29440
Phone: 843-545-3524 • Fax: 843-545-3005 • email: stormwater@gtcounty.org

Appendix F
Enforcement Response Plan

GEORGETOWN COUNTY
STORMWATER DIVISION
ENFORCEMENT RESPONSE PLAN

SECTION A. Notice of Violations

Upon determination that a violation of any of the provisions of the Georgetown County Stormwater Management Ordinance has occurred, the Stormwater Division shall provide the property owner, permittee, and/or the violator notification as follows:

1. Verbal notification at the time of inspection or discovery of violation if owner, permittee, and/or violator are present. Correction Notice documenting violation and description of remedy shall be sent via certified mail following the inspection.
2. Written notification using a correction notification. A correction notification contains but is not limited to the following information:
    - the date,
    - owner or permittee,
    - permit number when applicable,
    - location of violation,
    - description of violation, including the applicable Ordinance section related thereto;
    - time frame (date) to make corrections
3. Once a correction notification time frame passes without corrections made a Stop Work order shall be issued.
4. If a violation of this Ordinance is occurring, causing significant damage to downstream property or structures, the Stormwater Division can issue an immediate stop-work order.

SECTION B. Issuance of stop-work orders

A stop-work order may be issued if one or more of the following violations have been committed:

1. Violation(s) of the conditions of the Stormwater Management and Sediment Control Plan approval;

2. Construction not in accordance with the intent of the approved stormwater plans;

3. Approval of a Stormwater Management and Sediment Control Plan has not been obtained;

4. Non-compliance with correction notice(s); or

5. The existence of an immediate danger in a downstream area

If one or more of these conditions are found a written stop work order shall be, as soon as practicable, served upon the owner or authorized representative and the time in which to correct the deficiencies shall be specified. All work on site or at the specified location must stop immediately. Correction of

these violations must be started immediately or the owner shall be deemed in violation of this Ordinance. All other inspections for the site shall be discontinued until the deficiencies are addressed and field verified.

Prior to lifting of the stop work order, a stop work order fee as per the Schedule of Fees listed in the Design Manual with a minimum of $250, shall be paid.

Corrective Action
In the event a violation of the Georgetown County Stormwater Management Ordinance has not been corrected within the determined timed period for correction, the County, or its contractor, may enter upon the lot or parcel of land and correct the violation, and the costs incurred as a result of such action (including inspection, administration, labor and equipment costs, and fees) will be collected from the financial guarantee, if in place and sufficient to cover such costs, or an action may commence against the property owners(s) or contractor to collect the costs.

SECTION C: Permit Suspension and Revocation

A Georgetown County Land Disturbance Permit may be suspended or revoked if one or more of the following violations have been committed:

1. Violations of the conditions of the approved and stamped Stormwater Management Plan
2. Construction not in accordance with the letter or intent of the approved stamped plans
3. Non-compliance with the correction notice or stop work order(s),
4. The existence of an immediate danger in an area negatively impacted by the permitted site.

Work authorized by permits issued under this Ordinance must be completed within five years after the date of issuance. The time limit may be extended for good cause showing that due diligence toward completion of the work has been made as evidenced by significant work progress. An extension only may be granted if the permittee agrees to accept additional conditions which would bring the project into compliance. The time periods required by this subsection must be acted upon during the decision process of an administrative or a judicial appeal of the permit issuance.

SECTION D: After-the-fact Permits

The Georgetown County Stormwater Division does not have authority to consider an after-the-fact application unless:

1. All fines are paid before application.
2. The permit would legitimize an activity that is a routine permitting matter that will meet all of the standards set forth by this Ordinance.
3. Any portion of the activity or structure that is in violation of the Ordinance is corrected prior to the approval of an after-the-fact permit.
4. Mitigation for any damage caused by the activity has been completed.

SECTION E: Civil and Criminal Penalties

Civil Penalties

Any person or entity that violates any provision of the Georgetown County Stormwater Management Ordinance shall be assessed a violation and subsequent violation fee. Violations are defined in the definition section of this ordinance and a Schedule of Fees is outlined in the Georgetown County Stormwater Design Manual.

Criminal Penalties
In addition to any applicable civil penalties, any person or entity that negligently, willfully or intentionally violates any provision of the Georgetown County Stormwater Management Ordinance will be charged by the Stormwater Division with a misdemeanor and shall be upon being found guilty by the Georgetown County Magistrate's Court, punished within the jurisdictional limits of Court.

SECTION F: Additional Legal Measures

1. Where the County is fined and/or placed under a compliance schedule by the state or federal government for a violation(s) of its NPDES permit, and the County can identify the person(s) who caused such violation(s) to occur, the County may pass through the penalty and cost of compliance to that person(s) to be enforced through an action filed in the 15th, judicial circuit or other appropriate Court.
2. The County Attorney, or his designee, may institute injunctive, mandamus or other appropriate action or proceedings at law or equity, including criminal conviction, for the enforcement of this Ordinance or to correct violations of this Ordinance, and any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus or other appropriate forms of remedy or relief.

Appendix G
Carolina Clear Contract and Procedures

CONTRACTUAL AGREEMENT BETWEEN GEORGETOWN COUNTY GOVERNMENT AND CLEMSON UNIVERSITY Cooperative Extension

THIS AGREEMENT (the "Agreement") is made this 1st day of July, 2022, by and between the Georgetown County Government (hereinafter referred to as "Georgetown County") and the Clemson University (hereinafter referred to as "Clemson"). This Agreement shall consist of all the terms, conditions, specifications and provisions required to deliver the Scope of Services defined heretofore.

WITNESSETH:

WHEREAS, Georgetown County is seeking to implement stormwater public education and outreach and public involvement/participation programming; and

WHEREAS, Clemson University holds in its Extension faculty and staff various levels of expertise concerning stormwater compliance requirements as promulgated by SC DHEC and USEPA; and

WHEREAS, Clemson University has developed an environmental outreach program (Carolina Clear), portions of which apply to the impact of stormwater on natural resources; and

WHEREAS, Georgetown County and Clemson desire to enter into an agreement relating to the implementation of strategic stormwater outreach and involvement programming, subject to the terms, specifications, conditions and provisions of the contract as heretofore mentioned.

THEREFORE, be it resolved that since Carolina Clear seeks to educate citizens about the impacts of stormwater and means to improve stormwater management and since this program provides outreach opportunities to address a broad range of water quality issues including the impact of stormwater on natural resources, Clemson and Georgetown County will collaborate to address stormwater public education and outreach and public involvement/participation. Carolina Clear is a comprehensive approach developed by Clemson University Cooperative Extension Service (CUCES) to inform and educate communities about, among other issues, water quality, water quantity, and the cumulative effects of stormwater. Carolina Clear addresses the special significance of South Carolina's water resources and the role these resources play in enhancing the state's economy, environmental health, and overall quality of life.

NOW, THEREFORE, Clemson and Georgetown County agree to all of these terms, conditions, specifications, provisions and the special provisions as listed below:

A. This Agreement is deemed to be under and shall be governed by and construed according to the laws of the State of South Carolina.

B. This Agreement, including the terms, conditions, specifications and provisions listed herein makes up the entire agreement between the Clemson and Georgetown County. No other Agreement, oral or otherwise, regarding the subject matter of this Agreement shall be deemed to exist or bind either party hereto.

C. It is understood that this Agreement shall be considered exclusive between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained herein, the parties agree as follows:

ARTICLE 1
DESCRIPTION

Because each agreement is unique to the requirements of the circumstances, Clemson and Georgetown County agree that the specific metrics of each task shall be individually negotiated and delineated in the Scope of Services. Neither party has any responsibility for any performance obligations except as indicated within the Scope of Services.

Clemson does hereby offer to Georgetown County services for the purpose of providing stormwater-related public education and involvement programs and documentation of activities for Clemson, as contained and described in the Scope of Services.

SCOPE OF SERVICES

PUBLIC awareness and education about natural resources is crucial to the process of protecting and restoring water quality. Clemson and Georgetown County will work together to deliver public education and outreach and public involvement/participation programming to general and targeted audiences towards achieving compliance with the public education and outreach and public involvement/participation requirements of the NPDES Phase II Stormwater Program.

In general, Clemson will lead a regional effort that includes strategic identification of behaviors and pollutants that can be addressed through stormwater education programming; implementation of an outreach campaign that seeks to address target behaviors, pollutants, and audiences; website presence and information made available to the public about pollution prevention; annual data report regarding program activities.

In order to assist Georgetown County in satisfying the Public Education and Outreach Minimum Control Measure, as required by the NPDES Phase II Stormwater Program, Clemson proposes to utilize selected components of the Carolina Clear program in order to:

- Coordinate and lead a regional body of partners including community representatives joined together by a shared interest in watershed restoration, protection, and improved stormwater management.
- Determine the appropriate public awareness campaign with Georgetown County and the community's guidance on target behaviors, audiences, pollutants and established venues and modes for outreach. Some program implementation approaches, BMPs (i.e., the program actions/activities), and measurable goals are contained in the individual agreement and seek to
    - Form collaborations,
    - Use and develop education materials and strategies, and
    - Reach diverse audiences.
- Implement a strategic public education program with Georgetown County, or conduct equivalent outreach activities addressing the awareness of stormwater pollution and its effects on natural resources and the specific activities and safe alternatives to improve stormwater management.

In order to satisfy the Public Involvement/Participation Minimum Control Measure, as required by the NPDES Phase II Stormwater Program, Clemson proposes to

- Provide opportunities for citizens and various audiences to become active in stormwater management.
- Provide program accountability measures including estimated number of people contacted, publications produced and distributed, and measures of outreach impacts and possible behavior change, and other specifics as appropriate considering SCDHEC and USEPA guidance.
- Other programs and measures as specified in the Contractual Agreement.

NOW, the parties specifically agree as follows:

1. Clemson will deliver public education and outreach and public involvement/participation with a goal to influence a more aware and involved public in regards to stormwater management decisions. The educational programs will include components designed for various residential and commercial audiences and others targeted for their impact to stormwater and nonpoint source pollution. This effort will be delivered through various means, as detailed below in items 4 and 5. Events will be held at available facilities in such a way to reach diverse and regionally distributed audiences. Such instruction may include the furnishing of informational handouts, instructional manuals, promotional materials, webpages, logos, slogan, symbols, and similar such materials, as deemed appropriate by Clemson and Georgetown County.

2. Georgetown County will participate in a regional decision-making process to define regional priorities in regards to behaviors, pollutants, and audiences to be targeted for outreach. Additionally, Georgetown County shall provide input as available on audience demographics, behaviors based on staff observations, residential and commercial impacts related to stormwater management that may lead to compliance and enforcement actions, and other input based on stormwater operations.

3. Georgetown County shall provide information regarding readily available delivery modes for education and involvement programming (e.g., newsletters, community calendars, government access channels, community meetings, Council meetings, tax or water bills, etc.).

4. Clemson will work to raise public awareness using a mass media approach. Billboard and television public service announcements, radio broadcasts and interviews, newspaper articles, stories and advertisements, and publications are among the outlets considered for use in this effort.

5. Each of the public-related activities described below will be part of the core program on an annual basis and will target a specific audience, all subject to modification with the approval of Georgetown County and Clemson, as well as acknowledging regulatory direction and interpretation by South Carolina DHEC.

   Clemson will:

   LEAD

   5.1. Work with the Coastal Waccamaw Stormwater Education Consortium, regional association of **stormwater managers, and local decision-makers** to update, plan, and determine regional public education and outreach and public involvement/participation priorities as part of a multi-year strategic plan with benchmarks of activities and measures of success annually.

   5.2. Explore, pilot (as needed), and initiate strategic approaches to educating target audiences towards the goal of adopting improved behaviors and practices towards better stormwater management.

   COMMUNICATE

   5.3. Maintain webpage(s) with content specific to the regional outreach programs, highlight new and existing Clemson web-based resources, such as "Be Septic Safe" to be consumed on a local level. Utilize tools to monitor website visits and other related statistics.

   5.4. Maintain communication among regional collaborators through two to four meetings per year, newsletters/e-news, one-on-one meetings, social media posts, or other means established as best practice for the collaborative working groups.

IMPLEMENT

5.5. Plan, develop, present, and be a participant in at least three (3) **community** and **public** programs per year with emphasis on stormwater education in Georgetown County. Provide resources to encourage continued learning and practice adoption.

5.6. Create at least three (3) news articles per year for the **area's residents and/or target audiences.**

5.7. Plan and present homeowner and yard owner program(s) for **individuals** and **families.** Distribute or provide materials for distribution as part of workshops and/or provide resources to encourage continued learning and practice adoption.

5.8. Provide at least one (1) **youth** program per year within Georgetown County such as

i. Storm Drain Marking,
ii. From Seeds to Shoreline,
iii. $4H_2O$ Program,
iv. Engaging teachers in new watershed and stormwater curriculum meeting SC Standards, and
v. EnviroScape®demonstrations.

5.9. Present at least one (1) program per year in Georgetown County that addresses pollution prevention and alternatives for a **target audience, as per the region's priorities.**

5.10. Develop and provide for the **general public,** within means, promotional giveaways to serve as a way to attract audiences and increase regional consortium visibility. Promotional items are available to Consortium participants upon requests.

5.11. Utilize mass media outlets to provide statewide education at an increased cost-effectiveness; as needed, locally utilize mass media such as newspapers, radio, interviews and advertisements to address specific needs.

INVOLVE

5.12. Provide at least one (1) opportunity to involve an audience (**general public** or **commercial**) in improved watershed management and stormwater awareness in Georgetown County.

5.13. Promote and expand web-based tools to encourage learning about and adoption of low impact development techniques (SC LID Atlas) in Georgetown County and further involvement from citizens in watershed-focused volunteer opportunities in Georgetown County through the use of demonstration site establishment and maintenence as warranted appropriate. Assure interpretive signage is present and up-to-date at all demonstration sites.

REPORT

5.14. Provide and manage a user-friendly database to track each year's activities.

5.15. Annually, produce a document summarizing the year's efforts, successes, decision-making processes, partnerships and regional priorities.

5.16. On request and based on current regulatory guidance, provide data for public education and outreach and public involvement/participation measures of the Annual Report (or alternative document) required by DHEC of all Small Multiple Separate Storm Sewer Systems (MS4s), including Georgetown County.

6. Clemson will provide accountability statistics for each of the activities as best can be estimated. The statistics will include the following accomplishment indicators:
   6.1. Number of educational programs and activities conducted to include pertinenet data from Clemson hybrid and compliance-based trainings.
   6.2. Number of people reached through educational programs or involved by outreach programs according to method, audience or targeted behavior in the Coastal Waccamaw Stormwater Education Consortium region, to include Georgetown County.
   6.3. Number of people receiving information through "non-program" contacts such as telephone, office, visits, website contacts, visual and print media in the Coastal Waccamaw Stormwater Education Consortium region, to include Georgetown County.
   6.4. Evaluation of activities and the pollutant or behavior targeted in the Coastal Waccamaw Stormwater Education Consortium region, to include Georgetown County.
   6.5. As available, feedback on programs and anecdotal evidence of successful program implementation.

7. At a minimum of *once per permit cycle* (anticipated as no less than 3 years and no more than 5 years), and on the Carolina Clear statewide schedule so as to gain regional comparison information, implement statistically relevant survey instruments to gain insight on the awareness, knowledge and behaviors of the general public related to stormwater and watershed management, as well as regional effort awareness.

A mutually agreeable estimated delivery schedule shall provide activities distributed through each year in an Annual Activity Plan (as default) or on an otherwise agreed upon multi-year activity plan, which will be noted as a regional decision documented in writing for the regional entity.

ARTICLE 2
LIABILITY

Georgetown County and Clemson shall not be responsible to each other for any incidental, indirect or consequential damages incurred by either Georgetown County or Clemson or for which either party may be liable to any third party which damages have been or are occasioned by services performed or reports prepared or other work performed hereunder.

ARTICLE 3
ASSIGNMENT

Clemson shall not assign or subcontract any rights or duties of this Agreement, except to an affiliated company, without the expressed written consent of Georgetown County, which consent shall not be unreasonably withheld, conditioned or delayed. Any assignment or subcontract without the written consent of Georgetown County shall be void and this Agreement shall terminate at the option of the Georgetown County.

ARTICLE 4
TERM

The term of this Agreement shall be for five (5) years beginning on the date of the last signature of this contract agreement. The contract may be extended an additional one (1) year twice, for a total of three (3) years, at the written mutual agreement of both parties, provided such agreement is executed no later than 30 days prior to the expiration of this contract. No amendments, changes or modifications will be effective until and unless reduced to writing and signed by the parties.

ARTICLE 5
COMPENSATION

Georgetown County Government shall provide payment in the amount of Eleven Thousand and Three Hundred Eighty-Nine Dollars ($11,389), for the first two years of core program subject to the terms and conditions of this Agreement, unless additional services are amended to this Agreement. Year three, year four, and year five, the base rate will increase by One Thousand Two Hundred and Four Dollars ($1,204) each year to bring the payment amount to $12,593 in year three, $13,797 in year four, and $15,001 in year five. On Year Five, the base rate of Fifteen Thousand and one dollars ($15,001) will serve as the base rate for future contracts. Fees for additional services will be negotiated based on cost.

ARTICLE 6
LIABILITY COVERAGE

Each party agrees to carry and provide insurance coverage in the amount of $1 million for general liability, as well as carrying statutory amounts of workers compensation and auto insurance.

ARTICLE 7
DEFAULT

The remedies herein given to Georgetown County shall be cumulative, and the exercise of any one remedy by Georgetown County shall not be to the exclusion of any other remedy.

ARTICLE 8
TERMINATION

In the event that Clemson fails to perform (or fails to commence the cure of any breach, which shall be diligently prosecuted in good faith) the services described within fifteen (15) business days of its receipt of a written demand from Georgetown County, Georgetown County may terminate the Contract immediately upon notice provided such notice is at least thirty (30) business days following Georgetown County's notice of non-performance. In the event that Georgetown County breaches any of the terms of this Agreement including, but not limited to, non-payment, and fails to cure such breach within fifteen (15) business days of its receipt of a written demand from Clemson, Clemson may terminate the Contract immediately upon notice, provided such notice is at least thirty (30) business days following the Clemson'snotice of breach. Upon such termination, the Georgetown County has the right to award the Contract to an alternate contractor.

ARTICLE 9
COUNTY RESPONSIBILITIES

Georgetown County will be responsible to provide Clemson reasonable access to its locations when necessary, and to ensure cooperation of Georgetown County employees in activities reasonable and appropriate under the project, as well as obtaining authorization for access to third party sites, if required.

ARTICLE 10
FORCE MAJEURE

Should performance of Clemson services be materially affected by causes beyond its reasonable control, a Force Majeure results. Force Majeure includes, but is not restricted to, acts of God, acts of a legislative, administrative or judicial entity, acts of contractors other than subcontractors of Clemson Extension, fires, floods, labor disturbances, and unusually severe weather. Clemson will be granted a time extension and the parties will negotiate an adjustment to the fee, where appropriate, based upon the effect of the Force Majeure upon Clemson'sperformance.

ARTICLE 11
SEVERABILITY

Every term or provision of this Agreement is severable from others. Notwithstanding any possible future finding by a duly constituted authority that a particular term or provision is invalid, void, or unenforceable, this Agreement has been made with the clear intention that the validity and enforceability of the remaining parts, terms and provisions shall not be affected thereby.

ARTICLE 12
INDEPENDENT CONTRACTOR

Clemson shall be fully independent in performing the services and shall not act as an agent or employee of Georgetown County. As such, Clemson shall be solely responsible for its employees, subcontractors, and agents and for their compensation, benefits, contributions and taxes, if any.

ARTICLE 13
NOTICE

Clemson and Georgetown County shall notify each other of service of any notice of violation of any law, regulation, permit or license relating to the services; initiation of any proceedings to revoke any permits or licenses which relate to such services; revocation of any permits, licenses or other governmental authorizations relating to such services; or commencement of any litigation that could affect such services. Such notice shall be delivered by U. S. mail with proper postage affixed thereto and addressed as follows:

Georgetown County Government	ATTN: Tracy Jones Title: Stormwater Division Manager Address: 715 Prince Street, Georgetown, SC 29440
Clemson University:	Clemson Extension Service Attn: Kimberly C. Morganello Carolina Clear Program Coordinator, Clemson Cooperative Extension 259 Meeting Street Charleston, SC 29401

ARTICLE 14
TOTAL AGREEMENT

This Agreement constitutes the entire agreement between the parties hereto. No representations, warranties or promises pertaining to this Agreement have been made or shall be binding upon any of the parties, except as expressly stated herein.

(Signatures on Next Page)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first above written.

WITNESSES:

Georgetown County Government

Signature:
Name: Angela Christian
County Administrator
Address: Georgetown County Government

WITNESSES:

Clemson University

Signature: 12/19/2022
Name: George Askew, Vice President for Public Service & Agriculture
Address: Clemson University

PLEASE NOTE: The Coastal Carolina University President, his designee, or the Executive Vice President are the ONLY persons authorized to execute contracts and agreements for the University.

Contract/Agreement Routing and Approval Form

Please attach at least ONE entire original contract/agreement with all supporting documentation.

TO BE COMPLETED FULLY BY REQUESTING DEPARTMENT		
Vendor Name: Georgetown County SOW-WWA-GC-WQ-0724 Initiated By: Danielle Viso Comments: WQ monitoring contract annual renewal 2024-2025	Date: 3/28/24	Ext.: 6980
Cost Center Director Approval: Danielle Viso Comments: Chad L Lweallh	Date: 3/28/24	Ext.: 6980
ITS Approval (if necessary): NA Comments: Sponsored Programs and Research Services (if necessary): NA Comments:	Date:	Ext.:
Procurement Approval: Comments:	Date:	Purchase Order Number:

AFTER COMPLETING THE ABOVE PROCESSES, PLEASE FORWARD TO THE OFFICE OF UNIVERSITY COUNSEL.

****Please understand the Office of University Counsel reviews and approves contracts and contract requests as to the legality of the contract. An approval from the Office of University Counsel is not an approval or endorsement of the program, activity, or product being purchased or negotiated. The approval to proceed and obtain signatures on the document means only that it is legal for the department's contract to be signed, not that the agreement should be entered into from an operational standpoint.****

APPROVALS	
Office of University Counsel: Comments: *Revised July 2017*	Date:

Scope of Work
Between

Georgetown County
and
Coastal Carolina University

SCOPE OF WORK AGREEMENT NO: SOW-WWA-GC-WQ-0724

EFFECTIVE DATES: July 1, 2024 – June 30, 2025

Project Title: **Environmental Quality Lab**
Water Quality Monitoring for Georgetown County

Principal Investigator: **Danielle Viso**
Environmental Quality Lab
Coastal Carolina University
PO Box 261954
Conway, SC 29528
843-349-6980
dviso@coastal.edu

Georgetown County: **Harley Walker, Billing/Office Coordinator**
Public Services/Stormwater Division
129 Screven Street
Georgetown, SC 29440

This AGREEMENT (the "Agreement") is made effective as of July 1, 2024 by and between **Coastal Carolina University** (hereinafter "CCU"), and **Georgetown County** which may at times be referred to individually herein as a "Party" and collectively as the "Parties."

WHEREAS, CCU is a public comprehensive liberal arts institution of higher education in Conway, South Carolina; and

WHEREAS, Georgetown County is a political subdivision of the State of South Carolina; and

WHEREAS, Georgetown County desires to hire CCU to perform certain services for Georgetown County on an independent contractor basis as set forth in this Agreement; and

NOW, THEREFORE, in consideration of the above Recitals, which are hereby incorporated into the below Agreement, and in consideration of the mutual promises made

herein, the receipt and sufficiency of which are hereby acknowledged, CCU and Georgetown County further agree as follows:

1. **SCOPE OF WORK.**

1.1 For sampling and analysis of parameters listed in Tables 1, 2 and 3 as requested by the **Georgetown County**. Costs will be based on the number of samples collected and analyzed as per rates provided in Tables 1, 2 and 3. Other sampling, analysis and scientific services may be requested.

1.2 In keeping with **CCU**'s mission, preference will be given to conducting the scientific work with students supported by graduate student assistantships. Funds from this contract may be used to support assistantships at the standard hourly rate for a **CCU**-funded masters-level assistantship.

2. **TERM OF AGREEMENT.**

This Scope of Work Agreement is for a one-year period beginning July 1, 2024 and ending June 30, 2025.

3. **BUDGET.**

See Tables 1, 2, 3 and 4 for price lists. Billings will be based on services rendered. Additional related samples, analysis, and consulting services may be requested at additional cost to the **Partner**.

4. **BILLING.**

The **Partner** agrees to compensate **CCU** for the provision of services based on the price schedule in Tables 1, 2, 3 and 4. Monthly **CCU** will submit a detailed bill to the Partner for services rendered, not to exceed $2,500.

5. **LIABILITY.**

The parties shall be solely responsible for the acts and omissions of their respective officials, officers, employees, representatives, agents, and volunteers. No right of Indemnification is created by the agreement and the parties expressly disclaim such a right. The provisions of this agreement shall not be deemed to give rise to or vest any rights or obligations in favor of any person or entity not a party to this agreement.

6. **NON-DISCRIMINATION ACKNOWLEDGMENT.**

Both Parties agree to fully comply with all applicable federal, state, and local laws, rules and regulations including, but not limited to, the Civil Rights Act of 1964 (as amended in 1991), Title IX of the Education Amendments of 1972, Title VII of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, the Age of Discrimination in Employment Act of 1975, and the Americans with Disabilities Act of 1990.

7. FORCE MAJURE.

The Parties are hereby relieved of any liability if unable to meet the responsibilities of this Agreement because of any act of God, riots, acts of war or terrorism, epidemics, pandemics (including COVID-19), strikes, any act or order of public authority including, without limitation, the University, the University leadership, the State Board of Education, or local, state or federal government, civil or regulatory authority, or any other cause, similar or dissimilar, beyond the control of the parties (a "Force Majeure Event").

8. NO WAIVER OF DEFAULT.

No waiver by the Parties of any default or breach of any term or condition of this Agreement shall be deemed a waiver of any other default or breach of the same term or condition contained herein.

9. RECOVERY OF FEES AND COSTS.

If default be made in the performance or compliance with any obligations herein, by either party, the non-prevailing party in any action brought to enforce the terms of this Agreement shall be responsible to the prevailing party for the reimbursement of all reasonable attorneys' fees and costs incurred by the prevailing party in such action.

10. GOVERNMENT IMMUNITY NOT WAIVED.

It is expressly agreed and understood between the Parties that nothing contained herein shall be construed to constitute a waiver or relinquishment by either Party of its right to claim such exemptions, privileges, and immunities as may be provided by law.

11. CHOICE OF LAW.

The laws of the State of South Carolina and rules and regulations issued pursuant thereto shall be applied in the interpretation, execution, and enforcement of this Agreement.

12. JURISDICTION AND VENUE.

This Agreement shall be deemed to have been executed in South Carolina for the purposes of jurisdiction. Any litigation concerning this Agreement shall be conducted in the South Carolina Court of Common Pleas in Horry County, South Carolina.

13. NOTICES.

All notices or other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed given to a party when (a) delivered by hand or a nationally recognized overnight courier service (costs prepaid), (b) sent by facsimile or e-mail with confirmation of transmission by the transmitting equipment, or (c) received or rejected by the addressee, if sent by certified mail, postage prepaid and return receipt requested, in each case to the following:

If to CCU:
Coastal Carolina University
B&C Center for Marine & Wetland Studies
Attn: Danielle Viso, Lab Director
Post Office Box 261954
Conway, SC 29528-6054

If to Georgetown County:
_____
_____
_____
_____
_____

With a copy to:

Office of University Counsel
Coastal Carolina University
Post Office Box 261954
Conway, SC 29528-6054

14. HEADINGS, MODIFICATIONS AND AMENDMENTS.
The headings contained in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement. This Agreement may be modified or amended only by an instrument in writing executed by the Parties hereto.

15. ENTIRE AGREEMENT AND COUNTERPARTS.
This Agreement constitutes the entire agreement of the Parties hereto, and supersedes all prior understandings, whether oral or written, with respect to the subject matter hereof. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which shall constitute the same instrument.

16. ACKNOWLEDGEMENT.
The Parties acknowledge that they have read and understand this Agreement, and that the provisions herein are reasonable and enforceable, and further agree to abide by this Agreement and the terms and conditions set forth herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first above written.

FOR COASTAL CAROLINA UNIVERSITY

Signature: DocuSigned by: 37D1FD6917F4442... **Date:** May 23, 2024

Name: Dr. Sara N. Hottinger

Title: Interim Provost

Witness: _____

FOR GEORGETOWN COUNTY

Signature: DocuSigned by: Angela Christian 7933ECA0F673403... **Date:** May 23, 2024

Name: Angela Christian

Title: County Administrator

Table 1. Field Measurement Parameters and Prices

Parameter	Method	Purpose	Price per Sample ($) by Number of Measurement Sites		
			1 – 2 Sites	3 – 8 Sites	>8 Sites
Mileage	**NA**	Required travel associated with a project.	**Per Current Federal Standard Mileage Rate**		
Sampling	By manual collection of grab sample (i.e., sample collected at a particular time and place), based on Method 1060 B. of *Standard Methods*	Collect a portion of material small enough to be conveniently stored and transported in field and properly preserved and handled in the laboratory while still accurately representing the material sampled	**$ 30.75**	**$ 25.78**	**$ 23.30**
Equipment Use Fee	**NA**	Equipment fees help offset operating expenses (consumables; equipment maintenance, parts and replacement; equipment service contracts, etc.).	**Daily Rate $75.00**		
Water Flow - Qualitative	By observation at the sampling site	To define water flow conditions during sampling that may influence other parameter concentrations	**NC**	**NC**	**NC**
Water Flow – Quantitative	Real-time measurements of stormwater flow velocity and volume discharge rate in creeks, streams, rivers, pipes, etc. by timed drift of float or acoustic Doppler current meter	To define water flow characteristics and discharge volume at site. Needed to determine amounts of measured constituents of water flowing past site.	**$ 62.56**	**$ 57.13**	**$ 57.13**
Air Temperature	By thermometer or thermistor, based on Method 2550 B. of *Standard Methods*	Define conditions that may influence other parameter concentrations such as dissolved oxygen	**NC**	**NC**	**NC**
Rainfall	From rain gages currently deployed to collect continuous rain data.	Define conditions that may influence other parameter concentrations	**NC**	**NC**	**NC**
Other Environmental and Weather Conditions	By observation during sampling and weather stations currently deployed to collect continuous data	Define conditions (e.g., winds, cloud cover, tides) that may influence other parameter concentrations	**NC**	**NC**	**NC**
Depth of Sample Collection	Physical measurements with calibrated line or pole or with pressure sensor on field instrument	Define location of sample	**NC**	**NC**	**NC**
Water Temperature	By thermometer or thermistor, based on Method 2550 B. of *Standard Methods*	Establish temperature characteristics of water during sampling event. May allow tracing source of water or discharge since often find different temperature in water from different sources.	**NC**	**NC**	**NC**
Dissolved Oxygen	By membrane electrode method, based on Method 4500-O G. of *Standard Methods or* optical oxygen sensor *Method ASTM D888-09 C*	Indicator of ability of water to support animal life/ respiration	**$ 33.65**	**$ 28.57**	**$ 26.04**
pH	By electrometric method, based on EPA Method 150.1 and Method 4500-H+ B. of *Standard Methods*	Indicator of chemical processes affecting water and ability of water to support animal and plant life	**for dissolved oxygen, pH, conductivity and salinity combined**	**for dissolved oxygen, pH, conductivity and salinity combined**	**for dissolved oxygen, pH, conductivity and salinity combined**
Specific Conductance	By electrical conductivity, based on Method 2510 B. of *Standard Methods*	To identify sources and relative contributions of water at site (in general lakes, ponds, rivers, and stormwater runoff are low conductivity and tidal creeks, estuaries, and ocean water are high conductivity)			
Salinity	By electrical conductivity, based on Method 2510 B. of *Standard Methods*	To identify sources and relative contributions of water at site (in general lakes, ponds, rivers, and stormwater runoff are low salinity and tidal creeks, estuaries, and ocean water are high salinity)			
Secchi Disk Depth	By observing depth of disappearance of Secchi disk manually lowered below sea surface	Indicator of suspended solids in water. In general expect higher turbidity in stormwater runoff than undisturbed water bodies.	**$ 11.33**	**$ 9.69**	**$ 8.88**
Turbidity	By nephelometry, based on Method 2130 B. of *Standard Methods*	Indicator of suspended solids in water. In general expect higher turbidity in stormwater runoff than undisturbed water bodies.	**$ 32.04**	**$ 27.30**	**$ 24.96**

NC = no charge; CAUR = costs available upon request

Table 2. Laboratory Measurement Parameters and Prices

Parameter	Method	Purpose	Price per Sample ($) by Number of Measurement Sites		
			1 – 2 Sites	3 – 8 Sites	>8 Sites
Filtration	Preparation method, based on Methods 2540 D. and 2540 E. of *Standard Methods*	To remove particles from an aliquot of a sample prior to analysis if desired or necessary. By analyzing separate aliquots of unfiltered and filtered sample, parameter concentrations in particulate and dissolved phases of the original sample can be determined.	$ 15.77	$ 13.32	$ 12.09
Enterococci or *E. coli* Bacteria	By IDEXX Enterolert™ or Coilert-18™ Quanti-Tray™ methods,	Indicator of degree of bacterial and possibly sewage contamination of water.	$ 62.88	$ 53.09	$ 48.17
Fecal Coliform Bacteria	Fecal coliform direct test (A-1 Medium), based on Methods 9221 C. and 9221 E. of *Standard Methods*	Indicator of degree of bacterial and possibly sewage contamination of water.	$ 143.96	$ 122.80	$ 112.24
Chlorophyll a and Pheopigments	By fluorometric technique, based on Method 10200 H. of *Standard Methods*	Indicator of amount of phytoplankton (floating) plant growth in water and usually directly related to fertilizer and sewage like contamination. Excessive plant growth can eventually cause depletion of dissolved oxygen when plants die and decompose	$ 112.37	$ 95.47	$ 87.01
Specific Conductance	By electrical conductivity, based on Method 2510 B. of *Standard Methods*	To identify sources and relative contributions of water at site (in general lakes, ponds, rivers, and stormwater runoff are low conductivity and tidal creeks, estuaries, and ocean water are high conductivity)	$ 5.78	$ 4.95	$ 4.52
Salinity	By electrical conductivity, based on Method 2510 B. of *Standard Methods*	To identify sources and relative contributions of water at site (in general lakes, ponds, rivers, and stormwater runoff are low salinity and tidal creeks, estuaries, and ocean water are high salinity)	$ 6.26	$ 5.35	$ 4.92
pH	By electrometric method, based on EPA Method 150.1 and Method 4500-H+ B. of *Standard Methods*	Indicator of chemical processes affecting water and ability of water to support animal and plant life	$ 31.65	$ 26.99	$ 24.65
Total Phosphorus	By alkaline persulfate oxidation of filtered or unfiltered samples followed by colorimetric measurement, based on Methods 4500-P B. and 4500-P E. of *Standard Methods*	Indicator of level of phosphorus-based nutrients in water and possibly sewage and/or fertilizer contamination of water	$ 80.74	$ 67.91	$ 61.53
Total Nitrogen	By alkaline persulfate oxidation of filtered or unfiltered samples followed by cadmium reduction and colorimetric measurement, based on Methods 4500-NO_3^- E. and 4500-N_{org} D. of *Standard Methods*	Indicator of level of nitrogen-based nutrients in water and possibly sewage and/or fertilizer contamination of water	$ 80.74	$ 67.91	$ 61.53
Receiving Temperature	By thermometer or thermistor, based on Method 2550 B. of *Standard Methods*	Measure temperature in sample storage container after samples transported to laboratory.	NC	NC	NC
Total Suspended Solids	By filtering a well mixed sample, drying, then weighing, based on Method 2540 D. of *Standard Methods*	Indicator of suspended solids in water. In general expect higher suspended solids in stormwater runoff than undisturbed water bodies.	$ 25.05	$ 21.26	$ 19.35
Total Suspended Solids + Volatile Suspended Solids	By filtering a well mixed sample, drying, then weighing, based on Method 2540 D. of *Standard Methods* followed by igniting the residue and weighing, based on Method 2540 E. of *Standard Methods*	Indicator of suspended solids and volatile suspended solids in water. In general expect higher suspended solids in stormwater runoff than undisturbed water bodies.	$ 33.01	$ 28.06	$ 25.60
Organic content of soils and sediment	ASTM D7348 -13. Standard Test Methods for Loss on Ignition (LOI) of Solid Combustion Residues	Indicator of the amount of organic material in a sample by measurement of material volatilized at 550°C.	$ 33.76	$ 28.70	$ 27.01
Total Residual Chlorine	By DPD colorimetric method, based on Method 4500-Cl G. of *Standard Methods*	Indicator of the chlorination of waters, which is commonly done to destroy or deactivate disease-producing microorganisms.	$ 32.07	$ 28.70	$ 25.31

Table 2. Laboratory Measurement Parameters and Prices (continued)

5-Day Biochemical Oxygen Demand	By measurement of oxygen consumed in incubated samples over a 5-day period, based on Method 5210 B. of *Standard Methods*	Indicator of capacity of substances in water to lower dissolved oxygen concentration in water through biochemical processes. A standardized operational measurement for comparison to regulatory requirements.	**$ 95.34**	**$ 81.55**	**$ 74.65**
Chemical Oxygen Demand	By closed reflux, colorimetric technique, using Hach Method 8000, derived from Method 5220 D. of *Standard Methods*	Indicator of capacity of substances in water to lower dissolved oxygen concentration in water. Is a more complete measurement of oxygen demanding substances than biochemical oxygen demand (BOD5).	**$ 44.79**	**$ 38.10**	**$ 34.74**
True Color	By platinum-cobalt method using spectrophotometric measurement, based on Method 2120 B. of *Standard Methods*	May allow tracing water masses since water from different sources often exhibit different color. Measure of colored dissolved organic matter which contributes to BOD5.	**$ 32.07**	**$ 28.70**	**$ 25.31**
TOC or DOC	Standard Method 5310-B. (2000 online) High Temperature Combustion Method.	Total Organic Carbon, or Dissolved (filtered) Organic Carbon is a measure of the organically oxidizable content of a sample, or the amount of carbon bound in an organic compound and is often used as a non-specific indicator of water quality. Note:TOC can only be measured in samples with low concentrations of small-sized particles.	**$ 74.51**	**$ 63.64**	**$ 58.20**
Toxicity	Kingwood Diagnostics IQ-TOX™	Daphnia magna toxicity test quickly determines toxicity of water to aquatic organisms.	**$ 75.96**	**$ 72.57**	**$ 67.51**
Others	If other measurements are required to accomplish project objectives, they will be selected from available and scientifically accepted laboratory analysis techniques with which CCU is familiar and qualified to use.	To implement additional measurements if requested	**CAUR**	**CAUR**	**CAUR**

NC = no charge; CAUR = costs available upon request

Table 3. Consulting Services and Prices

Individual	Type of Consulting Services			
Faculty Project Principal Investigator	Project development, grant writing , advanced statistical analyses and data visualization, report writing, and oral presentations.	**$**	**206.35**	plus cost of supplies if needed
Laboratory Director	Project development, sampling and analysis method development, interpretation of analysis results, preparation of quality assurance documentation, preparation of baseline reports, preparation of progress reports, preparation of final report, requested assistance with other tasks	**$**	**122.01**	plus cost of supplies if needed
Lab Manager or Program Manager	Sampling and analysis method development, interpretation of analysis results, preparation of quality assurance documentation, preparation of baseline reports, preparation of progress reports, preparation of final report, requested assistance with other tasks	**$**	**106.50**	plus cost of supplies if needed
Laboratory Analyst or Technician	Sampling and analysis method development, interpretation of analysis results, preparation of quality assurance documentation, preparation of baseline reports, preparation of progress reports, preparation of final report, requested assistance with other tasks	**$**	**62.91**	plus cost of supplies if needed
Graduate/Undergraduate Student	Sampling and analysis method development, preparation of quality assurance documentation, requested assistance with other tasks	**$**	**22.66**	plus cost of supplies if needed

Table 4. Emergency Sampling Prices (less than 48 hr notice)

Condition	Price per Sample ($)		
	1 – 2 Sites	3 – 8 Sites	>8 Sites
Routine during normal business hours	$30.75	$25.78	$23.30
Non-emergency after hours - cost and a half	$46.13	$38.67	$34.95
Emergency during normal business hours - double cost	$61.50	$51.56	$46.60
Emergency after hours - double cost	$61.50	$51.56	$46.60
Non-emergency holiday - double cost	$61.50	$51.56	$46.60
Emergency holiday - triple cost	$92.25	$77.34	$69.90

For additional information call Danielle Viso (EQL Technical Director) at (843) 349-6980 or email dviso@coastal.edu.
The University reserves the right to alter these costs in the event of extenuating circumstances.

PLEASE NOTE: The Coastal Carolina University President, his designee, or the Executive Vice President are the ONLY persons authorized to execute contracts and agreements for the University.

Contract/Agreement Routing and Approval Form

Please attach at least ONE entire original contract/agreement with all supporting documentation.

TO BE COMPLETED FULLY BY REQUESTING DEPARTMENT		
Vendor Name: Georgetown County SOW-WWA-GC-RG-0724 Initiated By: Danielle Viso Comments: RG monitoring contract annual renewal 2024-2025	Date: 3/28/24	Ext.: 6980
Cost Center Director Approval: Danielle Viso D Viso Comments: Chad L Leverette	Date: 3/28/24	Ext.: 6980
ITS Approval (if necessary): NA Comments: Sponsored Programs and Research Services (if necessary): NA Comments:	Date:	Ext.:
Procurement Approval: Comments:	Date:	Purchase Order Number:

AFTER COMPLETING THE ABOVE PROCESSES, PLEASE FORWARD TO THE OFFICE OF UNIVERSITY COUNSEL.

****Please understand the Office of University Counsel reviews and approves contracts and contract requests as to the legality of the contract. An approval from the Office of University Counsel is not an approval or endorsement of the program, activity, or product being purchased or negotiated. The approval to proceed and obtain signatures on the document means only that it is legal for the department's contract to be signed, not that the agreement should be entered into from an operational standpoint.****

APPROVALS	
Office of University Counsel: Comments: *Revised July 2017*	Date:

Scope of Work
Between

Georgetown County
and
Coastal Carolina University

SCOPE OF WORK AGREEMENT NO: SOW-WWA-GC-RG-0724

EFFECTIVE DATES: July 1, 2024 – June 30, 2025

Project Title: **Environmental Quality Laboratory**
USGS Waccamaw River Gaging Station Monitoring

Principal Investigator: **Danielle Viso**
Environmental Quality Lab
Coastal Carolina University
PO Box 261954
Conway, SC 29528
843-349-6980
dviso@coastal.edu

Georgetown County: **Harley Walker, Billing/Office Coordinator**
Public Services/Stormwater Division
129 Screven Street
Georgetown, SC 29440

This AGREEMENT (the "Agreement") is made effective as of July 1, 2024 by and between **Coastal Carolina University** (hereinafter "CCU"), and **Georgetown County** which may at times be referred to individually herein as a "Party" and collectively as the "Parties."

WHEREAS, CCU is a public comprehensive liberal arts institution of higher education in Conway, South Carolina; and

WHEREAS, Georgetown County is a political subdivision of the State of South Carolina; and

WHEREAS, Georgetown County desires to hire CCU to perform certain services for Georgetown County on an independent contractor basis as set forth in this Agreement; and

NOW, THEREFORE, in consideration of the above Recitals, which are hereby incorporated into the below Agreement, and in consideration of the mutual promises made

herein, the receipt and sufficiency of which are hereby acknowledged, CCU and Georgetown County further agree as follows:

1. **SCOPE OF WORK.**

1.1. This scope of work is for the Waccamaw Watershed Academy's Environmental Quality Lab to conduct regulatory-level, water-quality monitoring at two sites in the Waccamaw River.

1.2. Samples will be collected for laboratory analysis of: (1) nutrients (unfiltered TN and TP), (2) chlorophyll (and phaeophytin), (3) bacteria (E. coli), (4) 5-Day Biochemical Oxygen Demand (BOD5), (5) turbidity and (6) water toxicity. The Laboratory's staff will also collect in-situ data for: dissolved oxygen, conductivity, temperature, and pH. All field and lab work will be covered by a Quality Assurance Project Plan.

1.3. This sampling will be conducted at the USGS' existing gaging stations to take advantage of current continuous collection of temperature, DO, conductivity, pH and turbidity data.

1.4. Validated results will be provided on a public website maintained by Coastal Carolina University (http://bccmws.coastal.edu/river_gauge/).

1.5. Other deliverables include: (1) biweekly (provisional) reports containing a data summary, analyses of temporal trends, exceedances of known water quality standards, and narrative interpretation and (2) emergency notification if sample results exceed SC DHEC's water quality standards or the US EPA's recommended water quality criteria.

1.6. In keeping with Coastal Carolina University's (CCU) mission, preference will be given to conducting the scientific work with students supported by graduate student assistantships. Funds from this contract may be used to support assistantships at the standard hourly rate for a CCU-funded masters-level assistantship.

2. **TERM OF AGREEMENT.**

The Scope of Work Agreement is for a one-year period beginning July 1, 2024 and ending June 30, 2025.

3. **BUDGET.**

The annual cost for the two monitored sites is $41,870.

4. **BILLING.**

Georgetown County will be invoiced $41,870 upon signing this contract. Additional related samples and analysis may be requested at additional cost to Georgetown County.

5. **LIABILITY.**

The parties shall be solely responsible for the acts and omissions of their respective officials, officers, employees, representatives, agents, and volunteers. No right of Indemnification is created by the agreement and the parties expressly disclaim such a

right. The provisions of this agreement shall not be deemed to give rise to or vest any rights or obligations in favor of any person or entity not a party to this agreement.

6. NON-DISCRIMINATION ACKNOWLEDGMENT.

Both Parties agree to fully comply with all applicable federal, state, and local laws, rules and regulations including, but not limited to, the Civil Rights Act of 1964 (as amended in 1991), Title IX of the Education Amendments of 1972, Title VII of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, the Age of Discrimination in Employment Act of 1975, and the Americans with Disabilities Act of 1990.

7. FORCE MAJURE.

The Parties are hereby relieved of any liability if unable to meet the responsibilities of this Agreement because of any act of God, riots, acts of war or terrorism, epidemics, pandemics (including COVID-19), strikes, any act or order of public authority including, without limitation, the University, the University leadership, the State Board of Education, or local, state or federal government, civil or regulatory authority, or any other cause, similar or dissimilar, beyond the control of the parties (a "Force Majeure Event").

8. NO WAIVER OF DEFAULT.

No waiver by the Parties of any default or breach of any term or condition of this Agreement shall be deemed a waiver of any other default or breach of the same term or condition contained herein.

9. RECOVERY OF FEES AND COSTS.

If default be made in the performance or compliance with any obligations herein, by either party, the non-prevailing party in any action brought to enforce the terms of this Agreement shall be responsible to the prevailing party for the reimbursement of all reasonable attorneys' fees and costs incurred by the prevailing party in such action.

10. GOVERNMENT IMMUNITY NOT WAIVED.

It is expressly agreed and understood between the Parties that nothing contained herein shall be construed to constitute a waiver or relinquishment by either Party of its right to claim such exemptions, privileges, and immunities as may be provided by law.

11. CHOICE OF LAW.

The laws of the State of South Carolina and rules and regulations issued pursuant thereto shall be applied in the interpretation, execution, and enforcement of this Agreement.

12. JURISDICTION AND VENUE.

This Agreement shall be deemed to have been executed in South Carolina for the purposes of jurisdiction. Any litigation concerning this Agreement shall be conducted in the South Carolina Court of Common Pleas in Horry County, South Carolina.

13. NOTICES.

All notices or other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed given to a party when (a) delivered by hand or a nationally recognized overnight courier service (costs prepaid), (b) sent by facsimile or e-mail with confirmation of transmission by the transmitting equipment, or (c) received or rejected by the addressee, if sent by certified mail, postage prepaid and return receipt requested, in each case to the following:

If to CCU:
Coastal Carolina University
B&C Center for Marine & Wetland Studies
Attn: Danielle Viso, Lab Director
Post Office Box 261954
Conway, SC 29528-6054

With a copy to:

Office of University Counsel
Coastal Carolina University
Post Office Box 261954
Conway, SC 29528-6054

If to Georgetown County:
_____
_____
_____
_____
_____

_____
_____
_____

14. HEADINGS, MODIFICATIONS AND AMENDMENTS.

The headings contained in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement. This Agreement may be modified or amended only by an instrument in writing executed by the Parties hereto.

15. ENTIRE AGREEMENT AND COUNTERPARTS.

This Agreement constitutes the entire agreement of the Parties hereto, and supersedes all prior understandings, whether oral or written, with respect to the subject matter hereof. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which shall constitute the same instrument.

16. ACKNOWLEDGEMENT.

The Parties acknowledge that they have read and understand this Agreement, and that the provisions herein are reasonable and enforceable, and further agree to abide by this Agreement and the terms and conditions set forth herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first above written.

FOR COASTAL CAROLINA UNIVERSITY

Signature: DocuSigned by: 37D1FD6917F4442... **Date:** May 23, 2024

Name: Dr. Sara N. Hottinger

Title: Interim Provost

Witness: _____

FOR GEORGETOWN COUNTY

Signature: DocuSigned by: Angela Christian 7933ECA0F673403... **Date:** May 23, 2024

Name: Angela Christian

Title: County Administrator

PLEASE NOTE: The Coastal Carolina University President, his designee, or the Executive Vice President are the ONLY persons authorized to execute contracts and agreements for the University.

Contract/Agreement Routing and Approval Form

Please attach at least ONE entire original contract/agreement with all supporting documentation.

TO BE COMPLETED FULLY BY REQUESTING DEPARTMENT		
Vendor Name: Georgetown County Initiated By: Victoria Green Comments: SOW-WWA-GC-VM-FY25 (Annual Volunteer Monitoring Contract Renewal)	Date: 4/2/24	Ext.: VGG 6666
Cost Center Director Approval: Victoria Green Digitally signed by Victoria Green Date: 2024.04.04 14:04:57 -04'00' Paul Gayes Digitally signed by Paul Gayes Date: 2024.04.12 12:59:25 -04'00' C. L. Leverette Digitally signed by C. L. Leverette Date: 2024.04.16 18:01:27 -04'00' Comments:	Date: 4/4/24	Ext.: PTG 4015 CLL 2282
ITS Approval (if necessary): Comments: Sponsored Programs and Research Services (if necessary): Comments:	Date: NA	Ext.: NA
Procurement Approval: Comments:	Date:	Purchase Order Number:

AFTER COMPLETING THE ABOVE PROCESSES, PLEASE FORWARD TO THE OFFICE OF UNIVERSITY COUNSEL.

****Please understand the Office of University Counsel reviews and approves contracts and contract requests as to the legality of the contract. An approval from the Office of University Counsel is not an approval or endorsement of the program, activity, or product being purchased or negotiated. The approval to proceed and obtain signatures on the document means only that it is legal for the department's contract to be signed, not that the agreement should be entered into from an operational standpoint.****

APPROVALS	
Office of University Counsel: Comments: *Revised July 2017*	Date:

Scope of Work
Between
Georgetown County
and
Coastal Carolina University

SCOPE OF WORK AGREEMENT NO: SOW-WWA-GC-VM-FY25

EFFECTIVE DATES: July 1, 2024 – June 30, 2025

Project Title: **Waccamaw Watershed Academy**
Volunteer Water Quality Monitoring Program

Principal Investigator: Victoria Green
Waccamaw Watershed Academy
Coastal Carolina University
PO Box 261954
Conway, SC 29528
843-349-6666
vgreen@coastal.edu

Georgetown County: Angela Christian
County Administrator, Georgetown County
716 Prince Street
Georgetown, SC 29440
achristian@gtcounty.org

Harley Walker
Billing/Office Coordinator, Public Services/Stormwater Division
129 Screven Street
Georgetown, SC 29440

This AGREEMENT (the "Agreement") is made effective as of July 1, 2024 by and between **Coastal Carolina University** (hereinafter "CCU"), and **Georgetown County** which may at times be referred to individually herein as a "Party" and collectively as the "Parties."

WHEREAS, CCU is a public comprehensive liberal arts institution of higher education in Conway, South Carolina; and

WHEREAS, Georgetown County is a political subdivision of the State of South Carolina; and

WHEREAS, Georgetown County desires hire CCU to perform certain services for Georgetown County on an independent contractor basis as set forth in this Agreement; and

NOW, THEREFORE, in consideration of the above Recitals, which are hereby incorporated into the below Agreement, and in consideration of the mutual promises made herein, the receipt and sufficiency of which are hereby acknowledged, CCU and Georgetown County further agree as follows:

1. **SCOPE OF WORK.**

1.1 This scope of work is for the Waccamaw Watershed Academy to conduct a volunteer water quality monitoring program on behalf of Georgetown County.

1.2 In 2024-2025, seven sites will be monitored in Georgetown County: three on the Waccamaw River and four in Murrells Inlet. These seven sites will be monitored bi-weekly by the volunteers for: 1) Dissolved Oxygen, 2) Temperature, 3) Conductivity, 4) pH, 5) Turbidity, 6) Nitrate+ Nitrite, 7) Ammonia and 8) *E. coli* and Total coliform bacteria.

1.3 Volunteer coordination will be conducted by CCU staff in collaboration with representatives from community partners including the Waccamaw Riverkeeper and Murrells Inlet 2020.

1.4 In keeping with Coastal Carolina University's (CCU) mission, preference will be given to conducting the scientific work with students supported by graduate student assistantships. Funds from this contract may be used to support assistantships at the standard hourly rate for a CCU-funded masters-level assistantship.

1.5 Validated data will be presented online at a public website within two weeks of data receipt.

1.6 Other deliverables include: 1) printing of a program "business card", 2) enhancements to the program's website (http://www.coastal.edu/wwa/vm/), and 3) annual reporting to the Coastal Waccamaw Stormwater Education Consortium.

2. **TERM OF AGREEMENT.**

The Scope of Work Agreement is for a one-year period beginning July 1, 2024 and ending June 30, 2025.

3. **BUDGET.**

As outlined above, there will be seven sites monitored bi-weekly. The cost per site is $8,250.00 for a total of **$57,750.00**.

4. **BILLING.**

Georgetown County will be invoiced for **$57,750.00** upon signing of this contract. Additional related samples and analysis may be requested at additional cost to Georgetown County.

5. **LIABILITY.**

The parties shall be solely responsible for the acts and omissions of their respective officials, officers, employees, representatives, agents, and volunteers. No right of Indemnification is created by the agreement and the parties expressly disclaim such a right. The provisions of this agreement shall not be deemed to give rise to or vest any rights or obligations in favor of any person or entity not a party to this agreement.

6. **NON-DISCRIMINATION ACKNOWLEDGMENT.**
Both Parties agree to fully comply with all applicable federal, state, and local laws, rules and regulations including, but not limited to, the Civil Rights Act of 1964 (as amended in 1991), Title IX of the Education Amendments of 1972, Title VII of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, the Age of Discrimination in Employment Act of 1975, and the Americans with Disabilities Act of 1990.

7. **FORCE MAJURE.**
The Parties are hereby relieved of any liability if unable to meet the responsibilities of this Agreement because of any act of God, riots, acts of war or terrorism, epidemics, pandemics (including COVID-19), strikes, any act or order of public authority including, without limitation, the University, the University leadership, the State Board of Education, or local, state or federal government, civil or regulatory authority, or any other cause, similar or dissimilar, beyond the control of the parties (a "Force Majeure Event").

8. **NO WAIVER OF DEFAULT.**
No waiver by the Parties of any default or breach of any term or condition of this Agreement shall be deemed a waiver of any other default or breach of the same term or condition contained herein.

9. **RECOVERY OF FEES AND COSTS.**
If default be made in the performance or compliance with any obligations herein, by either party, the non-prevailing party in any action brought to enforce the terms of this Agreement shall be responsible to the prevailing party for the reimbursement of all reasonable attorneys' fees and costs incurred by the prevailing party in such action..

10. **GOVERNMENT IMMUNITY NOT WAIVED.**
It is expressly agreed and understood between the Parties that nothing contained herein shall be construed to constitute a waiver or relinquishment by either Party of its right to claim such exemptions, privileges, and immunities as may be provided by law.

11. **CHOICE OF LAW.**
The laws of the State of South Carolina and rules and regulations issued pursuant thereto shall be applied in the interpretation, execution, and enforcement of this Agreement.

12. **JURISDICTION AND VENUE.**
This Agreement shall be deemed to have been executed in South Carolina for the purposes of jurisdiction. Any litigation concerning this Agreement shall be conducted in the South Carolina Court of Common Pleas in Georgetown County, South Carolina.

13. NOTICES.

All notices or other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed given to a party when (a) delivered by hand or a nationally recognized overnight courier service (costs prepaid), (b) sent by facsimile or e-mail with confirmation of transmission by the transmitting equipment, or (c) received or rejected by the addressee, if sent by certified mail, postage prepaid and return receipt requested, in each case to the following:

If to CCU:
Coastal Carolina University
B&C Center for Marine & Wetland Studies
Attn: Victoria Green, Program Manager
Post Office Box 261954
Conway, SC 29528-6054

With a copy to:

Office of University Counsel
Coastal Carolina University
Post Office Box 261954
Conway, SC 29528-6054

If to Georgetown County:
_____
_____
_____
_____
_____

_____
_____
_____

14. HEADINGS, MODIFICATIONS AND AMENDMENTS.

The headings contained in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement. This Agreement may be modified or amended only by an instrument in writing executed by the Parties hereto.

15. ENTIRE AGREEMENT AND COUNTERPARTS.

This Agreement constitutes the entire agreement of the Parties hereto, and supersedes all prior understandings, whether oral or written, with respect to the subject matter hereof. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which shall constitute the same instrument.

16. ACKNOWLEDGEMENT.

The Parties acknowledge that they have read and understand this Agreement, and that the provisions herein are reasonable and enforceable, and further agree to abide by this Agreement and the terms and conditions set forth herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first above written.

FOR COASTAL CAROLINA UNIVERSITY

Signature: DocuSigned by: 37D1FD6917F4442... **Date:** May 23, 2024

Name: Dr. Sara N. Hottinger

Title: Interim Provost

Witness: _____

FOR GEORGETOWN COUNTY

Signature: DocuSigned by: Angela Christian 7933ECA0F673403... **Date:** May 23, 2024

Name: Angela Christian

Title: County Administrator

Scope of Work
Between
Georgetown County
and
Coastal Carolina University

SCOPE OF WORK AGREEMENT NO: SOW-WWA-GC-VM-FY25

EFFECTIVE DATES: July 1, 2024 – June 30, 2025

Project Title: **Waccamaw Watershed Academy**
Volunteer Water Quality Monitoring Program

Principal Investigator: Victoria Green
Waccamaw Watershed Academy
Coastal Carolina University
PO Box 261954
Conway, SC 29528
843-349-6666
vgreen@coastal.edu

Georgetown County: Angela Christian
County Administrator, Georgetown County
716 Prince Street
Georgetown, SC 29440
achristian@gtcounty.org

Harley Walker
Billing/Office Coordinator, Public Services/Stormwater Division
129 Screven Street
Georgetown, SC 29440

This AGREEMENT (the "Agreement") is made effective as of July 1, 2024 by and between **Coastal Carolina University** (hereinafter "CCU"), and **Georgetown County** which may at times be referred to individually herein as a "Party" and collectively as the "Parties."

WHEREAS, CCU is a public comprehensive liberal arts institution of higher education in Conway, South Carolina; and

WHEREAS, Georgetown County is a political subdivision of the State of South Carolina; and

WHEREAS, Georgetown County desires hire CCU to perform certain services for Georgetown County on an independent contractor basis as set forth in this Agreement; and

NOW, THEREFORE, in consideration of the above Recitals, which are hereby incorporated into the below Agreement, and in consideration of the mutual promises made herein, the receipt and sufficiency of which are hereby acknowledged, CCU and Georgetown County further agree as follows:

1. **SCOPE OF WORK.**

1.1 This scope of work is for the Waccamaw Watershed Academy to conduct a volunteer water quality monitoring program on behalf of Georgetown County.

1.2 In 2024-2025, seven sites will be monitored in Georgetown County: three on the Waccamaw River and four in Murrells Inlet. These seven sites will be monitored bi-weekly by the volunteers for: 1) Dissolved Oxygen, 2) Temperature, 3) Conductivity, 4) pH, 5) Turbidity, 6) Nitrate+ Nitrite, 7) Ammonia and 8) *E. coli* and Total coliform bacteria.

1.3 Volunteer coordination will be conducted by CCU staff in collaboration with representatives from community partners including the Waccamaw Riverkeeper and Murrells Inlet 2020.

1.4 In keeping with Coastal Carolina University's (CCU) mission, preference will be given to conducting the scientific work with students supported by graduate student assistantships. Funds from this contract may be used to support assistantships at the standard hourly rate for a CCU-funded masters-level assistantship.

1.5 Validated data will be presented online at a public website within two weeks of data receipt.

1.6 Other deliverables include: 1) printing of a program "business card", 2) enhancements to the program's website (http://www.coastal.edu/wwa/vm/), and 3) annual reporting to the Coastal Waccamaw Stormwater Education Consortium.

2. **TERM OF AGREEMENT.**

The Scope of Work Agreement is for a one-year period beginning July 1, 2024 and ending June 30, 2025.

3. **BUDGET.**

As outlined above, there will be seven sites monitored bi-weekly. The cost per site is $8,250.00 for a total of **$57,750.00**.

4. **BILLING.**

Georgetown County will be invoiced for **$57,750.00** upon signing of this contract. Additional related samples and analysis may be requested at additional cost to Georgetown County.

5. **LIABILITY.**

The parties shall be solely responsible for the acts and omissions of their respective officials, officers, employees, representatives, agents, and volunteers. No right of Indemnification is created by the agreement and the parties expressly disclaim such a right. The provisions of this agreement shall not be deemed to give rise to or vest any rights or obligations in favor of any person or entity not a party to this agreement.

6. NON-DISCRIMINATION ACKNOWLEDGMENT.

Both Parties agree to fully comply with all applicable federal, state, and local laws, rules and regulations including, but not limited to, the Civil Rights Act of 1964 (as amended in 1991), Title IX of the Education Amendments of 1972, Title VII of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, the Age of Discrimination in Employment Act of 1975, and the Americans with Disabilities Act of 1990.

7. FORCE MAJURE.

The Parties are hereby relieved of any liability if unable to meet the responsibilities of this Agreement because of any act of God, riots, acts of war or terrorism, epidemics, pandemics (including COVID-19), strikes, any act or order of public authority including, without limitation, the University, the University leadership, the State Board of Education, or local, state or federal government, civil or regulatory authority, or any other cause, similar or dissimilar, beyond the control of the parties (a "Force Majeure Event").

8. NO WAIVER OF DEFAULT.

No waiver by the Parties of any default or breach of any term or condition of this Agreement shall be deemed a waiver of any other default or breach of the same term or condition contained herein.

9. RECOVERY OF FEES AND COSTS.

If default be made in the performance or compliance with any obligations herein, by either party, the non-prevailing party in any action brought to enforce the terms of this Agreement shall be responsible to the prevailing party for the reimbursement of all reasonable attorneys' fees and costs incurred by the prevailing party in such action..

10. GOVERNMENT IMMUNITY NOT WAIVED.

It is expressly agreed and understood between the Parties that nothing contained herein shall be construed to constitute a waiver or relinquishment by either Party of its right to claim such exemptions, privileges, and immunities as may be provided by law.

11. CHOICE OF LAW.

The laws of the State of South Carolina and rules and regulations issued pursuant thereto shall be applied in the interpretation, execution, and enforcement of this Agreement.

12. JURISDICTION AND VENUE.

This Agreement shall be deemed to have been executed in South Carolina for the purposes of jurisdiction. Any litigation concerning this Agreement shall be conducted in the South Carolina Court of Common Pleas in Georgetown County, South Carolina.

13. NOTICES.

All notices or other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed given to a party when (a) delivered by hand or a nationally recognized overnight courier service (costs prepaid), (b) sent by facsimile or e-mail with confirmation of transmission by the transmitting equipment, or (c) received or rejected by the addressee, if sent by certified mail, postage prepaid and return receipt requested, in each case to the following:

If to CCU:
Coastal Carolina University
B&C Center for Marine & Wetland Studies
Attn: Victoria Green, Program Manager
Post Office Box 261954
Conway, SC 29528-6054

If to Georgetown County:
_____
_____
_____
_____
_____

With a copy to:

Office of University Counsel
Coastal Carolina University
Post Office Box 261954
Conway, SC 29528-6054

_____
_____
_____

14. HEADINGS, MODIFICATIONS AND AMENDMENTS.

The headings contained in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement. This Agreement may be modified or amended only by an instrument in writing executed by the Parties hereto.

15. ENTIRE AGREEMENT AND COUNTERPARTS.

This Agreement constitutes the entire agreement of the Parties hereto, and supersedes all prior understandings, whether oral or written, with respect to the subject matter hereof. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which shall constitute the same instrument.

16. <u>ACKNOWLEDGEMENT.</u>

The Parties acknowledge that they have read and understand this Agreement, and that the provisions herein are reasonable and enforceable, and further agree to abide by this Agreement and the terms and conditions set forth herein.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first above written.

FOR COASTAL CAROLINA UNIVERSITY

Signature: _____ **Date:** _____

Name: Dr. Sara N. Hottinger

Title: Interim Provost

Witness: _____

FOR GEORGETOWN COUNTY

Signature: _____ **Date:** _____

Name: _____

Title: _____

Murrells Inlet Volunteer Water Quality Monitoring Report 1/11/2024

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) < 20 C	%DO < 20 C	Temp < 20 C	Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Point Drive Canal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Rum Gully Creek	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	Site Normal	<WQS
Marina Colony Pond	Site Normal	Site Normal	Site Normal	> 90th	> 90th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
HS	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
BHR	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Bike Bridge	Site Normal	Site Normal	Site Normal	> 90th	Site Normal	< 10th	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Oyster Landing Beach	Site Normal		> 95th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS

Notes: 0.8" rain fell two to three days prior to sampling which was conducted on an ebbing spring tide. Sampling was conducted on Th, 1/11/24 due to a strong winter storm on Tue, 1/9/24. Kudos to our volunteers and staff who were quickly able to adjust to sampling on Thursday.

- Conductivity/Salinity and pH: Conductivity was somewhat elevated at Rum Gully Creek and Oyster Landing Beach. As a result, pH was somewhat elevated at the former and unusually high at the latter. Salinity was site normal.
- E. coli: Concentrations exceeded the SC DHEC Class FW water quality standard (349 MPN/100 mL) at HS (496 MPN/100 mL) and BHR (474 MPN /100 mL). At Point Drive Canal and Bike Bridge, E. coli (276 and 243 MPN/100 mL, respectively) exceeded the EPA recommended threshold (235 MPN/100 mL). All were site normal concentrations.
- Rum Gully Creek: Turbidity (19 NTU) was at a record high for this site but did not exceed the Class SFH water quality standard (25 NTU). This elevated level could be due to dredging although the second highest turbidity was reported on 8/8/23 (18 NTU). According to news reports, dredging of the federal channel started in November 2023 and will be completed in Spring 2024. Prior to August 2023, turbidity has been less than 15 NTU since 2013.
- Nutrients: Ammonia was detected at Bike Bridge.

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated

Caution: Value is unusual, but does not contravene WQS

Value is elevated and should be watched

UPDATE (1/26/24): Starting in 2024, we have upgraded the use of percentiles to better focus on results of concern. To do this, we will be identifying results that are above the 90th percentile as "elevated" and as "unusual" if above the 95th percentile. In the case of oxygen, we will be identifying results below the 10th percentile as "low" and as "unusual" if below the 5th percentile. As in years past, the Excel file contains a worksheet with the percentile ranges for each parameter for each site. This worksheet will still include the 25th and 75th percentiles that we will continue to use to identify "somewhat elevated" or "somewhat low" values, but on a limited basis.

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then consider red shaded cells with black font as these suggest some new and significant event has occurred. The second level of threat are the green shaded cells. Those with red font are generally ones that represent a long-standing water quality issue that continues at the same level of concern as in the past. Those in black font are of lowest concern but bear watching.

*NOTE: the turbidity and nutrient WQS being used here are values recommended by the US EPA.

Murrells Inlet Volunteer Water Quality Monitoring Report **2/13/2024**

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) < 20 C	%DO < 20 C	Temp < 20 C	Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Point Drive Canal	< 10th	< 10th	Site Normal	Site Normal	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	>WQS
Rum Gully Creek	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	Site Normal	<WQS
Marina Colony Pond	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
HS	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
BHR	< 10th	< 10th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Bike Bridge	Site Normal	Site Normal	> 90th	> 90th	> 95th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Oyster Landing Beach	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	> 95th	<WQS

Notes: 2.4” rain fell over the two days prior to sampling that was conducted on a flooding tide.

- Conductivity/Salinity: At Point Drive Canal and BHR, conductivity and salinity were low, probably due to runoff from recent significant rainfall. Other impacts of runoff at Point Drive Canal were elevated turbidity and unusually high E. coli (1733 MPN/100 mL). The latter exceeded the Class FW water quality criteria (349 MPN/100 mL).
- E. coli: Concentrations exceeded the SC DHEC Class FW water quality standard (349 MPN/100 mL) at Point Drive Canal (1733 MPN/100 mL), Marina Colony Pond (1766 MPN/100 mL), HS (906 MPN/100 mL) , BHR (1137 MPN /100 mL) and Bike Bridge (369 MPN). Woodland Drive Pond (305 MPN/100 mL) exceeded the EPA recommended threshold (235 MPN/100 mL). Concentrations at Point Drive Canal and Marina Colony Pond were the 8th highest reports for these sites. All else were site normal concentrations.
- Turbidity: Due to recent significant rainfall, turbidity was elevated at Point Drive Canal (6 NTU) and the two Inlet sites, Rum Gully Creek (16 NTU) and Oyster Landing Beach (30 NTU). The former is the 6th highest report for this site. At Oyster Landing Beach, turbidity exceeded the Class SFH water quality criteria (25 NTU) and was tied for the 10th highest report for this site. The volunteers noted the water was cloudy and that wind and wave action had likely stirred up bottom sediments.
- pH: Levels were elevated at Woodland Drive Pond and Bike Bridge. Both sites also had elevated %DO (>90th at WPD and >75th at Bike Bridge) suggesting elevated pH was associated with local aquatic biological activity.
- Nutrients: Ammonia was detected at BHR and Oyster Landing Beach.

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated

Caution: Value is unusual, but does not contravene WQS

Value is elevated and should be watched

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then consider red shaded cells with black font as these suggest some new and significant event has occurred. The second level of threat are the green shaded cells. Those with red font are generally ones that represent a long-standing water quality issue that continues at the same level of concern as in the past. Those in black font are of lowest concern but bear watching.

*NOTE: the turbidity and nutrient WQS being used here are values recommended by the US EPA.

Murrells Inlet Volunteer Water Quality Monitoring Report **2/13/2024**

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) < 20 C	%DO < 20 C	Temp < 20 C	Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Point Drive Canal	< 10th	< 10th	Site Normal	Site Normal	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	>WQS
Rum Gully Creek	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	Site Normal	<WQS
Marina Colony Pond	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
HS	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
BHR	< 10th	< 10th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Bike Bridge	Site Normal	Site Normal	> 90th	> 90th	> 95th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Oyster Landing Beach	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	> 95th	<WQS

Notes: 2.4” rain fell over the two days prior to sampling that was conducted on a flooding tide.

- Conductivity/Salinity: At Point Drive Canal and BHR, conductivity and salinity were low, probably due to runoff from recent significant rainfall. Other impacts of runoff at Point Drive Canal were elevated turbidity and unusually high E. coli (1733 MPN/100 mL). The latter exceeded the Class FW water quality criteria (349 MPN/100 mL).
- E. coli: Concentrations exceeded the SC DHEC Class FW water quality standard (349 MPN/100 mL) at Point Drive Canal (1733 MPN/100 mL), Marina Colony Pond (1766 MPN/100 mL), HS (906 MPN/100 mL) , BHR (1137 MPN /100 mL) and Bike Bridge (369 MPN). Woodland Drive Pond (305 MPN/100 mL) exceeded the EPA recommended threshold (235 MPN/100 mL). Concentrations at Point Drive Canal and Marina Colony Pond were the 8th highest reports for these sites. All else were site normal concentrations.
- Turbidity: Due to recent significant rainfall, turbidity was elevated at Point Drive Canal (6 NTU) and the two Inlet sites, Rum Gully Creek (16 NTU) and Oyster Landing Beach (30 NTU). The former is the 6th highest report for this site. At Oyster Landing Beach, turbidity exceeded the Class SFH water quality criteria (25 NTU) and was tied for the 10th highest report for this site. The volunteers noted the water was cloudy and that wind and wave action had likely stirred up bottom sediments.
- pH: Levels were elevated at Woodland Drive Pond and Bike Bridge. Both sites also had elevated %DO (>90th at WPD and >75th at Bike Bridge) suggesting elevated pH was associated with local aquatic biological activity.
- Nutrients: Ammonia was detected at BHR and Oyster Landing Beach.

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated

Caution: Value is unusual, but does not contravene WQS

Value is elevated and should be watched

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then consider red shaded cells with black font as these suggest some new and significant event has occurred. The second level of threat are the green shaded cells. Those with red font are generally ones that represent a long-standing water quality issue that continues at the same level of concern as in the past. Those in black font are of lowest concern but bear watching.

*NOTE: the turbidity and nutrient WQS being used here are values recommended by the US EPA.

Murrells Inlet Volunteer Water Quality Monitoring Report **4/9/2024**

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) < 20 C	%DO < 20 C	Temp < 20 C	Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Point Drive Canal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	< 10th	Site Normal	Site Normal	Site Normal	<WQS
Rum Gully Creek	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Marina Colony Pond	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
HS	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	< 10th	Site Normal	Site Normal	Site Normal	>WQS
BHR	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Bike Bridge	> 95th	> 95th	> 95th	Site Normal	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	<WQS
Oyster Landing Beach	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS

Notes: 1.1” rain fell six days prior to sampling that was conducted at high slack water on a King tide. Average tidal range is 4.3 ft, but due to the King Tide (Apr 8 – 10), the range during the tidal cycle just prior to sampling was around 6.5 ft. This explains why all of the tidal streams (Woodland Drive Pond, HS, BHR and Bike Bridge) had elevated conductivity (aka Total Dissolved Solids) with saline water present at BHR and Bike Bridge.

- E. coli: Concentrations exceeded the SC DHEC Class FW water quality standard (349 MPN/100 mL) at Woodland Drive Pond (364 MPN/100 mL), HS (19,863 MPN/100 mL) and BHR (529 MPN/100 mL). At HS, the concentration was unusually high. At Marina Colony Pond, E. coli (238 MPN/100 ml) exceeded the EPA recommended threshold (235 MPN/100 mL) which is somewhat elevated for this site.
- HS: Specific conductivity was somewhat elevated likely due to an ongoing King Tide. E. coli (19,863 MPN/100 mL) was at a record high and the second highest concentration that has ever been reported for any of the VM sampling sites. Since turbidity was unusually low and no stream flow was discernible, it is unlikely that resuspension from the sediments was a source. Given the lack of recent rainfall and an ongoing King Tide, it is more likely that bacteria had been mobilized from adjacent streambanks on the previous flooding tide, such as from animal feces, when water levels were unusually high.
- Bike Bridge: Similar to last sampling, salinity (31 ppt) was unusually high, so pH was unusually high. The high salinity was probably due to inflow of creek water from the flooding King Tide, which also caused this site to have unusually high turbidity (9.6 NTU) similar to the last sampling.
- Nutrients: Ammonia was detected at BHR.

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated

Caution: Value is unusual, but does not contravene WQS

Value is elevated and should be watched

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then consider red shaded cells with black font as these suggest some new and significant event has occurred. The second level of threat are the green shaded cells. Those with red font are generally ones that represent a long-standing water quality issue that continues at the same level of concern as in the past. Those in black font are of lowest concern but bear watching.

*NOTE: the turbidity and nutrient WQS being used here are values recommended by the US EPA.

Murrells Inlet Volunteer Water Quality Monitoring Report **5/14/2024**

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) > 20 C	%DO > 20 C	Temp > 20 C	Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Point Drive Canal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	< 5th	Site Normal	Site Normal	Site Normal	<WQS
Rum Gully Creek	Site Normal		Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Marina Colony Pond	Site Normal	Site Normal	> 95th	> 95th	> 95th	Site Normal	< 5th	Site Normal	Site Normal	Site Normal	<WQS
HS	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	< 5th	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
BHR	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	< 5th	> 95th	Site Normal	Site Normal	Site Normal	>WQS
Bike Bridge	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	Site Normal	>WQS
Oyster Landing Beach	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	Site Normal	<WQS

Notes: Rain fell the morning of sampling during a brief rainstorm that had 0.03 to 0.08" rain accumulations. Otherwise, no significant rain had fallen during the three days prior to sampling which was conducted on a neap low tide.

- Conductivity: levels were site normal indicating no significant input of rain runoff.
- E. coli: Concentrations exceeded the SC DHEC Class FW water quality standard (349 MPN/100 mL) at Woodland Drive Pond (3448 MPN/100 mL), HS (9208 MPN/100 mL), BHR (6867 MPN/100 mL) and at Bike Bridge (1281 MPN/100 ml). These levels were unusually high and similar to the last sampling. At HS, E. coli was the 4th highest report to date for this site. As noted below, BHR and Bike Bridge also had unusually high turbidity.
- Turbidity: levels were unusually high at BHR (92 NTU) , Bike Bridge (12 NTU) and OLB (27 NTU). At BHR, this was the third highest report to date and exceeded the Class FW water quality criterion (50 NTU). The VM's reported very low water levels at this site. At Bike Bridge, the VM's noted the water appeared "nasty, cloudy". Parking lot construction is believed to be underway at this site. At OLB, turbidity exceeded the Class SFH water quality criterion (25 NTU). The VM's reported the water surface was "choppy and murky" likely due to winds associated with the morning's rainstorm.
- Point Drive Canal: Dissolved oxygen (3.0 mg/L) contravened the Class FW water quality criteria but was site normal.
- Marina Colony Pond: pH (8.0) and DO (77%) were unusually high. Since conductivity was site normal, ongoing algal growth is suspected.
- Nutrients: Ammonia was detected at HS and BHR.

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated

Caution: Value is unusual, but does not contravene WQS

Value is elevated and should be watched

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then consider red shaded cells with black font as these suggest some new and significant event has occurred. The second level of threat are the green shaded cells. Those with red font are generally ones that represent a long-standing water quality issue that continues at the same level of concern as in the past. Those in black font are of lowest concern but bear watching.

*NOTE: the turbidity and nutrient WQS being used here are values recommended by the US EPA.

Murrells Inlet Volunteer Water Quality Monitoring Report **6/11/2024**

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) > 20 C	%DO > 20 C	Temp > 20 C	Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Point Drive Canal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Rum Gully Creek	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Marina Colony Pond	Site Normal	Site Normal	> 95th	> 95th	> 95th	Site Normal	< 5th	Site Normal	Site Normal	Site Normal	<WQS
HS	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	< 10th	Site Normal	Site Normal	Site Normal	>WQS
BHR	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Bike Bridge	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Oyster Landing Beach	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	Site Normal	<WQS

Notes: A small amount of rain (0.02") fell during the morning prior to sampling. An additional 0.73" over the two days prior to sampling, which was conducted on a flooding tide.

- Conductivity: Levels were site normal, indicating no significant input of rain runoff.
- E. coli: Concentrations exceeded the SC DHEC Class FW water quality criterion (349 MPN/100 mL) at Woodland Drive Pond (1274 MPN/100 mL), HS (4352 MPN/100 mL), BHR (1076 MPN/100 mL) and at Bike Bridge (1259 MPN/100 ml). Concentrations were elevated at Bike Bridge and Woodland Drive Pond, but site normal elsewhere. Despite recent significant rainfall, all concentrations were lower than last sampling, except at Bike Bridge.
- Dissolved Oxygen: Concentrations contravened the Class FW water quality criterion at three sites: Point Drive Canal (3.5 mg/L), Rum Gully Creek (3.7 mg/L), and Oyster Landing Beach (3.8 mg/L). All were site normal.
- Oyster Landing Beach: In addition to dissolved oxygen slightly contravening the water quality criterion, turbidity (28 NTU) was unusually high and contravened the Class SFH water quality criterion (25 NTU). The volunteers reported low slack water conditions at the time of sampling. Conductivity and pH were a bit low (<25th percentile), suggesting stormwater impacts from recent rainfall.
- Marina Colony Pond: pH (7.9) and DO (72%) continue to be unusually high. Since conductivity was site normal, ongoing algal growth is suspected as with the past two samplings.
- Nutrients: Ammonia was detected at Bike Bridge.

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated

Caution: Value is unusual, but does not contravene WQS

Value is elevated and should be watched

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then consider red shaded cells with black font as these suggest some new and significant event has occurred. The second level of threat are the green shaded cells. Those with red font are generally ones that represent a long-standing water quality issue that continues at the same level of concern as in the past. Those in black font are of lowest concern but bear watching.

*NOTE: the turbidity and nutrient WQS being used here are values recommended by the US EPA.

ı during sampling.

Murrells Inlet Volunteer Water Quality Monitoring Report **7/9/2024**

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) > 20 C	%DO > 20 C	Temp > 20 C	Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond	Site Normal	Site Normal	> 95th	> 90th	> 95th	> 95th	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Point Drive Canal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Rum Gully Creek	Site Normal		Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Marina Colony Pond	< 5th	< 5th	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
HS	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
BHR	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Bike Bridge	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Oyster Landing Beach	Site Normal		Site Normal	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	Site Normal	<WQS

Notes: 0.4” rain fell the day prior to sampling that was performed on a flooding tide. According to the SC Drought Monitor, Murrells Inlet has been in moderate drought status since 7/2/24.

•Conductivity: Levels were site normal, indicating no significant input of rain runoff, except at Marina Colony Pond where conductivity was unusually low.

•E. coli: Concentrations exceeded the SC DHEC Class FW water quality criterion (349 MPN/100 mL) at Woodland Drive Pond (6,867 MPN/100 mL), HS (2,481 MPN/100 mL), and BHR (932 MPN/100 mL). At Bike Bridge (323 MPN/100 ml), the E. coli concentration exceeded the EPA recommended threshold (235 MPN/100 mL). The E. coli concentration was unusually high at Woodland Pond Drive (4th highest), elevated at HS and site normal at BHR and Bike Bridge.

•Algal activity: Evidence for algal activity was seen at Woodland Drive Pond and Point Drive Canal where pH was unusually high and dissolved oxygen was elevated*. (*Point Drive Canal DO was somewhat elevated).

•Nutrients: Ammonia was detected at Marina Colony Pond, BHR and Bike Bridge.

•Marina Colony Pond: Conductivity was unusually low (this result is still pending review). Similar to the last sampling, dissolved oxygen (1.3 mg/L) contravened the Class FW water quality criterion (4.0 mg/L). Although hypoxic, this concentration was site normal. Ammonia was detected.

•Oyster Landing Beach: Dissolved oxygen (3.7 mg/L) contravened the Class FW water quality criterion (4.0 mg/L). This concentration was site normal.

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated

Caution: Value is unusual, but does not contravene WQS

Value is elevated and should be watched

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then consider red shaded cells with black font as these suggest some new and significant event has occurred. The second level of threat are the green shaded cells. Those with red font are generally ones that represent a long-standing water quality issue that continues at the same level of concern as in the past. Those in black font are of lowest concern but bear watching.

*NOTE: the turbidity and nutrient WQS being used here are values recommended by the US EPA.

Murrells Inlet Volunteer Water Quality Monitoring Report **8/13/2024**

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) > 20 C	%DO > 20 C	Temp > 20 C	Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond	< 10th	< 10th	Site Normal	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Point Drive Canal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Rum Gully Creek	< 5th		Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	> 90th	<WQS
Marina Colony Pond	Site Normal	Site Normal	Site Normal	< 5th	< 5th	Site Normal	Site Normal	Site Normal	Site Normal	> 95th	>WQS
HS	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	> 95th	> 95th	Site Normal	>WQS
BHR	< 10th	< 10th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	>WQS
Bike Bridge	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Oyster Landing Beach	< 5th		< 10th	< 10th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS

NOTES: 0.2" rain fell over the day prior to sampling that was performed on a flooding spring tide. Rain fell almost every day for the 11 days prior to sampling, with daily accumulations ranging from 0.04 to 2.6". Much of this was associated with Tropical Storm Debbie from which about 7" fell between 8/5 to 8/9.

•Conductivity: Due to recent rainfall, conductivity was low at Woodland Drive Pond and BHR and unusually low at the Inlet sites. Salinity at Rum Gully Creek (RGC) was 24.3 (third lowest) and 30.1 at Oyster Landing Beach (OLB) (sixth lowest). This caused pH to be low at RGC and somewhat low (75th percentile) at OLB.

•E. coli: Five out of the eight sites had elevated E. coli concentrations with five exceeding the Class FW water quality criteria and one exceeding the EPA recommended threshold. This widespread contamination is probably due to runoff associated with TS Debbie.

Concentrations exceeded the SC DHEC Class FW water quality criterion (349 MPN/100 mL) at Woodland Drive Pond (19,863 MPN/100 mL), Marina Colony Pond (1,120 MPN/100 mL), HS (1,789 MPN/100 mL), BHR (794 MPN/100 mL) and Bike Bridge (426 MPN/100 ml). At OLB (290 MPN/100 mL), the E. coli concentration exceeded the EPA recommended threshold (235 MPN/100 mL).

The E. coli concentration was the second highest ever reported for Woodland Drive Pond and the tenth highest for OLB. Given the very high level singularly reported at Woodland Drive Pond, a source investigation and follow-up sampling is recommended.

The E. coli concentration was elevated at Marina Colony Pond and at RGC (150 MPN/100 mL).

At HS. The E. coli concentration was somewhat elevated (75th percentile). Since Feb 2023, every biweekly HS sample has exceeded the Class FW water quality criterion.

•Dissolved Oxygen: The water quality criterion (4.0 mg/L) was contravened at Marina Colony Pond (0.36 mg/L), Point Drive Canal (2.3 mg/L), and OLB (3.5 mg/L). This was the fourth lowest (and hypoxic) for Marina Colony Pond, site normal for Point Drive Canal, and low for OLB. The latter probably contributed to the somewhat low pH at OLB.

•Nutrients: Detections were unusually widespread with ammonia reported at RGC, Marina Colony Pond, HS and BHR. Nitrate was also detected at HS and BHR. Nitrite was detected at HS.

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated

Caution: Value is unusual, but does not contravene WQS

Value is elevated and should be watched

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then consider red shaded cells with black font as these suggest some new and significant event has occurred. The second level of threat are the green shaded cells. Those with red font are generally ones that represent a long-standing water quality issue that continues at the same level of concern as in the past. Those in black font are of lowest concern but bear watching.

*NOTE: the turbidity and nutrient WQS being used here are values recommended by the US EPA.

Murrells Inlet Volunteer Water Quality Monitoring Report **9/10/2024**

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) > 20 C	%DO > 20 C	Temp > 20 C	Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Point Drive Canal	Site Normal	Site Normal	Site Normal	< 5th	< 5th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Rum Gully Creek	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	<WQS
Marina Colony Pond	Site Normal	Site Normal	Site Normal	> 95th	> 95th	Site Normal	< 10th	Site Normal	Site Normal	Site Normal	<WQS
HS	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
BHR	Site Normal	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	< 5th	Site Normal	Site Normal	Site Normal	>WQS
Bike Bridge	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Oyster Landing Beach	Site Normal		< 10th	Site Normal	Site Normal	< 10th	> 95th	Site Normal	Site Normal	Site Normal	<WQS

Notes: 0.2" rain fell the day prior to sampling which was performed on an ebbing neap tide.
•Conductivity: All sites were normal indicating runoff from TS Debby had cleared the Murrells Inlet watershed with the exception of OLB where salinity was somewhat low.
•E. coli: Concentrations exceeded the SC DES Class FW water quality criterion (349 MPN/100 mL) at Woodland Drive Pond (1,722 MPN/100 mL), HS (727 MPN/100 mL), BHR (959 MPN/100 mL) and Bike Bridge (602 MPN/100 ml). Concentrations were somewhat elevated only at Woodland Drive Pond and Bike Bridge. Since Feb 2023, every biweekly HS sample has exceeded the Class FW water quality criterion.
•Point Drive Canal: Dissolved oxygen contravened the water quality criterion (4.0 mg/L) and was hypoxic (1.6 mg/L). If fish were present, a fish kill was likely. This is an unusually low concentration for PDC. The last time DO has been this low at PDC was in October of 2021.
Last sampling (8/27/24), DO was supersaturated (115%) and pH was elevated, suggesting ongoing algal activity. It is likely that since the last sampling, the algal bloom ended and decay of the resulting detrital organic matter led to the hypoxia observed on 9/10/24. Surprisingly, all else was site normal and no nutrients were detected.
•Nutrients: Ammonia was reported at HS, BHR and Bike Bridge similar to the last sampling.
•Inlet Sites: Salinity at Rum Gully Creek (RGC) and Oyster Landing Beach (OLB) was 32.9 ppt. This was higher than the last sampling (24.3 and 32.3 ppt), indicating continuing recovery from the effects of TS Debby. Salinity was still somewhat low at OLB leading to a continuing low pH.
The E. coli concentrations at both sites was lower than last sampling and well below the water quality criterion, but still somewhat elevated.
Turbidity was elevated at RGC (11 NTU), similar to the last sampling (12 NTU). At OLB, turbidity was the third highest report to date (41 NTU). This contravened the SC DES SFH water quality criterion (25 NTU) and was much higher than the last sampling (13 NTU).

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated (or low)

Caution: Value is unusual, but does not contravene WQS

Value is elevated (or low) and should be watched

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then consider red shaded cells with black font as these suggest some new and significant event has occurred. The second level of threat are the green shaded cells. Those with red font are generally ones that represent a long-standing water quality issue that continues at the same level of concern as in the past. Those in black font are of lowest concern but bear watching.

*NOTE: the turbidity and nutrient WQS being used here are values recommended by the US EPA.

Murrells Inlet Volunteer Water Quality Monitoring Report **10/8/2024**

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) > 20 C		%DO > 20 C		Temp > 20 C		Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond	Site Normal	Site Normal	Site Normal	Site Normal		Site Normal		Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Point Drive Canal	Site Normal	Site Normal	Site Normal	< 5th		< 5th		Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Rum Gully Creek	Site Normal		Site Normal	Site Normal		Site Normal		Site Normal		> 90th	Site Normal	Site Normal	Site Normal	<WQS
Marina Colony Pond	Site Normal	Site Normal	Site Normal	Site Normal		Site Normal		Site Normal		Site Normal	Site Normal	Site Normal	> 95th	<WQS
HS	Site Normal	Site Normal	Site Normal	> 90th		Site Normal		Site Normal		< 10th	Site Normal	Site Normal	Site Normal	>WQS
BHR	Site Normal	Site Normal	Site Normal	Site Normal		Site Normal		Site Normal		< 5th	Site Normal	Site Normal	Site Normal	>WQS
Bike Bridge	Site Normal	Site Normal	Site Normal	Site Normal		Site Normal		Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Oyster Landing Beach	Site Normal		Site Normal	Site Normal		Site Normal		Site Normal		> 90th	Site Normal	Site Normal	Site Normal	<WQS

Notes: No rain had fallen over

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated

Caution: Value is unusual, but does not contravene WQS

Value is elevated and should be watched

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then

NOTE: the turbidity and nutrient WQS being used here are values

Murrells Inlet Volunteer Water Quality Monitoring Report **11/5/2024**

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) > 20 C	DO (mg/L) < 20 C	%DO > 20 C	%DO < 20 C	Temp > 20 C	Temp < 20 C	Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond														
Point Drive Canal	Site Normal	Site Normal	> 95th	> 95th	> 90th	> 95th	> 95th	< 5th	> 90th	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Rum Gully Creek	Site Normal		Site Normal	> 90th		> 95th		< 10th		Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Marina Colony Pond	Site Normal	Site Normal	> 95th	> 95th	Site Normal	> 95th	Site Normal	< 5th	> 95th	< 5th	Site Normal	Site Normal	Site Normal	<WQS
HS	> 95th	> 95th	Site Normal	Site Normal		Site Normal		< 10th		Site Normal	Site Normal	Site Normal	Site Normal	<WQS
BHR	> 95th	> 90th	Site Normal	Site Normal		Site Normal		< 10th		Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Bike Bridge	> 95th	> 90th	> 90th	Site Normal		Site Normal		Site Normal		> 95th	Site Normal	Site Normal	Site Normal	>WQS
Oyster Landing Beach	Site Normal		Site Normal	Site Normal		> 90th		< 10th		Site Normal	Site Normal	Site Normal	Site Normal	<WQS

Notes: No significant rain had fallen over the 6 days prior to sampling which was conducted on a flooding tide. According to the South Carolina Drought Monitor, moderate drought conditions were present. Woodland Drive Pond was not sampled due to an exceptionally low water level. This was reported to Horry County.

•Conductivity: Due to dry conditions and sampling on a flooding tide, conductivity was unusually high at HS, BHR and Bike Bridge.

•E. coli: Concentrations exceeded the SC DES Class FW water quality criterion (349 MPN/100 mL) at Point Drive Canal (727 MPN/100 mL) and Bike Bridge (675 MPN/100 ml). At BHR, the E. coli concentration (327 MPN/100 mL) exceeded the EPA recommended threshold (235 MPN/100 mL). The concentration at Point Drive Canal was elevated (>90th percentile). The concentration at Bike Bridge was somewhat elevated (>75th percentile).

•Algal activity: The following is evidence of algal activity: Dissolved oxygen and pH were concurrently elevated at Point Drive Canal and Marina Colony Pond. Ammonia was detected at Marina Colony Pond.

•Nutrients: Ammonia was reported at four sites: Marina Colony Pond, HS, BHR and Bike Bridge.

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated

Caution: Value is unusual, but does not contravene WQS

Value is elevated and should be watched

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then consider red shaded cells with black font as these suggest some new and significant event has occurred. The second level of threat are the green shaded cells. Those with red font are generally ones that represent a long-standing water quality issue that continues at the same level of concern as in the past. Those in black font are of lowest concern but bear watching.

*NOTE: the turbidity and nutrient WQS being used here are values recommended by the US EPA.

Murrells Inlet Volunteer Water Quality Monitoring Report **12/10/2024**

Sampling Sites	Conductivity (µS/cm)	TDS (ppm)	pH	DO (mg/L) < 20 C	%DO < 20 C	Temp < 20 C	Turbidity (NTU)	Nitrate (ppm N)	Nitrite (ppm N)	Ammonia (ppm N)	*E. coli* (MPN/100 mL)
Woodland Drive Pond	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	< 10th	Site Normal	Site Normal	Site Normal	<WQS
Point Drive Canal	> 90th	> 90th	> 90th	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Rum Gully Creek	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS
Marina Colony Pond	Site Normal	> 90th	> 95th	> 95th	> 95th	Site Normal	< 5th	Site Normal	Site Normal	Site Normal	<WQS
HS	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	> 90th	Site Normal	Site Normal	Site Normal	>WQS
BHR	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	>WQS
Bike Bridge	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	> 95th	Site Normal	Site Normal	Site Normal	>WQS
Oyster Landing Beach	Site Normal		Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	Site Normal	<WQS

Notes: No significant rain had fallen over the two weeks prior to sampling which was conducted on an ebbing tide. According to the South Carolina Drought Monitor, moderate drought conditions were present and water levels were very low. Maintenance work in Oceanside Village has been completed so water levels at Woodland Drive Pond had risen back to normal.

•E. coli: Concentrations exceeded the SC DES Class FW water quality criterion (349 MPN/100 mL) at Point Drive Canal (517 MPN/100 mL), HS (2,909 MPN/100 mL), BHR (2,909 MPN/100 ml) and Bike Bridge (479 MPN/100 mL). The concentrations at Point Drive Canal and HS were high. The concentrations at BHR and Bike Bridge were somewhat elevated. Contravention frequency for these sites for 2024 is presented in the following table.

Site	Contravention Frequency (%)	Geometric mean of all samples (MPN/100 mL)	Geometric mean of contravening samples (MPN/100 mL)
Point Drive Canal	13%	89	866
HS	96%	2,249	2,546
BHR	87%	1,037	1,249
Bike Bridge	68%	486	749

•Point Drive Canal: Conductivity and pH were elevated. E. coli was unusually high and contravened the SC DES Class FW water quality criterion.

•Marina Colony Pond: Similar to the last sampling, dissolved oxygen (10.4 mg/L; 99%) and pH (8.2) were both unusually high suggesting ongoing algal activity. %DO (99%) was tied for the 6th highest such report.

•Turbidity: Turbidity at HS (9 NTU) was elevated. At Bike Bridge, turbidity (37 NTU) was at a record high and contravened the Class SFH water quality criterion (25 NTU). Salinity at Bike Bridge was 3 ppt which is not unusual. Water levels were very low at both sites. E. coli contravened the Class FW criterion at both sites.

•Nutrients: Ammonia was reported at HS.

Percentile Legends

ALERT: value is unusual and contravenes WQS

Warning: Value contravenes WQS and is elevated

Caution: Value is unusual, but does not contravene WQS

Value is elevated and should be watched

For threat levels: For the highest threat, first consider the cells that are red font on red shading. Then consider red shaded cells with black font as these suggest some new and significant event has occurred. The second level of threat are the green shaded cells. Those with red font are generally ones that represent a long-standing water quality issue that continues at the same level of concern as in the past. Those in black font are of lowest concern but bear watching.

*NOTE: the turbidity and nutrient WQS being used here are values recommended by the US EPA.