



RICHLAND COUNTY NPDES MS4 ANNUAL REPORT

Reporting year July 1, 2022 – June 30, 2023

*Prepared by the
Stormwater
Management
Division*

South Carolina NPDES Permit # SCS400001
Medium Municipal Separate Storm Sewer System (SMS4)
Annual Report

Permit Coverage SCS400001 **Reporting Period:** July 1, 2022 – June 30, 2023

Permittee: Town of Arcadia Lakes, City of Forest Acres, and Richland County

Program Name: Richland County MS4

* This is the Seventh Annual Report of the County's NPDES MS4 Permit SCS400001 (effective July 1, 2016 and expired July 1, 2021). The County is continuing to operate under the expired permit. The reporting period for the 7th Year Annual Report will be from July 1, 2022 through June 30, 2023. A summary of the annual reporting dates for the last seven years can be found below:

Date	Period Covered	Date Due
1 st Annual Report	July 1, 2016 - June 30, 2017	<i>November 1, 2017</i>
2 nd Annual Report	July 1, 2017 - June 30, 2018	<i>November 1, 2018</i>
3 rd Annual Report	July 1, 2018 - June 30, 2019	<i>November 1, 2019</i>
4 th Annual Report	July 1, 2019 - November 30, 2020	<i>January 1, 2021</i>
5 th Annual Report (Should expired permit continue)	July 1, 2020 - June 30, 2021	<i>November 1, 2021</i>
6 th Annual Report	July 1, 2021 - June 30, 2022	<i>November 1, 2022</i>
7 th Annual Report	July 1, 2022 - June 30, 2023	<i>November 1, 2023</i>

Responsible Official Information: Richland County

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

Name: Leonardo Brown**Title:** County Administrator**Telephone Number:** 803-576-2059**E-mail Address:** brown.leonardo@richlandcountysc.gov**Mailing Address:** PO Box 192, Columbia, SC 29202-0192**Responsible Official Information: City of Forest Acres**

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

Name: Shaun Greenwood**Title:** City Administrator**Telephone Number:** 803-782-2272**E-mail Address:** sgreenwood@forestacres.net**Mailing Address:** 5209 North Trenholm Rd., Columbia, SC 29206**Responsible Official Information: Town of Arcadia Lakes**

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

Name: Honorable Mark W. Huguley**Title:** Mayor**Telephone Number:** 803-782-2272**E-mail Address:** townofarcadial@sc.rr.com**Mailing Address:** 6911-2 North Trenholm Rd, Columbia, SC 29206-1720**Program Manager Information**

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

Name: David Pitts Jr.**Title:** Stormwater General Manager**Telephone Number:** 803-576-2421**E-mail Address:** pitts.david@richlandcountysc.gov**Mailing Address:** Richland County Public Works, 400 Powell Rd. Columbia, SC 29203

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 (Richland County):



Date:

10/23/2023

(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)

Responsible Official Signature (City of Forest Acres):

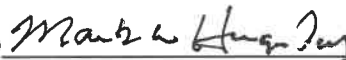


Date:

10/25/23

(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)

Responsible Official Signature (Town of Arcadia Lakes)



Date:

10/26/23

(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 of Health and Environmental Control (SCDHEC)

ATTN: Bureau of Water / Compliance Assurance Division

2600 Bull Street

Columbia, SC 29201-1708

I. Contents

I. Contents	4
II. SWMP Evaluation	7
A. Objective of the SWMP	7
B. Major Findings (Water Quality Improvements or Degradation)	7
C. Major Accomplishments	7
D. Overall Program Strengths/Weaknesses	8
E. Future Direction of the Program	8
F. Permit Reapplication and Program Modifications.....	8
III. Summary Table of SWMP Elements.....	10
IV. Minimum Control Measures (MCM).....	12
A. Minimum Control Measure 1: Structural Controls and Stormwater Collection System Operation	12
Objective	12
General Discussion of SWMP Element.....	12
Assessment of Controls.....	13
Measurable Goal Summary.....	13
Control Measure Evaluation	14
B. Minimum Control Measure 2: Areas of New Development and Redevelopment.....	15
Objective	15
General Discussion of SWMP Element.....	15
Assessment of Controls.....	18
Measurable Goal Summary.....	18
Control Measure Evaluation	20
C. Minimum Control Measure 3: Existing Roadways	21
Objective	21
General Discussion of SWMP Element.....	21
Assessment of Controls.....	22
Measurable Goal Summary.....	23
Control Measure Evaluation	25
D. Minimum Control Measure 4: Flood Control Projects	26
Objective	26
General Discussion of SWMP Element.....	26
Assessment of Controls.....	26

Summary of CIP/Flood Control Projects.....	27
Measurable Goal Summary.....	28
E. Minimum Control Measure 5: Municipal Facilities	30
Objective	30
General Discussion of SWMP Element.....	30
Assessment of Controls.....	32
Measurable Goal Summary.....	33
Control Measure Evaluation	34
F. Minimum Control Measure 6: Application of Pesticide, Herbicide, and Fertilizers (PHF)	35
Objective	35
General Discussion of SWMP Element.....	35
Assessment of Controls.....	37
Measurable Goal Summary.....	38
Control Measure Evaluation	38
G. Minimum Control Measure 7: Illicit Discharges and Improper Disposal	39
Objective	39
General Discussion of SWMP Element.....	39
Assessment of Controls.....	45
Measurable Goal Summary.....	45
Control Measure Evaluation	47
H. Minimum Control Measure 8: Industrial Runoff.....	48
Objective	48
General Discussion of SWMP Element.....	48
Assessment of Controls.....	49
Measurable Goal Summary.....	49
Control Measure Evaluation	50
I. Minimum Control Measure 9: Construction Site Runoff	51
Objective	51
General Discussion of SWMP Element.....	51
TRAINING:	53
Certified Erosion Prevention and Sediment Control Inspectors (CEPSCI) (All).....	54
Certified Asphalt Roadway Technician (1)	54
Assessment of Controls:	54

Measurable Goal Summary.....	54
Control Measure Evaluation	55
J. Minimum Control Measure 10: Public Education & Public Participation	56
V. Monitoring Activities.....	61
A. Objective	61
B. General Discussion of SWMP Element.....	61
C. Ambient Water Quality Monitoring Program.....	61
VI. Fiscal Analysis	65
VII. Summary of SWMP and Monitoring Modifications	66
VIII. Water Quality Based Effluent Limitations (WQBEL).....	67
IX. Appendices.....	68
Appendix A: Draft Third Cycle Permit Parts III, IV and V.....	69

II. SWMP Evaluation

A. Objective of the SWMP

The purpose of Richland County's Stormwater Management Plan (SWMP) is to reduce the discharge of pollutants from Richland County's Municipal Separate Storm Sewer System (MS4) to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate requirements of the Clean Water Act (CWA). The goals in the SWMP are expected to change over time due to the iterative process of developing and updating the SWMP. The SWMP will be reviewed annually to reflect accomplishments, potential revisions to program components, and additions to other activities or expanded efforts.

B. Major Findings (Water Quality Improvements or Degradation)

Water quality continues to improve throughout Richland County (the County). The County updated its water quality monitoring program to meet the Total Maximum Daily Load (TMDL) and impaired water quality monitoring requirements. This created a better correlation between stormwater activities and water quality improvements. Since the update, staff has investigated areas where water quality standards were outside of the allowable range, identified maintenance needs, and utilized the data to guide education and outreach efforts. The County will continue to review and update the water quality monitoring plan and make program improvements based off monitoring results.

C. Major Accomplishments

The County successfully updated its SWMP to meet the requirements of the NPDES MS4 permit (SCS400001 effective July 1, 2016).

Major accomplishments include:

- The removal of over 1,513 tons of dirt and debris from the County's storm drain system through the vac truck and street sweeper program.
- The removal of 30.20 tons of materials from the County's catch basin inserts and water quality units.
- 225 roads swept with street sweeper
- 6809 bags of litter collected from roadside
- 577 illegal dump sites cleaned up
- 83 community clean sweeps conducted
- 351 miles of roads policed for litter
- The completion of two capital projects: Danbury Drive basin drainage improvements and the Knollwood Drive drainage pocket park up fit.

D. Overall Program Strengths/Weaknesses

Efforts in 2023 continue to focus on a return to normalcy with the County's Stormwater Program. The County was able to recover from COVID-19 impacts by meeting program monitoring and inspection requirements.

The Stormwater Division has not found an experienced candidate that meets the requirements to fill the watershed program coordinator position in 2023. The County continues to utilize the efforts of its on-call Stormwater consultant, Woolpert, to ensure watershed program needs are met during the employee turnover.

E. Future Direction of the Program

The goal of Richland County's SMWP is continued growth and improvement through further integration of water quality monitoring results into other areas of the stormwater program. The transition of monitoring data into the Aquarius software allows ease of analyzing data and interpreting data. Also, with the addition of a new sonde with Bluetooth capabilities, this will provide the County with additional guidance for maintenance, inspections, and new program goals based on water quality trends. Best Management Practices (BMPs) identified in TMDL implementation plans will be included in the overall Capital Improvement Projects (CIP) program using the impacts of this data will give us the opportunity to improve TMDL parameters to meet permit standards.

As we continue moving forward with utilizing ArcGIS online for ponds, industrial, and facility inspections, the goal to be fully digital by the 2024 reporting year is obtainable. Most inspection forms are converted for ArcGIS Collector and an updated version of Survey123 called Field Maps. All digital forms are beta tested by County staff. The digital inspection forms for industrial and facility inspections were successfully implemented in FY2022.

The feedback from citizens during the virtual focus group meetings in 2020 helped us develop a virtual water quality, capital project, and education and outreach dashboard. In the virtual focus group meetings, citizens requested more access to water quality data and information about the County's programs. The move to an online dashboard increased transparency about the County's programs while also improving education and involvement efforts.

F. Permit Reapplication and Program Modifications

Richland County has worked diligently over the permit term to fully implement NPDES MS4 Permit No. SC400001 and to protect water quality within Richland County. The annual reports submitted continues to demonstrate the County's commitment to preserving water quality and, where possible, make improvements. The County utilized the 2021 annual report as the principal reapplication document as stated in the Federal Register (Vol. 61, No. 155 [FRL-5533-7]).

Included in the 2021 permit renewal package were the following items.

1. Cover letter
2. Fourth Annual Report including a Permit Reapplication and Program Modifications section
3. Draft Third Cycle Permit Parts III, IV, and V (See Appendix A)
4. NPDES MS4 Permit No. SC400001 Modification Requests (See Appendix B)

As part of the 2021 renewal package, the County submitted draft language for Parts, III, IV, and V of the new permit. Those sections of the permit are the more challenging sections to implement and have not produced all the data needed to make sound, scientific, engineering-based watershed management decisions. Therefore, the County prepared draft language for SCDHEC's consideration and inclusion in the new permit (See Appendix A). The County believes the proposed language provides the County with flexibility to design a monitoring program to gather appropriate data, while still meeting the intent of the CWA and SCDHECs regulatory needs.

A table of proposed changes to the existing permit was also submitted. A thorough review was completed post-issuance of the permit by County staff and discussions were held with SCDHEC regarding the proposed modifications. Lacking a reasonable mechanism to make changes to the existing permit, clarifications were discussed but changes were not incorporated into the existing permit. While the County preferred to prepare and submit a complete working draft permit for SCDHECs review and consideration, at a minimum, the County requested that the submitted changes be considered and addressed, as appropriate.

III. Summary Table of SWMP Elements

As required per Richland County Phase 1 NPDES permit, the following table summarizes the appropriate SWMP annual activities for each permittee. The purpose of the Summary Table is to document in a concise form the program activities and permittees' compliance status with quantifiable permit requirements. Program elements that are administrative (e.g. planning procedures, program development, and pilot studies) are inappropriate for the summary table and are discussed in the narrative section of this report.

Program Element	Permittee Name	Requirement	Frequency of Required Activities	Complied With (Y/N)?	Activities Accomplished During Calendar Year	Comments
Structural Controls and Stormwater Collection System Operation	Richland County	Detention Ponds Maintained	Annually	Y	Summary in Section III.A (Structural Controls)	29 inspections for County-owned ponds 2 inspections for private ponds 5 inspections performed on commercial ponds
		Maintenance of Other Components	1/permit cycle	Y	Summary in Section III.A (Structural Controls)	20.37 miles of ditches inspected and sprayed
		Inspect Outfalls	1/permit cycle	Y	Summary in Section III.A (Structural Controls)	100% complete
Areas of New Development & Redevelopment	Richland County, Forest Acres, Arcadia Lakes	Implement planning procedures to develop, implement, and enforce controls to reduce the discharge of pollutants from the MS4 that receive discharges from areas of new development and significant redevelopment after construction is complete	1/permit cycle	Y	Revised stormwater design standards to incorporate into the new Land Development Manual	The revised Land Development Manual includes requirements to control or reduce the discharge of pollutants from the MS4 from areas of new development and significant redevelopment. A description of the status of the update is included in Section III.B of the Annual Report
		The planning process must include public participation	N/A	Y	Monthly meetings with the development community and separate stakeholder meetings	The Community Development and Planning Department coordinates monthly meetings with the development community in Richland County. Changes to the design standards were presented at these meetings and comments accepted for review and possible incorporation
Existing Roadways	Richland County	Stormwater structure maintenance	As needed	Y	Summary in Section III.C (Existing Roadways)	50 catch basins investigated/repaired 67 paved/resurfaced roads maintained 439 drainage problems investigated 193 dirt road culverts inspected 551 unpaved roads maintained 225 streets swept 155 catch basins vacuumed

Program Element	Permittee Name	Requirement	Frequency of Required Activities	Complied With (Y/N)?	Activities Accomplished During Calendar Year	Comments
Flood Control Projects	Richland County	Richland County shall assess flood control projects for water quality	Annually	Y	New projects that are considered and designed to manage storm events with a recurrence frequency of 100 years or less are considered for water quality	2 new flood control projects 2 completed CIP projects
Municipal Facilities	Richland County	Municipal facility inspections	Annually for high priority	Y	Summary in Section III.E (Municipal Facilities)	36 Richland County facilities inspected 7 Forest Acres facilities inspected Arcadia Lakes has 0 facilities
		Comprehensive site compliance evaluation	Annually	Y	Summary in Section III.E (Municipal Facilities)	Completed for high priority facilities
Application of PHF	Richland County	Training	Annually (recommended)	Y	Summary in Section III.F (PHF)	Blue Thumb Landscaper Workshop for staff and landscaping companies was held on 2/10/2023.
		Inspections	Annually (recommended)	Y	Summary in Section III.F (PHF)	11 PHF inspections conducted
Illicit Discharges and Improper Disposal	Richland County, Forest Acres, Arcadia Lakes	Dry weather screening	All major outfalls/permit cycle	Y	Summary in Section III.G (IDID)	226 Major outfalls screened 0 IDID incidents
Industrial Runoff	Richland County	Update database	Annually	Y	Summary in Section III.H (Industrial Facilities)	100% of 133 facilities inspected
Construction Site Runoff	Richland County, Forest Acres, Arcadia Lakes	Inspections	N/A	Y	Summary in Section III.I (Construction Planning and Construction Inspections)	Updating construction site SOPs
Public Education & Public Participation	Richland County, Forest Acres, Arcadia Lakes	Public education and outreach	Annually	Y	Numerous outreach activities and public involvement activities were conducted	Additional information included in the public education narrative and associated appendices.

IV. Minimum Control Measures (MCM)

A. Minimum Control Measure 1: Structural Controls and Stormwater Collection System Operation

Objective

Continue operation and maintenance of the County's structural stormwater controls to improve water quality.

General Discussion of SWMP Element

Crews in the Roads and Drainage Division of Public Works and private contractors perform maintenance on the County-owned portions of the storm drainage system, as well as within Arcadia Lakes and Forest Acres.

Inspections – The Stormwater Division inspected County-owned stormwater structural controls. The Stormwater Division conducts yearly inspections on 20.37 miles of ditches and 38 County-owned ponds. Catch basin inserts are inspected quarterly and water quality units are inspected twice a year. Requests for storm drainage maintenance are directed to the Roads and Drainage Division via the County's service request program called One Stop. Structural control maintenance requests submitted by other departments or by the public are tracked via the Department of Public Works Work Order System.

Inspection and Maintenance Procedures and Training – Procedures for inspection and maintenance of the County's drainage system were reviewed during the first year of the permit cycle and updated as needed. Public Works crews are provided training related to operation and maintenance activities via presentations and webinars during the annual Public Works All Hands training. Dates and attendee information is included in Appendix C.

Maintenance Schedule – The Stormwater Division contracts with an outside firm, Opterra Solutions, for maintenance of County-owned ponds, water quality units, and catch basin inserts. Opterra Solutions maintains County-owned ponds twice a year. Opterra Solutions is required to comply with the County's stormwater control measures, good housekeeping practices, and specific stormwater management procedures. Opterra Solutions also attended the Stormwater Division's yearly Blue Thumb Landscaper training held on February 10, 2023. Water quality units are inspected twice a year and catch basin inserts are inspected quarterly. Any requests for maintenance from these inspection findings are submitted to Opterra Solutions. Additional maintenance needs observed by Opterra Solutions are reported to the Stormwater Division for approval. Opterra Solutions reports the tonnage of materials removed during their maintenance activities, which is provided in the first table below under Measurable Goal Summary section.

Inspections and Maintenance Activities – The Stormwater Division inspects privately owned and maintained ponds annually. The County has no contractual agreements for maintenance of privately owned stormwater structural controls. If the Stormwater Division notes deficiencies during an inspection of a private facility, the owner receives a Notice of Violation (NOV). Progress to correct deficiencies is tracked until the work is complete, and if necessary, enforcement is elevated per the established Enforcement Response Guide. The Stormwater Division and the Roads and Drainage Division responded to 5,114 requests for service/maintenance on the County's drainage system during this reporting period. These maintenance requests were routed through the County's One Stop System and internal Work Order System. Maintenance needs that are identified by County staff are routed through the Work Order System

versus the One Stop system, which relies on citizen complaints. This proactive approach helps to streamline and address any maintenance concerns on The County's structural controls.

The County utilizes a street sweeper and vacuum truck to prevent pollutants from private conveyances (including floatables) from entering waterways. Notes are recorded for areas that require sweeping or vacuuming and areas that may require maintenance at a higher frequency, such as neighborhoods within a TMDL watershed. The vacuum truck is deployed to certain neighborhoods and areas within the County that are known to have more frequent storm drainage needs prior to expected large storm events. The County also uses curb screens on some inlets to inhibit floatables from entering the storm drainage system.

Assessment of Controls

The Structural Controls and Stormwater Collection System Operation section of the permit is fully implemented. There was no significant change in the amount of NOVs issued for commercial ponds. Commercial pond compliance is high due to the amount of interaction between Stormwater inspectors and private pond owners. Stormwater inspectors work with pond owners throughout the process from initial inspection to final pond compliance.

Measurable Goal Summary

1. Complete the list below for the last reporting year:

Total number of proactive inspections performed on County-owned and/or maintained ponds:	29
Total number of proactive inspections performed on private ponds:	2
Total number of proactive inspections performed on commercial ponds:	5
Tons of materials removed from curb screens and water quality units:	30.20 tons
Number of private ponds that received NOVs:	2
Number of commercial ponds that received NOVs:	3
Miles of ditches sprayed for maintenance:	20.37
Number of new structural controls added to inventory:	65
Number of implemented control measures:	102 (15 water quality units, 48 curb screens, 38 ponds, and 1 rainwater harvester)

2. Use the table below to summarize structural controls action items, goals, and progress for the current reporting year. In the "activities conducted and planned" section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

Structural Controls Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned (specific implementation dates)
Report any QA/QC completed, and any field studies conducted for data accuracy during the reported year	Field verify outfall location	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Obtain maps from GIS and field verify size and location. Ongoing since July 1, 2016.
Update procedures to develop and maintain an inventory of all structural controls BMPs	Check eTRAKiT monthly for new Stormwater BMPs	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Stormwater Division staff pulls new stormwater structures from eTRAKiT and updates the inventory monthly.
Improve coordination between Stormwater, Roads and Drainage, and Engineering	Conduct weekly coordination meetings between the three divisions	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Weekly project meetings have been reduced to bi-monthly. The projects standard operating procedure was officially approved in 2021.
Continue to review and update guidance documents on maintenance activities	Yearly review of guidance documents and updated based on lessons learned	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Review all guidance documents and add to the Public Works SOP as procedures are finalized.
Maintenance schedule for the upcoming year	Inspect structural stormwater controls	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	The Stormwater Division actively inspects structural stormwater controls throughout Richland County on a quarterly basis.
Transition pond and structural control inspections from Excel spreadsheets to ArcGIS	Use of ArcGIS Collector and Survey123 for inspection reports	<input checked="" type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Inspection reports are converted to the digital format. The Stormwater Division will continue to work with the County's GIS division on the conversion.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

The County's Structural Control program is successful. The Stormwater Management and Roads and Drainage Divisions continue to work together to meet maintenance needs. This is evident by the decrease in NOV's issued to private and commercially owned ponds since the first annual report and the increase in proactive maintenance through the County's Work Order System and a reduction in maintenance requests in One Stop.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

A Department wide Work Order System would improve efficiency and assist with implementing a more proactive maintenance schedule on the drainage system.

B. Minimum Control Measure 2: Areas of New Development and Redevelopment

Objective

To reduce the discharge of pollutants in stormwater runoff from areas of new development and redevelopment to predevelopment levels, to the MEP, and to protect water quality.

General Discussion of SWMP Element

This section of the permit relates to plan review, site inspections, and the implementation of post-construction BMPs.

Land Development Manual (LDM) – The County’s storm drainage regulations were revised to a comprehensive LDM. The LDM includes updates to the stormwater and road design standards. The updates incorporate components of the 2012 Construction General Permit (CGP) and the 2016 NPDES MS4 Permit. It also includes site performance procedures, requirements for water quality aimed at meeting the Water Quality Based Non-Numeric Effluent Standards for *E. coli* and dissolved oxygen, encouraging the reduction of impervious areas, a list of structural and non-structural BMPs in the program area, and specific redevelopment requirements.

Major changes in the LDM include:

- Requirement for water quality treatment during significant redevelopment
- Requiring a downstream analysis for all new development and redevelopment projects. The downstream analysis will take into consideration any local flooding concerns during the plan review process
- Requiring a quantitative and qualitative analysis for construction projects disturbing 25 acres or more that discharge to a TMDL or a 303(d) listed impaired waterbody
- Summarization of the plan submittal process
- Submittal requirements and the plan review process
- Guidelines for designing and constructing roads in accordance with South Carolina Department of Transportation (SCDOT) standards
- Roadway testing requirements
- Guidelines for designing, implementing, and maintaining stormwater BMPs to be used in the County to improve water quality and minimize stormwater runoff impacts due to increased flow volumes and peak discharge rates from developed areas

The LDM will accomplish the following objectives:

- Reduce stormwater impacts on water quality
- Reduce stormwater impacts on water quantity
- Protect downstream areas from adverse stormwater impacts resulting from development
- Ensure that roads added to the County’s inventory are designed and constructed to last for at least 25 years
- Address all sites, including “hot spots,” to ensure adequate water quality BMPs are selected

Two Water Quality Design Standards:

Water Quality Design Standard	Non-sensitive Watersheds	Sensitive Watersheds ¹
<u>WQ Design Standard #1:</u> Water Quality Storm Event Design Standard	Manage the runoff from the Water Quality Storm Event	
<u>WQ Design Standard #2:</u> TSS Removal Design Standard	Obtain 85% removal efficiency of the annual TSS loading	Demonstrate that the annual post-development pollutant loading does not exceed the annual pre-development pollutant loading for the pollutant(s) of concern
<u>Hardship Criteria</u> Alternative TSS Removal Design Standard	Demonstrate the annual post-development TSS load should be no more than 600 pounds/acre/year	

The County continues to use the Land Development Manual, to encourage engineers to use the Integrated Design, Evaluation, and Assessment of Loadings (IDEAL) model for all permitted projects. Using this model, engineers are able to meet the new requirement for compliance.

Copies of the updated manual were provided to County Council in September 2021 and County Council approved the new LDM during the September 26, 2021 zoning board meeting. The Richland County Land Development manual was implemented and released in February 2022. The Richland County Land Development manual can be viewed at <https://www.richlandcountysc.gov/Portals/0/Departments/PublicInformationOffice/LATEST%20LDM.pdf>.

Current Design Standards – A Comprehensive Stormwater Pollution Prevention Plan (C-SWPPP) is required to identify the performance of selected BMPs and confirm that stormwater discharges will not cause or contribute to any adverse impact downstream.

Commonly used Sediment Control BMPs:

- Inlet Protection
- Outlet Protection
- Sediment Basins
- Sediment Traps
- Silt Fence

Commonly used Structural BMPs:

- Wet/Dry Ponds
- Vegetated Swales
- Underground Detention Systems

The County encourages the use of water quality “treatment trains” during construction and post-construction to meet water quality standards.

Current standards include requirements for water quality buffers and the Community Development and Planning Department’s open space requirements. The Neighborhood Planning Division includes stormwater improvement recommendations in their neighborhood master plans.

New development proposals are reviewed for impacts to natural resources. Developers are required to depict areas of constrained and unconstrained open space on development plans

utilizing the Open Space Code. All subdivision submittals are required to include a Natural Resource Inventory. This inventory identifies natural resource features such as 100-year floodplain area, riparian buffers, protected trees, wetlands, and steep slopes.

The City of Forest Acres continues to enforce their version of the Water Quality Buffer Ordinance and Floodplain Management Ordinance as they both relate directly to stormwater management and stormwater quality. The City of Forest Acres is maintaining an additional codes enforcement position, in part due to the increased regulatory activity associated with stormwater management. This affords three personnel who are available to respond to stormwater issues.

The amendments to the current Land Development Code, which foster more environmentally sensitive site development, such as decreasing the minimum caliper size for grand trees and increasing the tree replacement ratio to increase tree protection, continue to be enforced through the approval of land development plans.

More information on the County's current standards can be found at the following location: <http://rcgov.us/DevServ/QuickLinks/CodesandRegulations.aspx>

Pre-construction meetings are held for every project that is issued a Land Disturbance Permit. The following topics are discussed at these meetings:

- Approved C-SWPPP, stormwater calculations, and construction plans.
- Enforcement procedures and expectations.
- Environmentally sensitive areas or any known flooding problems in the watershed.
- eTRAKiT software logistics.
- Clemson University's Certified Erosion Prevention and Sediment Control Inspector Program.
- Closeout process & stabilization requirements.

Inspections and Maintenance of Post-Construction BMPs – The Community Development and Planning Department revised 'Inspector Areas' for efficiency and production: The Stormwater Division analyzed its operations and developed a strategic plan for improvement. The plan improves coverage in assigned areas and a change in area boundaries, along with procedural changes based on identified deficiencies throughout the division.

The Stormwater Division continues to ensure proper long-term maintenance of post-construction BMPs through its post-construction inspection program. Maintenance agreements for post-construction BMPs are submitted during the plan review process. Copies of maintenance agreements are kept digitally in the eTRAKiT software. The Stormwater Division accompanies the Community Development and Planning Department on final inspections where new stormwater BMPs are added to the system. The new BMP is then added to stormwater post-construction BMP inspection list to be added to the county's infrastructure inventory. Privately owned BMPs are inspected once every permit cycle. The stormwater inspector contacts the property owner and submits an inspection report to the owner after the inspection if there are any violations. The stormwater inspector works closely with the property owner and/or their contractor on any maintenance needs related to the BMPs. All records of work completed are

documented. The Stormwater Division currently has over 200 ponds included in the private pond database.

Assessment of Controls

Richland County reviews new development and redevelopment plans to ensure compliance with water quality requirements, site performance standards, and post-construction BMPs needs. Post-construction BMPs are inspected once a permit cycle and the owner is contacted if maintenance is needed. New ponds are added to the inventory yearly, which results in an increased number of post-construction ponds inspected.

The County worked to improve enforcement procedures by looking to establish a more standardized process for the most common infractions. This has been effective in setting better expectations. The County has improved of foreseeing issues and alerting contractors to them before they happen, as well as noting the enforcement measures that would be used and when.

The Community Development and Planning Department is already operating in a digital environment but seized upon opportunities to improve data sharing. Due to the size of reports received, the New Development Division experienced delays in the transmission of these reports. To avoid compromising efficiency or quality of the report, the New Development Division transitioned to a cloud-based operation. Reports are generated while onsite and emailed to all parties prior to leaving the site. The cloud-based operation has allowed ease of transmission and improved data-storage and sharing.

Through the County's monitoring program, the County is assessing improvements in sensitive waters. The County is collecting macroinvertebrate samples that are discussed in the quarterly reports which are included in Appendix D. Macroinvertebrate lab reports are also provided in these quarterly reports.

Measurable Goal Summary

1. Were there any regulation changes during the reporting period?

Not Applicable

2. Use the table below to summarize areas of new development and redevelopment action items, goals, and progress for the current reporting year. In the "activities conducted and planned" section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

New Development and Redevelopment Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Continue to enforce the current County zoning and land use requirements and development standards to reduce the discharge of pollutants from areas of new development and significant redevelopment after construction is completed.	Update current standards, policies and procedures. Incorporate language in the drainage regulations that encourage impervious area reduction.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	New LDM developed which incorporates current and new requirements aimed at reducing the discharge of pollutants from areas of new and significant redevelopment.
Update County Design Standards to include requirements listed in MS4 Permit.	Develop new LDM.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Land Development Manual was presented to County Council in the fall of 2021. It has since been approved and implemented in February 2022.
Evaluate and modify, as necessary, the post-construction program.	Get Stormwater Division access to approved as-built drawings so they can be included in final inspections.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Stormwater Division now has access to eTRAKiT and can view approved as-built drawings for inspections. The County's stormwater inspector is invited to final inspections when a new stormwater BMP is installed.
Track water quality improvements achieved due to the enforcement of this program.	Track monitoring results in impaired watersheds where new BMPs have been installed.	<input checked="" type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Will look at BMPs implemented in impaired or TMDL watersheds.
Educate staff on the new LDM standards and procedures.	Host internal trainings on the new requirements in the LDM.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Hold internal trainings on the IDEAL model and LDM .
Educate the design community and the public on new LDM standards and procedures.	Host trainings and public meetings on the new requirements in the LDM.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Schedule two meetings for design community on the IDEAL model and the new LDM in Fall/Winter.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?
Despite continued delays in the approval of the new Land Development Manual, including the COVID-19 public health emergency which shutdown the County for several months, the Land Development manual was finalized and implemented in February 2022.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives
The County will continue to develop a successful way to track water quality benefits through the New Development/Redevelopment control measures. The requirement to manage the water quality storm event could provide an effective method to track the amount of stormwater runoff treated onsite by New Development/Redevelopment projects.

C. Minimum Control Measure 3: Existing Roadways

Objective

Operation of public streets, roads, and highways to reduce the discharge of pollutants through implementing SOPs, policies, and other regulatory requirements.

General Discussion of SWMP Element

The Existing Roadways element requires an analysis of the County's road construction, maintenance, and permitting requirements to reduce the risk of pollutant discharge into waterways, to the MEP. This includes paved and unpaved County roads. The County is responsible for the maintenance of 644 miles of paved roads and 201 miles of unpaved roads. Richland County's Public Works Department operates and maintains the County's roads. The Stormwater Division works closely with the Roads and Drainage Maintenance and Engineering Divisions related to maintenance performed on the County's roads.

Standard Operating Procedures (SOPs) – During the first year of the permit, the SOPs for County maintained roads were reviewed and updated. Annual training is held during the Public Works All Hands training session, which includes presentations on proper roadway maintenance procedures and a refresher on the NPDES MS4 permit requirements. The Roads and Drainage Division implemented training sessions for crew leaders and supervisors on various operating and maintenance topics and group viewing of webinars.

For most projects, the Richland County Transportation Department ensures all current County drainage standards are met by direct coordination with plan review staff in the Community Development and Planning Department. Plan review staff ensures that drainage standards are met and followed. For those projects that are permitted through the SCDOT encroachment permit process instead of the County MS4 process, the Department ensures all SCDOT drainage standards are met. The Richland County Transportation Department's inspectors oversee implementation of these standards during the construction process. For transportation improvement projects, project engineers evaluate the impact of the project at each outfall location. This requires an outfall-specific watershed analysis, which involves documentation of drainage area, land use, and rainfall data. The watershed analysis is a pre versus post construction evaluation that includes an assessment of downstream conditions. This analysis is used to determine the need for stormwater BMPs to address potential stormwater issues. The stormwater design includes an emphasis on velocity control using additional drainage structures, as needed, to minimize potential erosion downstream of the projects.

The Richland County Transportation Department ensures that drainage and hydraulic studies are being performed to ensure that stormwater structures are reducing volume and stormwater runoff velocity from newly paved roads. For transportation improvement projects, project engineers are responsible for determining the applicable design criteria (roadway and drainage) and standards for development of the project upon initiation of design services. Each project is scoped with the project engineer to determine the applicable and controlling standards in order to ensure the project is developed with proper standards. The Richland County Stormwater Management Design Standards and the SCDOT Hydraulic Design Manual are utilized for determining the

applicable project criteria; this document is based upon all requirements as set forth by SCDHEC and applicable federal and state regulations. A stormwater management report, based on the design standards, is developed for each transportation project to identify drainage areas, hydrology and design hydraulics, as applicable documentation for the preparation of a land disturbance permit.

Inspections, Operation and Maintenance – The Stormwater Division works closely with the Roads and Drainage Division on appropriate maintenance activities that can reduce or minimize the amount of pollutants captured in stormwater runoff from roadways. Both Divisions inspect the County roadway network and submit service requests to address maintenance concerns observed in the field. The County does not perform de-icing activities. Sand is used when necessary to prevent ice on roadways.

Visual inspections of high-risk flooding areas are conducted before large storm events. The Roads and Drainage Division uses the street sweeper and vacuum trucks to clean any debris identified in the drainage system. This not only reduces the chance of localized flooding but also removes potential pollutants from entering the system.

Maintenance Schedule – The Stormwater Division and Roads and Drainage Division continue to work on the creation of a proactive maintenance schedule for the County’s roadway network. The Stormwater Management Division provided identified high-risk areas to the Roads and Drainage Division for focused usage of the street sweeper and vac trucks. This reduces the risk of clogged infrastructure along the County’s road network and removes potential pollutants from entering the system.

The Solid Waste Division and Special Services Division both have active litter pick up programs. Refuse Control Officers in the Special Services Division, are responsible for ensuring cars and trucks carrying debris are covered while on the highway, check illegal dumping sites on lots and roads and issue citations for violations of the County’s Solid Waste Ordinance. The Special Services Division also has an inmate labor program, which utilizes inmates from the SC Department of Corrections to provide litter pick up along County maintained streets. Special Services also partners with HOAs and community leaders to organize annual community clean up events. These events provide an opportunity for citizens to properly dispose of unwanted items not collected at curbside by regular trash collections.

Assessment of Controls

The County has a fully implemented existing roadways program and continues to investigate ways to increase proactive maintenance of the roadways. Through the county’s street sweeping and vac truck programs 225 streets were swept and 865 tons of material were removed from the County’s drainage network. Over 871 tons of litter were prevented from entering the County’s MS4 through various litter control activities.

For transportation improvements projects, the County’s Transportation Department added infiltration on Bow String Road to reduce peak 25 year runoff rate to below pre-construction. The benefit of this system is that stormwater runoff enters it during each storm event, leading to the full infiltration of smaller storm events along this section of the roadway.

The County's Transportation Department paved eleven (11) dirt roads. On all paved 11 dirt roads, grass ditches was prioritized over stormwater pipes, which will reduce erosion, while encouraging infiltration within the ditches. Reducing the overall number of dirt roads reduces the amount of erosion and sedimentation associated with those dirt roads.

The paving of dirt roads in Richland County is not limited to placing asphalt on an unpaved road and instead addresses existing stormwater issues to ensure that they meet the standards found in our NPDES permit. Many of the dirt roads under construction do not have defined stormwater drainage, creating a situation where stormwater runoff leads to sediment discharge during large storm events.

Richland County will obtain dedicated right-of-way from the residents living along a dirt road paving project. This additional land is used to install dedicated stormwater drainage ditches that are designed to reduce both the volume and peak rate of discharge to greatly reduce the volume of sediment discharging offsite through increase contact area with the runoff to encourage infiltration and pollution removal. The Transportation Department continues to address the increase in runoff from paving dirt roads through their plan review and approval process.

Measurable Goal Summary

1. Complete the list below for the last reporting year:

Number of Community Clean Sweeps:	83
Number of warning letters issued by Special Services Division:	216
Number of citations issued by Special Services Division:	54
Number of dirt road culverts proactively inspected by the Stormwater Division:	193
Number of dirt road culverts requiring maintenance from inspection by the Stormwater Division:	1
Number of ditches investigated/cleaned/cutback/maintained:	383
Number of drainage problems investigated/maintained:	439
Number of catch basins investigated/repared:	50
Number of manhole lid problems:	21
Number of dirt roads paved penny tax:	11
Number of streets swept:	225 streets 865 tons of material removed
Number of catch basins vacuumed:	155 catch basins 648 tons of material removed
Number of litter control activities by Special Services:	871.38 clean sweep tonnage collected 83 support neighborhood clean-ups 351 roads policed for litter 6809 bags of litter collected from roadside 501 tires picked up 577 illegal dump sites cleaned up 10 special clean-up projects

2. Use the table below to summarize roadway maintenance action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

Roadway Maintenance Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Maintain and modify policies, procedures, or regulatory requirements for the use of structural and nonstructural controls	Review current policies and procedures and update as necessary	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	The road maintenance standard operating procedures was updated along with the Public Works Stormwater Pollution Prevention Plan
Perform routine inspections of each maintenance facility to ensure BMPs are operational and determine changes that are necessary to improve runoff quality.	Continue yearly and quarterly inspections of the county owned BMPs.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Water quality units are inspected twice a year and curb screens are inspected quarterly. County-owned ponds inspected yearly. 25% of major outfalls screened yearly.
Increase frequency of street sweeping.	Develop a proactive schedule for the use of the street sweeper.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Created a pilot project with Roads and Drainage for proactive use of the street sweeper. Visual inspections of high-risk flooding areas are conducted before large storm events and the Roads and Drainage Division focus the street sweeper and vac trucks in those areas.
Dissipate energy from stormwater discharges on new pipe installed.	Require the use of energy dissipation BMPs on pipes installed on new roads.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	The Penny Transportation Program installs all new pipe outfalls with riprap aprons to dissipate the energy from the stormwater discharge and to protect against scour.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

1. Evaluate the success of this MCM. What are the program's strengths?
This program is fully implemented. The Stormwater Division proactively inspects unpaved roads and culvert crossings on unpaved roads. The Public Works Department works closely with the Transportation Department to stress the importance of water quality on new road paving projects.
2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:
Continued coordination between the Stormwater and Roads and Drainage Division on identifying areas for proactive street sweeping and vac truck deployment will further improve removing pollutants from the MS4.

D. Minimum Control Measure 4: Flood Control Projects

Objective

Incorporate water quality criteria into the design and construction of projects to manage storm events with a recurrence frequency of 100 years or some less frequent storm events.

General Discussion of SWMP Element

Capital Improvement Project List - The Stormwater Management and Engineering Divisions respond to flooding complaints and evaluate those complaints for possible inclusion on the County's Capital Improvement Project (CIP) list. The CIP list is created using a Project Database Tool. The Project Database Tool uses evaluation criteria to cover a range of considerations that are important in the implementation of a potential capital improvement project. By applying the criteria in a systematic method, each potential project is objectively evaluated and compared. The evaluation criteria are: improves stormwater drainage, floodplain management, water quality, fiscal responsibility, customer service, and workforce. Projects that improve floodplain management and water quality are weighted higher than projects that do not improve these areas.

Once a project goes on the CIP list, either the Engineering Division or an outside consultant completes the design. The Stormwater Division has a CIP Manager who oversees the design and construction of Stormwater CIPs.

The Stormwater Division requires designers to follow the Land Development Manual which includes procedures and policies related to water quality of projects, and the inclusion of flood control projects. Water quality design requirements are implemented and thus are assessing water quality impacts.

The County has implemented a new standard in the new Land Development Manual, which encourages engineers to use the IDEAL model for all permitted projects. This model evaluates the performance of BMPs and calculates loads and concentrations of sediment, nitrogen, phosphorus, and bacteria based on designer inputs and local, historic soil and rainfall data.

Assessment of Controls

The Flood Control component is fully implemented. The Stormwater Division requires projects to meet the water quantity and quality standards and has monthly project meetings with the Engineering and Roads and Drainage Divisions to discuss flood control projects. The monthly meetings improved coordination when it comes to addressing water quality in both CIP and force account projects. The County's on-call consultant, Woolpert, is working with the Stormwater and Engineering Division to update the County's 25-year Stormwater Plan and project ranking database to meet new program needs.

There have been more projects moving forward with construction in recent years. Since the October 2015 flood, the Stormwater Division has leveraged disaster recovery funds to design and construct other flood control projects.

As part of the park project and bridge replacement along Forest Lake Place Dr., the City of Forest Acres excavated 88 dump truck loads of silt from Gills Creek. The City of Forest Acres

will continue to look for ways to improve their urban waterways and ensure stormwater is being adequately managed.

Summary of CIP/Flood Control Projects:

Site 1: Spring Valley Little Jackson Creek Stream mitigation, Stream restoration and Regenerative Stormwater conveyance (Estimated Cost: \$1.2 Million)

Status:	In progress (Design Phase: 100% completed & Construction Phase: 6% completed)
Location:	Spring Valley Subdivision adjacent to stream
Description:	The project began in early 2013 and is part of an overall strategy to improve water resources and quality in the Gills Creek Watershed. Erosion of the streambed and side slopes has potentially compromised the integrity of the adjacent rail bed and is beginning to cause property damage along the adjacent residential properties (Spring Valley Subdivision). Transported sediment has contributed to siltation in Lake reducing the capacity for regional drainage detention, degrading water quality and creating a negative impact on the lake habitat.

Site 2: Danbury Basin Area Improvements Project (Estimates Cost: \$280,000.00 Design/ CGBD-DR Grant \$2.1 Million)

Status:	Closeout Pending (Study/Design Phase: 100% completed & Construction Phase: 100% completed)
Location:	The project area extends from the North 21 Terrace development above Mason Road down to the regional detention pond on the Palmetto Achievement Center for Excellence Academy property at 6015 N. Main Street.
Description:	Channel stabilization was addressed as part of this project. The overall goal of the project permanently address water quality for this area as much as practical and feasible with the property and resources available to the County. These improvements help the existing pond on the church property provide more peak detention during design events and help the drainage system within the basin to meet the 10-year level of service.

Site 3: Knollwood Drive Drainage Project (Estimates Cost: \$99,063.00 Design & \$700,000.00 Construction)

Status:	Closeout Pending (Design/Study Phase: 100% completed & Construction Phase: 100% completed)
Location:	Flooding of Properties along channel between Knollwood Drive and Planter Drive
Description:	This project provided design and installation measures to improve drainage and flooding issues in an existing drainage ditch/channel. The project area extended between Knollwood and Planters Drive. These improvements help the existing

	channel reduce flooding at peak flows during design events and help the drainage system within the basin to meet the 10-year level of service. The design took into consideration all county design standards for water quantity and quality. These improvements serve as an innovative example of stormwater best management practice.
--	---

Measurable Goal Summary

1. Complete the list below for the last reporting year:

Number of completed CIP projects:	2
Number of new CIP projects:	2
Number of drainage projects completed with in-house labor:	17

2. Use the table below to summarize floodplain management action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

Floodplain Management Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Create a Flood Control Program document (SOPs).	Procedures for the permitting process to include as assessment of water quality impacts on receiving water for flood management projects identified in the watershed planning process.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	This was completed by January 2022.
Update the Flood Control Program	Implement new stormwater design standards.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Design standards were approved by County Council in Fiscal Year 2022.
Assess pollution discharge procedures, processes, and methods to control the discharge of pollutants from Flood Control Projects into waterbodies and publicly owned lakes.	Projects selected from the County’s 25-year Stormwater plan will be reviewed and assessed to see how water quality can be implemented in FY 2023.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	This action item is complete and the process will be ongoing throughout the permit term.

Improve coordination within the Public Works Department on drainage and CIP projects.	Hold regular meetings between Engineering, Roads and Drainage, and Stormwater Management.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Bi-weekly projects meeting coordinated by the Deputy Public Works Director.
---	---	--	---

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

This program is fully implemented. The Public Works Department has a dedicated Capital Improvement Project Manager who oversees design and construction of the Stormwater Capital projects. The Capital Improvement Project Database ranks capital projects based on flood control and water quality benefits.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

The County will receive additional disaster recovery funding for mitigation projects. This will require increased coordination between project managers and the Stormwater Management Division to include water quality benefits in future projects.

E. Minimum Control Measure 5: Municipal Facilities

Objective

Implement a pollution prevention and good housekeeping program that involves regular inspections, maintenance, and training with the goal of preventing or reducing pollutant runoff from municipal operations.

General Discussion of SWMP Element

Richland County must identify priorities and procedures for inspecting and implementing controls for stormwater discharges from county facilities such as landfills, hazardous waste treatment, storage and disposal facilities.

Facility Inventory and Prioritization - Richland County's Stormwater Management Division has reviewed and updated the County-owned municipal facilities. Facilities are ranked low, medium, and high priority. All County-owned industrial facilities, locations with a previously developed SWPPP, or locations with a Spill Prevention, Control, and Countermeasure (SPCC) plan are considered high priority and are inspected yearly. Low and medium risk facilities are inspected once every permit cycle. The County has six (6) facilities that store a combined total 1,320 or more gallons of fuel, used oil containment, and have a SPCC plan. Each facility with a SPCC plan has an onsite spill cleanup and containment kit.

The Stormwater Division maintains a list of industrial facilities owned or operated by the County that are subject to the SCDHEC NPDES General Permit for Stormwater Discharges Associated with Industrial Activity along with a list of BMPs that are located at each County facility. The Division has identified and located all landfills. A copy of the facility inspection reports completed is located in Appendix F.

The Town of Arcadia Lakes does not own any facilities but helps promote stormwater quality awareness where possible. The Town of Arcadia Lakes developed a Stormwater BMPs fact sheet to educate employees.

The City of Forest Acres owns a Public Works facility and some parks. The Public Works facility has a SWPPP and distributed a Stormwater BMPs fact sheet to all City staff. The City has a CESPCI certified inspector on staff.

Inspections, Operations, and Maintenance - The Operational Services Division is responsible for maintenance of County facilities. The Stormwater Division conducts the yearly inspections for high-risk facilities. Any concerns noted during an inspection are forwarded to the appropriate department head along with the Operational Services Department manager.

Operational Services oversees the annual Underground Storage Tank (UST) inspections. UST inspections occurred at the main Public Works location, DPW Ballentine Campus, the Landfill, Eastover, and the Hamilton-Owens airport, by Precision Tank Services. All of the sites passed their line and detection tests, as required. All UST sites are inspected monthly by a County employee who has passed SCDHEC testing and designated as a "Class A Operator". The annual SCDHEC inspection is followed at all of these sites. All issues found at the sites during the

inspections were corrected in a timely manner, and the permits for the new year were issued and are posted at each site. Examples of necessary repairs included spill bucket replacements, modifications to shear pins, and hose and line replacements. The sites that include above ground tanks are being reviewed for possible inclusion in an annual program for replacement of the tanks with newer, double-walled containment storage tanks. The Operational Services Department is budgeting for one site per year to remove old tanks and install new, larger double wall tanks. In this reporting time period, Operational Services, has completely rebuilt the secondary containment at Upper Richland Fire Station. The rebuilt containment will hold any and all liquids should there be breach with the primary containment. A rock berm was also installed on the Public Works compound, which will capture any drippings from asphalt equipment.

Operational Services is currently in the process of upgrading 6 hydraulic elevators. This upgrade will help reduce the environmental exposure from a potential leak by having new parts and by ensuring that all the connections are tight and proper. The new equipment also allows for better inspections, thus also reducing the chances of spills in the future. This project affects stormwater by reducing the exposure to water contamination.

The Solid Waste and Recycling Division (SWR) has added additional covered storage in the recycle area to contain potential pollutants. The majority of ponds have been mucked out to remove silt and sediment to restore the original capacity, limiting the potential for silty discharge. SWR has taken efforts to reduce storm water pollution by implementing weekly litter control practices inside the landfill perimeter, utilizing mulch on bare slopes to prevent erosion from entering ditches and ponds and monthly covering of the landfill. Catch fences have been installed at the C & D landfill to capture windblown litter and debris and keep it trapped onsite.

The SWR is continuing efforts to address stormwater runoff. The onsite ditches were deepened and graded to create positive flow to the designated ponds. The closed and open phases on the property are largely covered in vegetation preventing unwanted silt and sediment. Vegetative cover has been maintained to limit the speed in which water flows through the ditches, limiting erosion events. SWR, as normal practice, keeps as much waste off the ground and in containers as possible. Check dams have been constructed to reduce runoff velocity and erosion.

A stormwater inspector completes monthly inspections for the main Public Works facility at 400 Powell Road. This includes the County maintenance vendor, First Vehicle Services, monthly inspections of the Central Garage located on the main Public Works yard. The monthly Environmental Inspection Report provided by First Vehicle Services includes inspections of the shop's hydraulic equipment (lifts), outside facility and parking areas, the fluid storage areas including waste oil and new fluid tanks and drums, and the equipment used in the maintenance of the County equipment.

Spill Prevention and Containment

There are six sites under this program and Operational Services works with other agencies and County Departments to implement this program. These agencies include the County Stormwater Division, Columbia – Richland Fire Department, Eagle Aviation, and the Solid Waste and Recycling Department.

The Hamilton – Owens airport program oversight is handled by a Fixed Base Operator (FBO), Eagle Aviation, due to their work of transporting and fueling aircraft. The Airport Director also works to insure compliance of the program by the FBO.

Four sites are County fire stations manned by City of Columbia fire personnel: #17 Upper Richland, #19 Gadsden, #24 Sandhill, and #26 Blythewood. The City personnel maintain the SPCC inspection reports and report to County Facilities Maintenance any concerns by utilizing an e-mail address set up for this purpose. Emergency contacts are also provided in each on site binder to include home numbers for immediate needs. All requests are then inputted into the maintenance work-order system to insure follow-up and completion for any non-urgent issues and tracking of any urgent items.

Training - The County has a Stormwater Pollution Prevention Plan (SWPPP) video that is presented to the appropriate staff and high-risk facilities are targeted. A SWPPP and Industrial General Permit (IGP) training are held annually. The topics included are consistent year to year and include different groups to cover items related to the Public Works SWPPP, SCDHEC information and updates, and MS4 related topics related to inspections, good housekeeping, BMPs, industrial runoff, and water quality monitoring. This year's annual training was conducted on May 22, 2023. Forty employees attended the training. A spreadsheet of those in attendance is included in the Appendix C. The training was recorded and made available through the Department of Public Works intranet site for new employees and those unable to attend.

City of Forest Acres Codes Enforcement Officers receive informal training in, and application of, Water Quality Buffer Ordinance, Erosion and Sediment Control, and Flood Damage Prevention Ordinance. The Code Enforcement Officers are under the supervision of Keith Lindler, who is a registered Professional Engineer (#10846) and registered Building Official (#2240) with the State of South Carolina. City Code Enforcement staff joined the South Carolina Association of Stormwater Managers in January 2019 and attend the affiliated conferences. Public works staff began receiving formal training semi-annually in 2020. Other training provided to Town staff is listed below:

- November 3, 2022, one staff member attended the SCASM 4th quarter meeting.
- March 2, 2023, two staff members attended the SCASM 1st Quarter meeting.
- June 7, 2023, public works staff members (21) attended training on Good House Keeping, Maintenance, and Facilities.

Assessment of Controls

The Municipal Facilities SWMP component is fully implemented. County facilities are ranked using a low, medium, or high priority scale, with high priority facilities receiving annual

inspections. Facilities with SWPPPs and SPCC plans that are currently in place are included on the high priority list.

Measurable Goal Summary

1. Complete the list below for the last reporting year:

Number of monitored municipal facilities:	42 (Richland County), 7 (Forest Acres)
Number of added monitored municipal facilities:	0
Number of SWPPP inspections completed:	36
Number of SWPPP locations needing enforcement:	0
Number of SPCC inspections completed:	6
Number of SPCC locations needing enforcement:	0

2. Have yearly comprehensive inspections been conducted at high priority facilities? If not, indicate a status and planned completion date in the chart below.

☒ Yes ☐ No ☐ In Progress (*explain*): _____

3. Has training been conducted for employees? If not, indicate a status and planned completion date in the chart below.

☒ Yes ☐ No ☐ In Progress (*explain*): _____

4. Use the table below to summarize municipal facility pollution prevention action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Ensure that the maintenance and inspection of MS4 catch basins and structural storm water controls are addressed in the chart. Add rows where needed and attach additional sheets if necessary.

Pollution Prevention Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned (<i>specific implementation dates</i>)
Add berm to all 4 fuel dispensers	Reduction of fuel spills leaving the site.	<input checked="" type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	This installation reduces the risks of potential storm water contamination via a fuel spill.
Assess all municipally owned or operated facilities	Complete by June 1, 2018	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Item was completed by July of 2016.
Based on assessment create a high priority facilities list	Complete by June 1, 2018	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Item was completed by July of 2016.

Perform an annual inspection of high priority facilities	Start by June 1, 2018	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	This was completed by August/September 2020 and is ongoing during the permit term. The annual inspections of high priority facilities were conducted and completed between 7/1/2022-6/30/2023.
SWPPP Training	Hold training for County-owned SWPPP facilities	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Held a training on SWPPP requirements for County industrial facilities on May 22, 2023.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

The County has a successful good housekeeping program. Most of the high priority facilities have SWPPP or SPCC already in place. The Stormwater Inspector has good communication with other divisions responsible for high priority facilities. Both the Operational Services Department and Fleet Services Division are well versed in the SWPPP and SPCC requirements and actively monitor the buildings and grounds they are responsible for maintaining.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

Improve record keeping by integrating the files and inspection reports in a GIS based system instead of using Excel spreadsheets.

F. Minimum Control Measure 6: Application of Pesticide, Herbicide, and Fertilizers (PHF)

Objective

Implement a program to reduce, to the MEP, pollutants in discharges from the County associated with the application of PHFs including educational activities, permits, certifications, and other guidance related to using, storing, and disposing of PHFs.

General Discussion of SWMP Element

Richland County has fully implemented its PHF program. The Stormwater Division reviewed and updated the PHF program in 2016. This included updating the PHF SOP, list of facilities, and applicators for inspections. The database is prioritized with criteria and level of risk.

Certifications - The County's Operational Services Division is responsible for grounds maintenance. Mr. Wells is certified by Clemson University, certification number N0006492, which expires in December 2023, to handle restricted use pesticides. Mr. Wells possesses emergency spill response training.

Usage – The Stormwater Division maintains an inventory of all Department of Pesticide Regulation (DPR) approved chemicals and where they are located. The Stormwater Division inspects all county owned facilities where PHFs are used and stored. The Division also inspects facilities not owned by the County that are operating under a Clemson PHF certification.

Operational Services uses two (2) types of application equipment that requires calibration; a backpack sprayer, and a 25-gallon tank sprayer. The fertilizer spreader is filled on a sidewalk, driveway when possible, or over plastic to control any unforeseen spills. Delivery rates and patterns are done to a small area before proceeding to the treatment of a larger area to help ensure accuracy, and the deflector shield is used to ensure minimal runoff.

All facilities under the oversight of Operational Services are treated with appropriate materials to aid in healthy greenery and distributed according the specification of the product label in conjunction with any literature regarding that product's labeling. Chemicals are mixed in a contained area; empty chemical containers are triple rinsed and disposed of according to manufactures specification. Chemicals are applied to plant material with a backpack hand pump sprayer and tank sprayer. A surfactant is added for maximum adherence to plants with minimum application amounts along with an identification dye to track where the chemical is being applied. Calibration and repair of all applicators are completed in house.

The County does not use pesticides for repelling or mitigating insects or rodents, with the exception of mosquito control. The following is a list of chemicals that are presently used by Operational Services by product name and active ingredient:

Brand or Product Name	Active Ingredient/ %	EPA Registration Number	Type/ General use	Purchase location or Brand
Non Selective Herbicides				
Prosecutor	Glyphosate N-Glycine	524-536-10404	Liquid	Site One
Scythe	Pelagonic			“
Tribune	Diquat/ Dibromide	100-1390		‘
Ranger Pro	Glyphosate	524-1A-1		‘
Roundup Quik Pro	Ammonium salt of glyphosate	524-535		“
Selective Herbicides				
Bush Master	Isooctyl (2-ethylhexy)	2217-774		SO
Avenue South	2-4-D dimethylamine salt	2217-996		SO
Speed Zone South	2-4-D 2-ethylhexyl/	2217-1031		SO
Celsius WG	Thiencarbazone/Dicamba	432-1507	Wet granular	SO
Safari	Dinotefuran	88203-11-59639		SO
Mansion	Metsulfuron methyl	228-373		SO
Alligare Sonora	Clopyralid	81927-69		
Fungicides				
Eagle 20EW Fungicide	Myclobutanil	62719-463		
Insecticide				
Bifen L/P	Bifenthrin	53883-124	G	
Bifen I/T	Bifenthrin	53883-118	G	
Roach Bait	Fipronil	64240-34	Station	Combat
Alpine WSG	Dinotefuran	499-561	WSG	Carolina PCO
Wasp /Hornet Killer	Prallethrin*- out of stock	9688-190-8845	Spray	Spectricide
Wasp, Bee, & Hornet	Tetramethrin/3Phenoxybenzl	498-156		
Fire Ant Bait	Hydramethylnon	73342-6	G	Amdro
Bandit 2F	Imidacloprid	432-1312		
Cross Check	Bifenthrin	1349-2-A		“
Horticultural Oil	Mineral Oil	10404-66		

Standard Operating Procedure - When a chemical is purchased, the amounts/quantities used are tracked as to identify total application amounts for each facility. To minimize storm runoff of the applied chemicals, weather conditions are monitored as to provide as many dry days as possible after applications. Facility sprinkler systems are also turned off after applications. If chemicals are to be stored for any length of time, they are placed in a containment shed at the County's Gregg Street facility, which has limited access.

Training - Operational Services in collaboration with Stormwater and Safety Compliance is developing a new training session for the entire grounds staff, for pesticide training. Operational Services continues to utilize on-the-job opportunities for educating and training other grounds staff members on the proper use, care, and application of pesticides and herbicides. This is being accomplished through classes provided by the Stormwater Management Division and hands-on training by the ground's manager.

The Stormwater Management Division holds a yearly Blue Thumb Workshop focused on pesticide, herbicide, and fertilizer usage. Landscapers across the County are invited along with Opterra Solutions and licensed applicators who work for the County. The Blue Thumb Workshop was held on February 10, 2023.

Contractor – The County utilizes Opterra Solutions, a licensed pesticide and herbicide applicator through the state of South Carolina, to assist in administering chemicals along County maintained ditches. Contracted applicators are required to have proper certification and licensure for pesticides application through Clemson Extensions DPR.

The Hamilton – Owens Airport has herbicides and pesticides applied by Opterra Solutions through a statewide contract administered through the SC Aeronautics Commission.

The following applications on the Hamilton-Owens Airport took place during the preceding twelve-month period:

• Herbicide	Airfield lights	Spring 2023
• Herbicide	Taxi lane pavement	Spring 2023
• Herbicide	Perimeter fence line	Spring 2023
• Fertilizer	Airfield lights	Spring 2023
• Pesticide (Fire Ant killer)	Airfield lights	Spring 2023

Assessment of Controls

The County is implementing the PHF Program to control PHFs from entering stormwater runoff. There are no sites that required enforcement this year. This year, twenty (20) sites could not be inspected due to scheduling conflicts or the sites being closed to the public. The Stormwater Division reports locations that are not under its jurisdiction to Clemson.

Measurable Goal Summary

1. Complete the list below for the last reporting year:

Total number of PHF inspections performed:	11
Number of sites with unsatisfactory/noncompliant inspection results:	0
Number of sites that could not be inspected	20
Number of sites with requiring enforcement	0

3. Use the table below to summarize PHF application action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

PHF Site Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned (specific implementation dates)
Identify areas known to have high applications of PHFs and prioritize problem areas	Complete	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Completed by July 2016.
Maintain an inventory of on hand PHF and information about product formulations	Complete	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Inventory reviewed and updated throughout the permit term.
Develop and implement a program to detect the improper usage of PHFs	Complete	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Updated PHF SOP in December 2016.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?
The County has successfully implemented the PHF Program. A list of departments and individuals that utilize PHFs and the list of chemicals stored by those departments is kept in the Stormwater Division. The Stormwater Division provides annual PHF conference for internal and external PHF contractors.
2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives
Not Applicable

G. Minimum Control Measure 7: Illicit Discharges and Improper Disposal

Objective

To develop processes, procedures, and legal authority to track and eliminate illicit discharges and improper disposal into the storm sewer system.

General Discussion of SWMP Element

Richland County Ordinance 26-203 prohibits illicit connections, illegal discharges, illegal dumping, and improper disposal, as well as addresses organic waste and spills. The Richland County Stormwater Management Division enforces this ordinance. The ordinance includes language concerning the reporting of SSOs within Richland County. The Stormwater Division also has a SOP for Illicit Discharge Detection and Elimination. The County's SOP includes procedures and checklists. Stormwater Division staff is trained on using field-screening testing kits for routine parameters, including *E. coli*, to take a quick screening sample to verify a suspected illicit discharge. If the Stormwater Division receives a suspected illicit discharge via One Stop, the County's service request system, or a phone call, a stormwater inspector investigates within 24 hours. A report is created from this inspection and proper enforcement and follow-up actions are determined. Paper copies of the inspections, reports, and follow-up letters sent are kept in the Stormwater Division.

Richland County Utilities Department has a rigorous Fats, Oil, and Grease (FOG) compliance program in effect. This program is aimed at reducing disruptions in service and overflows. The program's focus is on reducing FOG at the source, mainly commercial food service establishments (FSEs). Richland County Utilities (RCU) has issued eleven (11) notices of non-compliance to FSEs [all resolved] to ensure compliance with FOG specifications. Affected FSEs have responded accordingly by installing and updating grease traps/interceptors per RCU's regulation code, section 8.1.

The County has mapped its drainage network including pipes, outfalls, detention ponds, and channels. The County has mapped the entire drainage system, but a map of the entire drainage system is not included. Due to the size of the system, the information is not available online but is maintained via an internal GIS system, which is updated yearly. A map of major outfalls and their locations is included in Appendix E.

Field Screening – The Illicit Discharge and Improper Disposal (IDID) element requires the identification and dry weather inspection of all MS4 outfalls into waters of the State. Dry weather field screening is scheduled for all outfalls over the five-year permit period with the goal of inspecting 25% annual basis for the first four (4) years with follow up any further investigations and reporting in the fifth permit year.

During dry weather field screening, investigation maintenance needs are identified and reported to the Roads and Drainage Division. A prioritized ranking system outlined in the IDID SOP provides the prioritization. While performing field screening throughout the County, field staff investigates all outfalls and further defines major outfalls. New outfalls and outfalls located while

in the field are added to the database from as-built drawings. Outfalls are stored and updated in a GIS shape file.

In permit year 2019, the County's Stormwater Division implemented a small unmanned aerial system program in order to improve watershed and project assessments. This program utilizes a small drone (operated by an FAA licensed pilot) and advanced remote sensing software to provide aerial imagery and topographic maps for decision-making processes. The Stormwater Division drafted SOPs in order to operate it as safely and effectively as possible. In the future, this will be an important tool for remote assessments of outfalls and potential illicit discharges, allowing the division to conduct inspections and gather information in a quick and cost-effective manner.

The City of Forest Acres maintains an annual subscription to GIS-based software called Mobile311 that allows in the field documenting of conditions and uploading of photographs for support of codes enforcement/stormwater regulation.

The Special Services Department works to locate and prosecute illegal dumpers in Richland County. Enforcement actions taken by the Special Services Department are discussed in the Enforcement Section.

Spill Response - Another key element of the IDID program is an effective spill prevention and response program. Section 26-202(c)(8) of the County's ordinance addresses spill response and establishes the authority of the Richland County Director of Emergency Services (or an authorized fire official) to control and contain hazardous materials that are emitted into the environment and are considered a threat to public health or the environment. This section also establishes the right of entry of the official in charge of a situation onto any private property. If it is determined that a spill could potentially impact stormwater or a receiving stream, the Stormwater Manager is contacted immediately.

Spill Response Procedures are included in Section 8 of the "Standard Operating Procedures: Illicit Discharge Detection and Elimination Program" document. This includes procedures for reporting spills, cleaning up spills, and follow-up.

Sources with the greatest potential for spills are inspected during facility inspections and efforts are made to provide appropriate storage and containment to prevent spills.

Richland County has a Hazardous Material Contingency Plan that the Emergency Management Division is responsible for implementation and update.

Public Reporting of Illicit Discharges - The One Stop response system is available to Richland County residents for making illicit discharge reports along with calling the Stormwater Management office directly. The County has an Adopt-A-Stream program to get citizens actively involved with testing water quality. Citizens are trained to actively look for suspected illicit discharges and provided with information on how to report those to the County while volunteering for the program. Reports of suspected illicit discharges discovered by an Adopt-A-Stream volunteer are forwarded to the Stormwater Manager.

Various educational outreach tours are held at the Broad River Wastewater Treatment Plant (WWTP) for elementary through high school classes, college environmental courses, and various civic groups that discuss stormwater impacts upon the operation of wastewater collection and treatment systems and stormwater impacts upon the receiving waters that WWTP's discharge into.

The City of Forest Acres and Town of Arcadia Lakes have monitored siltation in local creeks from construction sites and they have contacted Richland County for support when necessary. Richland County's One Stop response system provides citizens with the resource to report any illegal discharges.

A copy of all suspected illicit discharges, SSOs and other investigations are included in Appendix F.

Oil & Household Hazardous Waste - The oil and household hazardous waste portion of the IDID element is aimed at residents. Public education about the proper way to dispose of these materials is key to ensure the elimination of discharges or dumping of oil and household hazardous waste. Richland Recycles Day is an annual event where residents can safely dispose of household hazardous waste.

Richland County sponsors a Clean Sweep program in neighborhoods throughout the County. This program provides residents with a convenient means to dispose of hazardous household materials (HHM) inappropriate for collection with solid waste. In addition, the County operates a construction and demolition (C & D) landfill that accepts C & D debris, used tires, used motor oil, used oil filters, antifreeze, appliances and yard waste. The County contracts with private companies to dispose of the waste collected at this landfill. There are also ten (10) sites located in the County that accept used oil, oil filters, and antifreeze. These sites are operated in conjunction with Santee Cooper Power.

Sanitary Sewer and Septic Seepage - Richland County has seven (7) sewer service providers, and Richland County Sewer Service is one of them. If there is a spill, the Utilities Department follows SCDHEC guidelines and will send a report within 24 hours including clean-up performed and corrective action plan assessed. Since each spill and related cleanup is so diverse, they do not have particular procedures identified for each type of spill. The Utilities Department follows SCDHEC guidelines in their submission of reports and submits monthly reports with all the findings. Any sewage seepage detected during dry weather screening is addressed.

For the specified time of this report (July 1st, 2022, to June 30th, 2023), seven SSOs were designated as "reportable" to the South Carolina Department of Health and Environmental Control. The spills ranged in size from about 200 gallons to 3,400 gallons. The total number of gallons lost from SSOs (reportable and non-reportable) from July 2022 to June 2023 was 11,500. In addition, several SSOs were due to negligence by construction companies, damaging RCU infrastructure. These were unforeseeable by Richland County Utilities (RCU), and yet RCU actively spot-checks job sites to ensure compliance with the PUPS program.

RCU has an updated, efficient, and effective electronic alert system through the DFS, OMNI program, and High Tide Technologies alert systems. These systems are connected to all pump stations with dedicated secondary alarms to the major lift stations in the area of operations. These

systems generate an automatic alert sent to the on-call phone pager. If these alerts are not acknowledged, a calling tree series of automated calls to all RCUs goes into effect until the alarm is acknowledged. In addition, the redundancy of these technologies, which sets as an additional safety protocol for the major pump stations, generates an alarm that automatically goes to all RCU personnel regardless of acknowledgment.

RCU installed the Supervisory Control Data and Acquisition / Data Flow System (SCADA/ DFS) at pump stations within the collection system. The SCADA unit is a system that allows lift stations to monitor and control. This allows staff to control the system remotely as required, potentially eliminates the delayed response to emergency alarms, and limits future SSOs. The SCADA system will replace all OMNI and High Tide Technology at all RCU's pump stations. Most stations become SCADA monitoring in RCU sewer and water systems. It is worth mentioning that RCU tracks the SSO using its ArcGIS system. That provides more up-to-date information to the maintenance, operational, and engineering teams to work on the cause of the SSOs and provide practical solutions to prevent these spills in the future. Also, RCU uses a hydraulic sewer system model for the amount of the SSO when information is available.

In addition to the electronic monitoring and controlling process, all lift stations in the area of operations can pump peak flow volume (PFV) if the primary pump becomes disabled, as all the stations have at least one pump of equal power as a backup. Large pump stations also have onsite generators or diesel-powered backup pumps capable of powering the pump stations at PFV until normal power is restored. Small pump stations are provided with electrical connections connected to a portable generator for generating power. RCU supplies fuel to these generators using its portable fuel tanks, which stand by at its facilities until a contractor takes over to provide energy for these generators.

RCU started installing the Supervisory Control Data and Acquisition / Data Flow System (SCADA/ DFS) at the Broad River WWTP. The SCADA unit is a system that allows the plant operators onsite and offsite to monitor plant operations and critical systems.

RCU is aggressively combating Sanitary Sewer Overflows (SSO) and infiltration of sanitary sewage and septic seepage. As such, the maintenance staff has increased in size; this new personnel is trained not only to apply laws and regulations to perform their duties but also to perform the mechanical and practical aspects. Coupling this training with mission objectives, quality equipment, and access to reliable contractors, improve technicians' maintenance skills to make immediate decisions to contain or control any situation regardless of their tenure. Furthermore, full support from the Chain of Command at RCU is available 24/7.

The spill and clean-up procedures, included in the training for field maintenance crews, are for whoever receives a call for an issue related to the system to respond immediately onsite to resolve that issue. After ascertaining that the area of operation is safe to work in, the next step is to isolate and shut down the cause of the flow itself. Safety procedures are followed once the instantaneous flow stops to protect the surrounding area from further contamination. The risk to public health, the surrounding workforce, and the environment is minimized. Once the situation has stabilized, SSOs are reported to the proper authorities. Proper investigations will be performed to prevent future occurrences or minimize them.

Summary of plans, studies, evaluations or work performed (such as smoke tests, television camera inspection, ammonia test kits, or other information) to detect and address sanitary sewer leaks or to minimize the infiltration of sanitary sewage and seepage.

Upon responding to a sewer obstruction, maintenance crews will first determine if this obstruction falls under the responsibility of RCU. If there is an existing issue, the decision will be made based on what work must be done to rectify the problem.

RCU uses the SL-RAT system and CCTV to monitor the health of the gravity sanitary sewer systems. Furthermore, the plan will be conducted as needed to test the system following events, such as after significant weather or indications that cause the reliability of the lines to be compromised.

Maintenance crews are performing camera inspections when necessary to locate blockages, bellies, and other potential sources of sewer obstructions. Maintenance crews have found and repaired several sites where inflow and infiltration (I/I) were prevalent. In addition, maintenance has raised several manholes which were in floodplains. There are plans to raise/rehabilitate more in the near future.

Maintenance personnel are currently replacing the defective or less efficient air release valves in the system to reduce the potential of the SSOs.

Work identified/performed in correcting any sewer cross-connections-RCU has installed proper backflow prevention devices where there is the potential for the sewer to be introduced to water systems. These backflow prevention devices are tested and certified as required by qualified individuals.

Summary on measurements taken to seal sanitary sewer lines - RCU has taken a proactive approach to seal sewer lines and rehabilitate manholes by thoroughly inspecting surface lines and manholes by responding to any issues with long-term and permanent solutions. Performing these actions is proven to be effective and efficient in reducing infiltration and preventing SSOs from occurring.

Summary of approach to eliminate sanitary sewer failures - As mentioned above, RCU takes an aggressive, professional, and dedicated stance on the issue of SSOs and their prevention. The philosophy, adopted not only by the Chain of Command, but also by field-level supervisors and all other workers, is that the prevention of an SSO far outweighs any response that can be mustered during or after one has occurred. Having stated that understanding, a reiteration of crucial points of this program is not without merit, as this further reinforces the main points of the response and reaction.

RCU maintains the necessary equipment and material to repair manholes, risers, and lids, which are on standby for immediate deployment as needed. Visual inspections of these lines using the SL-RAT and CCTV are conducted continuously. Also, because part of the procedure 4 of Right-of-Way maintenance and mowing is to inspect the condition of manholes and lines visually, this further increases the chances of identifying any problems with the lines. The technicians identify the issues, mark them with paint, and immediately report any damages or issues to their

supervisor. In addition, the inspection of lines is optimized by integrating the SL-RAT with the GIS layout of our sewer system and computing the SSO amount using the hydraulic model. Utilizing these procedures allows for accurate and real-time system updates and identifying potential future hazards or issues.

Personnel is trained in the mechanical aspect of the system and the operations side, ensuring that there is at least an understanding of how the entire system works from the time the wastewater enters the system. Adequately treated and released into the outfall. Safety, communication, and a working knowledge of the system and its relationship to the community are key points to preventing an SSO and anticipating where a problem may arise. These attributes, combined with the necessary equipment, access to contractors, and the ability of all personnel to make, informed decisions at the scene, add to maintaining a safe environment.

All crews are instructed to inspect the pump stations at least twice weekly, including the onsite generators, floats, transducers, and other necessary components. Accountability and documentation of these actions are also critical. Therefore, a consistent form was compiled for each pump station to record all observations at inspection time. These sheets are collected monthly and reviewed by the Maintenance Supervisor. They understood that any deviance in the usual operations of the pump station was to be immediately reported to the appropriate person for immediate action.

Our active compliance personnel conduct monthly inspections and enforcement to control fats, oils, and grease (FOG) in RCU's sewer system. Public education is also critical in preventing SSOs, such as informing homeowners about how to identify potential issues, when tanks should be pumped, and what is and is not appropriate for disposal into the system. The FOG program also enforces this doctrine at a commercial and residential level, ensuring quality standards are equally applied across the system. Combining these efforts into a concise method of operations has allowed RCU to react and, more importantly, reduce and prevent the number of SSOs in our area.

Update on the Septic Elimination Program-The Septic Elimination Program for Lower Richland has been contracted to a consulting and engineering firm. The plan for septic elimination has been approved and will be implemented accordingly. Where residents have available access to RCU sewer, they will be required to connect to the new systems operating in the Southeast Richland County area. As property ownership is changed, RCU requires new owners to change the LETTS system to the STEP 5 system per RC's code of regulation section 10.1. RCU staff has taken an active role in evaluating any plans, proposals, etc., submitted by consulting firms, engineers, developers, etc. for adequacy, appropriateness, completeness, compliance with RCU regulations and standards, etc.

It is worth mentioning that RCU, School District 1, and SCDHEC are working to close the lagoon system at Hopkins Middle School, Hopkins Elementary School, and Gadsden Elementary School. The first two lagoons' closure is complete.

Summary of implementation of Stormwater Pollution Prevention Plans (SWPPPs)-Broad River Waste Water Treatment and Lower Richland Waste Water Treatment Plants including, but not limited to,

monthly inspection reports, annual inspection reports, spill leak forms, etc.-RCU carries out regular inspections following the guidelines stated in the SWPPP permit. In addition, county Stormwater department employees also conduct annual stormwater inspections of Broad River and Eastover WWTPs, including walking tours and stormwater program oversight.

Measures to improve operational standards with innovative techniques to reduce probable pollution of stormwater- A Smart cover flow meter continuously monitors flows at the manholes upstream of each major pump station. This is used to monitor the inflow trend to the treatment facility and help identify possible infiltration and inflow (I&I) in the collection system. Also, RCU Maintenance staff periodically runs an onsite sewer line assessment using SL-RAT to the sewer system's integrity to minimize SSOs.

Employee Training – The Public Works Department offers an annual “All Hands” meeting. All employees in the Public Works Department are required to attend. A variety of topics are covered at this meeting including, but not limited to, Spill Prevention and Control, Good Housekeeping Practices, Illicit Discharge Detection and Elimination, and Roadway Maintenance Pollution Prevention.

RCU Maintenance, Operations, and Engineering staff regularly attend conferences, training sessions sponsored by WEASC, on-site training given by vendors, confined space entry training, on-the-job training, tailgate safety meetings, informal one on one training, etc.

Public education and outreach that has stormwater relevance-Various educational outreach tours are held at the Broad River WWTP for elementary through high school classes, college environmental courses, and various civic groups that discuss stormwater impacts on the operation of wastewater collection and treatment systems and stormwater impacts on the receiving waters that WWTPs discharge into. With the lifting of the Covid-19 health emergency declaration, tours at the Broad River WWTP have resumed.

Assessment of Controls

The County has a fully implemented Illicit Discharge Detection and Elimination Program. The County’s efforts to effectively prohibit illicit discharges through inspections, reporting, and increased awareness may have resulted in a decrease in the number of suspected illicit discharges. RCU implemented an aggressive monitoring, reporting, and response system for SSOs.

Measurable Goal Summary

1. How can the public notify the MS4 of suspected illicit discharges?

Citizens can contact the Stormwater Management Division or the Ombudsman’s office at 803-929-6000.

Complete the list below for the last reporting year:

Total number of suspected illicit discharges investigated by Richland County Stormwater:	4
Total number of illicit discharges found by Richland County Stormwater:	1
Number of suspected illicit discharges/improper disposal City of Forest Acres:	2
Number of illicit discharges/improper disposal reported by City of Forest Acres:	0
Number of proactive dry weather inspections:	226 major outfalls screened
Number of SSOs investigated by Stormwater:	1
Number of SSOs investigated by Richland County Utilities:	7
Number of SSOs reportable to DHEC by Richland County Stormwater:	1
Number of SSOs reportable to DHEC by Richland County Utilities:	7
Number of NOV's issued related to Fats, Oil & Grease program:	11
Number of household hazardous materials collected at hazardous material recycling even and at Community Collection Events by Solid Waste::	8.86 Tons 4.8 Tons Fire Extinguishers/Propane Cylinders
Number of recycled material collected by Solid Waste:	1248.8 Tons Scrap Metal 248 Tons E-Waste 8.38 Tons Lead Acid Batteries 1076.3 Tons Tires 0.75 Tons Fluorescent Bulbs 233.7 Tons Mattresses 65.55 Tons Latex Paint 34.27 Tons Used Oil 4.84 Tons Used Oil Filters 2.83 Tons Used Antifreeze

2. Use the table below to summarize IDDE action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

IDDE Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Update dry weather screening/IDDE manual.	Review manual to see if there are any updates	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Completed by June 30, 2017.
Identify all field screening points	Work with GIS to identify new outfalls	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	GIS updates outfall inventory throughout the year.
Update illicit discharge inspection form	Review form to see if any changes need to be made due to new permit	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Completed in July of 2016.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?
<p>This program is successfully implemented. All stormwater staff is trained in the proper response procedure in identifying and responding to an illicit discharge and other departments are trained on proper illicit discharge inspection and reporting procedures. Richland Utilities has a robust program to identify sewer leaks, repairs and upgrade infrastructure, and respond to sanitary sewer overflows.</p>
2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:
<p>Transitioning to a digital inspection form that will automatically map the location of illicit discharges will ease in drawing a correlation between potential increases in pollution levels in monitoring data. The Stormwater Division, working with the County's GIS Division, fully implemented this change in 2022.</p>

H. Minimum Control Measure 8: Industrial Runoff

Objective

Implement a program that monitors and controls pollutants, to the MEP, in stormwater discharges to the County's MS4 from industrial facilities.

General Discussion of SWMP Element

Legal Authority - Richland County's ordinance, Section 26-203 provides the County with authority for inspectors to implement the inspection schedule.

Facility Inventory - The County maintains an inventory of all industrial facilities and updated procedures for inspecting, monitoring and responding to non-compliance at industrial facilities. Updates include identifying and controlling pollutants in stormwater discharges to the Richland County MS4 from any municipal landfill(s), hazardous waste treatment, storage, disposal (TSD) and recovery facilities, and facilities that have reported under the requirements of the Emergency Planning and Community Right to Know Act (EPCRA) Title III, Section 313. The list is updated annually and includes the closest waterbody, watershed, and sub watershed that the facility drains to. The inventory of industrial facilities is included in Appendix G.

Inspections - Any facilities that have closed/moved were removed from the facility inventory. Landfills are included in the inventory and are inspected annually. By the end of this reporting year, there were 133 facilities on the list. All 133 facilities have been inspected. The County will continue to implement the program by inspection twenty-five percent (25%) of the industrial facilities in the upcoming permit year. In addition to updating the industrial facility database, the inspection report includes detailed information such as receiving waters, priority classification, and County tax map number. Before an inspection, the facility is contacted to schedule a date and time that a representative can be present. The County inspector walks the site and notes any concerns during the inspection. A follow-up letter and inspection form are submitted to the industry concerning any deficiencies found. If there is a significant deficiency, a NOV is submitted to the industry and a follow-up inspection is conducted.

All inspection reports are filed in the central repository in the Stormwater Management Division's Office and are available upon request. A list of inspected industrial sites is provided in Appendix G.

The industrial program has continued to grow and evolve. One such way was the development and testing of a digital inspection form to replace the current paper form. Richland County GIS Division has developed the form and presented it for field-testing in April of 2021. It is an ESRI based platform, using the Survey123 app. Stormwater personnel began testing the form and has provided feedback. The form was successfully implemented in November 2021.

Monitoring - The County implemented a self-monitoring program for industrial sites. The majority of the industrial facilities inspected by the County are covered under the SCDHEC IGP and perform their own monitoring. The IGP permittees perform monitoring at industrial facilities, and the Stormwater Division checks that results are maintained at the facility during inspections.

The County did not find evidence of industrial facilities non-compliant with their monitoring requirements. If the County has a reason to believe, through analysis of its monitoring program, that an industrial site is the source of the discharge of pollutants downstream the County has the legal authority to inspect the site and conduct additional monitoring.

Assessment of Controls

The Industrial Runoff Program is fully implemented. The COVID-19 pandemic concerns forced many industries to suspend operations or go to a no visitor policy in 2020. Therefore, there were no inspections completed in the latter half of 2020 and early 2021. However, industrial inspections have resumed and a total 42 inspections were conducted in this reporting year. All industrial facilities have been inspected within the allotted timeframe of the permit.

Measurable Goal Summary

1. Complete the list below for the last reporting year:

Total number of inspections performed:	42
Number of sites with unsatisfactory/noncompliant inspection results:	0
Number of active industrial users in Richland County:	133
Number of sites with enforcement escalation (action taken beyond written warning):	0
Percentage of industrial facilities inspected:	100%

2. Use the table below to summarize industrial runoff action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

Industrial Site Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned (specific implementation dates)
Develop and begin testing digital inspection form to replace current paper form.	Complete testing and implement new form.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	The digital inspection form was tested and successfully implemented in November 2021.
Review and update Industrial Runoff program SOP.	SOP update completed.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Started using updated SOP in July 1, 2017 in daily activities.

Industrial Site Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Ensure new water quality industrial monitoring plan includes consideration for industrial runoff.	Locate wet weather stations at industrial outfalls.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	The County's monitoring plan is focused on TMDL, 303d listed and sensitive waters. The County provides general oversight of industries to ensure they are following the monitoring plans in their IGP. If any questionable spikes in County collected samples/monitoring data, occur that may point towards an industrial facility as the potential source, more targeted monitoring at or near the industrial facility will be considered.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

This program is successfully being implemented. All industrial inspections have been completed within the permit term.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

The Division has converted paper inspection forms to a digital inspection form in November 2021. The conversion to a digital inspection form automatically maps and inventories locations, while keeping the reports tied to each facility. This form conversion has been successfully implemented.

I. Minimum Control Measure 9: Construction Site Runoff

Objective

Reduce erosion and sedimentation associated with construction sites by implementing the appropriate ordinances and procedures to require the design, installation, and maintenance of effective pollution prevention measures for construction site operators.

General Discussion of SWMP Element

Richland County continues to implement its sediment and erosion control standards. The County has developed and implemented a Land Development Manual that will fully incorporate the changes required in the MS4 permit and the Construction General Permit.

Plan Review and Approval - Sediment & Erosion Control Plan Reviews are performed by the Community Development and Planning Department. The Community Development and Planning Department also conducts plan reviews for the Town of Arcadia Lakes and the City of Forest Acres. Richland County utilizes a plan review checklist to review submitted information prior to approval and issuance of a land disturbance permit. The checklist includes items to ensure that sediment and erosion control measures during the land disturbance and stormwater management practices are completed and adequate.

County staff can take a maximum of 18 days to complete the first stage of the plan review. Any modifications or changes to be made are then discussed and resubmitted for further review. Plan review is all completed electronically. A plan submittal may not be submitted to the County for review until all required items are included. Any questions or issues that arise during plan review are followed up on prior to approval.

Chapter 26 of Richland County's ordinance establishes regulations for erosion and sediment control, land development regulations, zoning, and landscape requirements. The Enforcement Response Guide for Stormwater Management and Floodplain Management programs addresses the appropriate enforcement actions related to specific violations. The County's Land Development Manual and ordinance provide the requirements related to permit approval and the specific erosion and sediment control BMPs required. Guidelines for site specific SWPPPs are also included in the Land Development Manual and on the Richland County Development Services website.

Qualified County staff conduct plan and SWPPP reviews. Richland County provides training for the plan reviewers through Clemson's Certified Stormwater Plan Reviewer (CSPR) certification program.

Richland County reviews SWPPPs to verify that consideration has been given to TMDL waters, 303(d) impaired waters, wetlands, and sensitive waters and what water quality impacts the discharges may have. The Land Development Manual includes special design provisions for construction projects that disturb 25 acres or more and discharge to a TMDL or impaired waterbody to have BMPs in place during construction and after construction to meet antidegradation requirements.

Additional information on the process of plan review, inspection, and enforcement is provided on the County's website: <http://rcgov.us/DevServ/QuickLinks/CodesandRegulations.aspx>

Sediment and Erosion Control Inspections - The Community Development and Planning Department conducts sediment and erosion control inspections on all sites undergoing construction weekly and after large storm events. These inspections continue throughout all phases of construction, until the project is closed out. When applicable, the inspection includes enforcement actions as required in the County's Enforcement Response Guide for Stormwater Management and Floodplain Management programs. Community Development and Planning Department Inspectors are authorized by Richland County to enforce the requirements of the Land Development Ordinance and Land Development Manual.

If a deficiency is found the site is given a NOV or Stop Work Order (SWO) depending on the level of deficiency. NOVs are submitted in writing and a card is posted onsite if immediate compliance is required. The Division gives the violator seven (7) working days of the inspection to comply. A SWO halts all land disturbing activity. A SWO shall be submitted in writing and a card is posted onsite immediately.

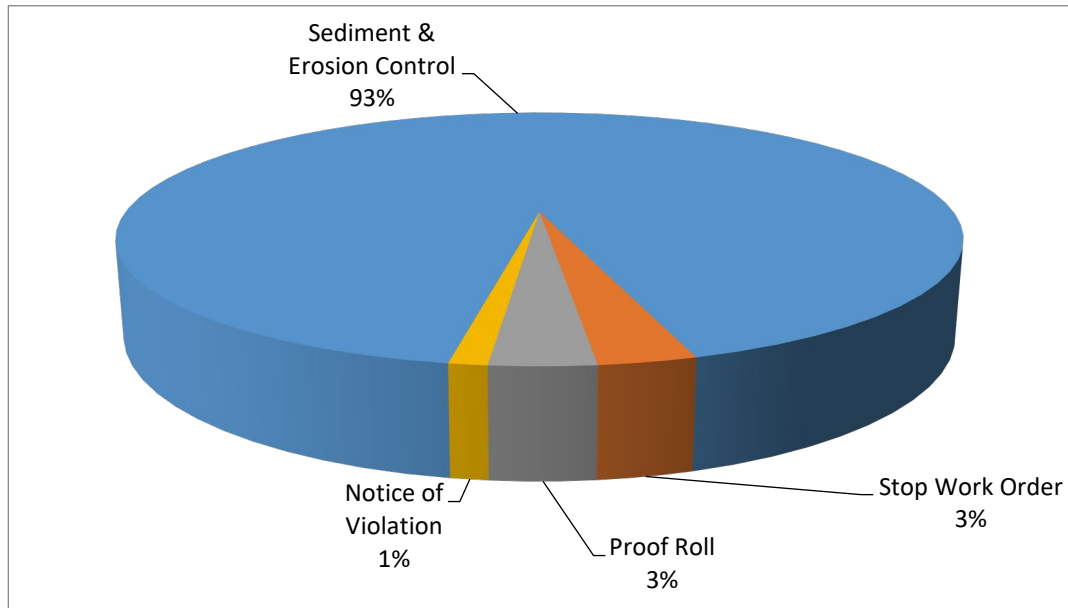
If there is any off-site impact, it is deemed a failed inspection. Failed inspections are given the opportunity to submit and act upon a corrective action plan approved by the Community Development and Planning Department.

The New Development Division recently relocated to the Public Works Development to improve communication efforts and quality management of new construction and transportation projects. This division has three inspectors who are assigned specific areas of the County where they conduct sediment and erosion inspections, road construction inspections, and special investigations.

This year continued presenting challenges to the compliance staff due to a staff shortage, budget reductions and, COVID-19. Despite these challenges, compliance in the field remained high. Inspectors, plan reviewers, and public works staff will continue developing positive working relationships with the developers, and made "Education and Outreach" a big part of the inspection process. This effort in collaboration and communication provided greater understanding and appreciation among the regulated community of MS4 requirements and County expectations. The judicious use of enforcement tactics, i.e., NOVs and SWOs along with a more positive interaction with the regulated community has led to greater compliance in the field. While the threat of a SWO is immediately effective in bringing about corrective action, education and outreach for the regulated community appears to have an extremely beneficial effect as compliance and collaborative efforts between the permit holders and compliance staff increased.

New Development/Public Works Engineering Inspections

Total Inspections from June 2022 to June 2023



<u>Year</u>	<u>2023</u>
Sediment & Erosion Control Inspections:	1525
Final Inspections:	80
Proof Rolls:	55
Notices of Violation:	20
Stop Work Orders:	51

TRAINING/COMMUNITY OUTREACH:

Education and training measures for construction site operators and those associated with the implementation of sediment and erosion control measures for construction is on-going. Budget cuts, staff reductions and COVID – 19 impacts continue to present challenges in our efforts to train inspectors. As Richland County hire more inspectors and increase training, outreach to communities is the focal point in creating partnerships with our citizens to increase their knowledge, understanding, and improving their actions towards compliance.

The New Development Team meets with developers, builders, engineers, contractors, surveyors, and all others associated with land development and the Land Development Manual. These meetings are held at different sites to accommodate all parties, with some of the meetings held off-site and hosted by various firms. The purpose of these meetings is to create a venue where a greater understanding of the inspector's jobs and duties can be developed with the regulated community and community at large. This also provides an excellent opportunity for the regulated community to converse with Richland County about a host of topics and the exchanging of ideas to address concerns from both the community and County. There were two very effective sessions held

this year with Executive Construction/Tier Homes and also with Mungo Homes.

INSPECTION STAFF:

INSPECTOR	PRIMARY DUTIES	SECONDARY DUTIES
Robert H. (Hop) Ridgell	MS4 Inspections	Special Investigations & Roads
Ryan Kopp	MS4 Inspections	Roads & Drainage
Lee Thomas	MS4 Inspections	Roads & Drainage
Tommy Delage	Floodplain Coordinator	Inspections
Shirani Miller	Plan Review/Oversee Engineering Division	N/A

Inspections Team – Supervisor and 2 Inspectors

Certified Erosion Prevention and Sediment Control Inspectors (CEPSCI) (All)

Certified Asphalt Roadway Technician (1)

Certified Earthwork, Drainage & Base Inspector (1)

Certified Nuclear Gauge Safety Training Program (1)

Plan Review (1)

Certified Floodplain Manager (CFM) (1)

Assessment of Controls:

Richland County has sediment and erosion control plan review procedures and an Enforcement Response Guide in place. In addition, a Priority Decision Matrix to aid in construction site inspections.

The judicious use of enforcement tactics, i.e., Notices of Violations and Stop Work Orders along with a more positive interaction with the regulated community has led to greater compliance in the field. While the threat of a Stop Work Order is immediately effective in bringing about corrective action, education and outreach for the regulated community appears to have had an extremely beneficial effect as compliance has become a collaborative effort between the permit holders and compliance staff. The number of construction sites decreased slightly in 2022 from 412 to 362 respectively.

Measurable Goal Summary

1. How can the public notify the MS4 of possible noncompliance at construction sites?

Citizens can contact New Development or the Richland County Ombudsman's office at 803-929-6000.

Complete the list below for the last reporting year:

Total number of active construction sites:	362
Number of stop work orders:	51
Number of notice of violations:	20
Number of proof rolls:	55
Number of sediment erosion control inspections:	1525

Number of new stormwater BMPs approved:	0
---	---

2. Use the table below to summarize construction and post-construction site action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

Construction Site Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Review construction SOP. Update as necessary.	Make changes to the construction SOP during the creation of the land development manual.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Finalize construction SOP after land development manual approval.
Identify additional local trainings for staff to attend.	Send staff to sediment and erosion control training as it becomes available.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Schedule staff to attend trainings yearly to the MEP.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program’s strengths?
The successful implementation of improved technology in the Community Development and Planning Department allowed the program to continue during the COVID-19 shut down. During the last year Community Development and Planning improved consistency from all of the inspectors which increased compliance from the regulated community. The Department seldom sees more than 5% non-compliance rate on a weekly basis.
2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:
Increased coordination between Community Development and Planning and the Department of Public Works though this should improve with the start of monthly Public Works and Community Development and Planning meetings.

J. Minimum Control Measure 10: Public Education & Public Participation

Objective

Distribute educational materials or conduct equivalent outreach activities about the impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff.

General Discussion of SWMP Element

Town of Arcadia Lakes, City of Forest Acres, and Richland County must implement a public education program to distribute educational materials or conduct equivalent outreach activities about the impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff. The successful implementation of each component of the SWMP requires the education and input of all residents of Arcadia Lakes, Forest Acres, and the unincorporated areas of Richland County.

Richland County's Stormwater Division has a full-time outreach and public involvement coordinator. The County has a comprehensive public outreach plan.

Identify and Analyze Pollutants of Concern – Richland County has identified the pollutants of concern (POC) for the County's MS4 area. These include *E. coli*/Fecal Coliform, phosphorus/nutrients, and litter.

Richland County staff analyzed the POCs and narrowed down their sources to better target pollutant-focused programs. Richland County waterways have a great economic and recreational value that encourage the public to be more involved in maintaining and improving the water quality. TMDL watersheds, impaired waterbodies, and input from the County's monitoring results were also considered.

Program Highlights – During the 2022-2023 permit year, Richland County addressed POC-targeted outreach through conferences, training, events, youth outreach, targeted online advertisements, and sales.

The annual "Blue Thumb Landscaper Conference" targets lawn maintenance professionals and landscape architects. Topics in the conference's seventh year included fungi and soil health, planting for pollinators, general housekeeping of chemicals, snakes, invasive species, floating wetlands, general pesticide safety, and managing pesticide resistance. The conference was held in person for the first time since the Covid-19 pandemic with 25 attendees, 6 of whom were able to achieve their continuing education credits for pesticide and herbicide applicators licensing. The "Blue Thumb Landscaper" program also hosted two rain barrel and compost bin sales during which citizens were able to purchase rain barrels and compost bins at a discounted price while learning about the importance of composting to reduce landfill waste, reducing use of fertilizers in gardens, and recycling roof runoff. These sales resulted in 134 rain barrels and 71 compost bins being distributed.

"Trash the Poop" is an ongoing program that works to encourage pet owners to pick up their pet waste and educate the public on how this affects water quality. The program includes sponsoring neighborhoods to receive free pet waste stations that the neighborhood can maintain, mass media

campaigns, and the distribution of leash bag holders and pet waste bags. Every year Richland County partners with the City of Columbia and the Columbia Fireflies baseball team to host the Trash the Poop Dog Days of Summer at the Fireflies games, during which attendees bring their dogs to the games. This year Lexington County also joined in on our efforts and partnered with us for the 2023 Fireflies season. During the 2023 season, and a portion of the 2022 season, the ‘Trash the Poop’ program was able to make knowledgeable interactions with over 402 fireflies guests and provided almost as many leash bag holders and pet waste bags. Segra Park has since reported a large decrease in pet waste seen during these games.

The “Drains Aren’t Dumps” campaign communicates the message about how illicit discharges and illegal dumping affects water quality. While COVID-19 is still having effects on citizen engagement and activity, youth environmental programs in the school system came forward with interest and painted multiple different storm drains within elementary school property in order to educate children on the importance of clean stormwater. Another component of the Drains Aren’t Dumps campaign is the geocache series. Community members in Richland County (and beyond) used the Geocaching app to find caches that were located near storm drain inlets that were painted in 2019. Since the program began, 177 people have interacted with the cache and learned about illicit discharges in the process.

In 2018, the Division’s Outreach Program Coordinator wrote a children’s activity book called “Tessa’s Tale” in which a rainbow trout’s habitat is impacted by land disturbance and pollutants entering a waterway. The book teaches young environmentalists about water chemistry and can be used for a wide variety of ages and younger audiences. The book has since been illustrated and reviewed by a subject expert and is soon to be distributed to the public.

The City of Forest Acres City Council funded in the budget a targeted recycling educational tool called Waste Wizard. Waste Wizard is an online tool that allows users to sign up for notices about recycling pickup and provide online interactive games to teach people about property recycling. Through an enhanced recycling program, the City feels more debris can be properly disposed of and less will find its way into the watershed.

The City of Forest Acres hosted an annual litter cleanup event called Sweep the Acres on April 1, 2023. The event was advertised through social media and local media channels. The event saw over 125 volunteers and an 8-yard dumpster was filled with collected litter. <https://www.wistv.com/2023/03/28/talkin-trash-tuesday-sweep-acres-forest-acres/>.

The City of Forest Acres posted information on the City’s Facebook page on June 22, 2023, about how to properly dispose of yard debris and 2,500 people were reached with this post. On May 11, 2023, an advertisement for Columbia Water was posted on the City’s Facebook page about the issues with Fats, Oils, and Grease and 2500 people were reached with this post.

The Richland County Conservation Division works directly with the Commissioners of the Richland Soil and Water Conservation District and Richland County Conservation Commission to implement the responsibilities of the District and Commission. The Division also consults with and advises County Council and the County Administrator regarding the conservation and protection of Richland’s natural, cultural, and historical resources.

During the reporting period, the Conservation Division held many Stormwater related workshops and education events that reached over two-thousand individuals. Below is the list of activities conducted by the Conservation Commission:

Teachers & Environmental Educators:

- RSWCD awarded 10 Conservation Education Mini-Grants totaling \$7,000 to support conservation projects such as school gardens at local schools.
- RSWCD educators provided mentorship and technical support to teachers at 15 schools through the SC Green Step Schools program. Green Step projects included school gardens, composting, and rain barrels.
- In partnership with the Environmental Education Association of SC, RSWCD provided 7 professional development and networking events for more than 209 educators across the state in FY23. Topics included soil health and water quality education. K-12 Students.
- RSWCD delivered 86 conservation programs to 2,146 students at 23 schools and education sites during FY23. Topics included watersheds and water quality, soil health and composting, pollinator conservation, and school gardening.
- 75 students at 9 schools participated in RSWCD's FY23 "One Water" conservation poster contest; 20 students received awards for their entries. Posters raised awareness about water quality and the importance of water conservation.
- RSWCD sponsored and co-hosted the 2023 SC Envirothon competition for approximately 95 high school students from across the state. Aquatics and water quality is one of six topic areas of the competition, and students learned about water quality and water conservation through participation in the competition.

General Audiences:

- RSWCD offered free access to an Adopt-A-Stream water quality monitoring kit to local water quality monitors. The kit was used by three volunteers for monthly water quality monitoring in Richland County.
- RSWCD delivered 12 community presentations to more than 405 participants to raise awareness about pollinator conservation, soil health, water quality, and other conservation topics.
- RSWCD distributed more than 5,372 seed packets to residents through the Richland County Seed Sanctuary. RSWCD opened a second physical location for the Seed Sanctuary in the Richland County Administration Building and hosted 10 Pop-Up Seed Sanctuary events at local festivals and farmers markets, reaching more than 700 residents. The RSWCD also hosted 8 seed packing parties during FY23, engaging more than 113 community volunteers in this community service. The Seed Sanctuary program promotes home gardening, pollinator conservation, and food security in Richland County.
- RSWCD partnered with Columbia Water to present quarterly Blue Thumb Awards to Seed Sanctuary volunteers to celebrate their work while promoting water conservation practices. These awards were publicized on social media and in the Richland SWCD's e-newsletter.

Marketing & Communications:

- Stormwater-related social media outreach was conducted through the Richland SWCD Facebook Page (1,190 followers) and Instagram (703 followers) accounts.
- The District published monthly e-newsletters which included information about water conservation efforts to 3,880 recipients.

Other Efforts:

The Richland County Conservation Commission approved a Natural Resources Grant for a restoration project on the grounds of Stormwater Studios art center. They will remove non-native and invasive plant species and replant with native plants to protect Kinsler Creek before it joins the Congaree River in downtown Columbia.

The RCCC protects over 1,200 acres of forests, wetlands, agricultural lands, and other green spaces through conservation easements with 32 Richland County property owners. Many of these properties were approved for easements because of the protection they afforded to associated wetlands, streams, and rivers in priority watersheds. Annual monitoring of these properties ensures that protection continues with time and ownership changes.

The RCCC manages the approximately 1,400-acre Mill Creek Mitigation Bank (MCMB) which provides mitigation credits for development projects in the Midlands and around the State. Located next to Congaree National Park, the MCMB permanently protects bottomland forest on the banks of the Congaree River.

The RCCC manages more than 2,400 acres of conservation lands for sustainability and potential recreational opportunities. As with the conservation easement program, these properties were approved for the protection they provide in priority watersheds and in areas with high development pressure.

Solid Waste Education Outreach:

- Coordinated with Richland County PIO to create and schedule “Too Good to Trash” social media postings for ongoing campaign.
- Printed and distributed Talkin’ Trash and Recycle Richland brochures providing information on proper disposal of solid waste and recyclable materials.
- Community Meetings and Events to discuss options available to residents for difficult to dispose of items/materials.
- Participate in Palmetto Pride/Keep Midlands Beautiful Regional Meetings.
- Solid Waste Collections Inspectors monitor and tag non-compliant piles of yard waste, debris and carts curbside while educating and informing residents on how to correct and/or properly dispose of material.

Digital Outreach – During the 2021-2022 permit year, Richland County Stormwater continued to focus its efforts on mass media campaigns and digital outreach. Those tactics were so impactful (and COVID-19 was still affecting the community) that the Division continued using them for the 2022-

2023 permit year as well. Two new videos were created during the latest permit cycle including a training on illicit discharge detection and elimination, illegal dumping, and spill control, as well as an informational video about detention pond upkeep, maintenance, and inspection. This training video was featured on a department wide training, where 112 individuals were assigned to watch the video and then take a quiz on the subject. The detention pond video was distributed to the public.

Through partnerships with Buonasera, Free Times, Natural Awakenings, and Richland County Public Information Office, Richland County covered illicit discharges, illegal dumping, litter prevention, proper yard debris disposal, pond maintenance, storm drain marking, PHFs, and pet waste disposal using billboards, OTT, targeted emails, newsletter articles, digital ads, and print ads. Digital outreach topics were developed based on the target POCs, upcoming events, and geographic areas in which impaired watersheds are located.

Assessment of Controls

The numbers listed below reflect outreach events conducted by Richland County Stormwater. These assessments are useful for evaluating a single event or specific topic but may not show overall behavior change.

Measurable Goal Summary

Number of people reached via internet resources, targeted outreach and billboards	7,934,792
Number reached via events:	402
Number reached via sales and conferences:	236
Number reached via workshops & trainings:	207
Number reached via workshops & trainings	155

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?
The County has a fully implemented Public Education and Public Participation Program. By changing the outreach platform and approach to a digital format, the County was still able to maintain the ability to execute most of the requirements outlined in the permit.
2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:
Not Applicable

V. Monitoring Activities

A. Objective

As directed in its MS4 permit, the County continues to implement appropriate monitoring activities directed at the improvement of water quality conveyed by its MS4. Overall objectives for monitoring are to 1) characterize the quality of stormwater conveyed through the County's MS4, 2) assess in-stream water quality conditions in impaired watersheds across the County, 3) assess and observe water quality conditions in TMDL watersheds as outlined in the County's TMDL monitoring plans, 4) observe the biotic health of sensitive waters found throughout the County and 5) decrease (ideally eliminate) pollutants entering stormwater runoff and discharging into waters of the State to the Maximum Extent Practicable. To meet objectives 1 through 4, the County continues to implement the monitoring activities described in its MS4 NPDES Monitoring Plan (Appendix K) and summarized in this section. To meet objective 5, the County continues to implement its dry weather-screening program, described in Section G of this report.

B. General Discussion of SWMP Element

As directed in its MS4 permit, Richland County developed and continues to implement a monitoring program consisting of three (3) main elements: An Impaired Waters Monitoring Program, a TMDL monitoring program, and a Sensitive Waters Monitoring Program. The activities conducted under these three programs are outlined in the County's Monitoring Plan (Appendix K). These monitoring activities aid the County in understanding the impact of its MS4 on receiving waterbodies and in tracking water quality in its receiving streams. As part of its Monitoring Plan, the County collects ambient samples, wet weather samples, macroinvertebrate samples, and conducts continuous monitoring of dissolved oxygen, as appropriate.

C. Ambient Water Quality Monitoring Program

Richland County has developed and implemented a water quality-monitoring plan designed to meet requirements contained in the County's permit, while also informing the County on water quality conditions in waterways that receive discharge from the County's MS4.

The County's monitoring plan includes three major components:

1. **TMDL Monitoring:** The County's TMDL monitoring relies upon wet weather sampling at selected outfall locations.
2. **Impaired Waters Monitoring:** The County's impaired waters monitoring program primarily involves the collection of in-stream water quality samples to characterize conditions in impaired waterbodies. This information is supplemented with macroinvertebrate sample collection, sediment sampling, and periodic deployments of continuous dissolved oxygen (DO) sensors where appropriate, based upon the pollutant of concern.
3. **Sensitive Waters Monitoring:** This program includes the collection of macroinvertebrate samples in order to characterize overall stream health of sensitive waterbodies at locations in the County's MS4 area.

The County reviews and reports on data collected under its monitoring program in several ways. Under each of its TMDL Implementation Plans, the County reviews data collected in the corresponding TMDL watershed and includes results from that analysis as part of each TMDL Implementation Plan. All updated TMDL Implementation Plans are located in Appendix M. In addition to these reporting procedures, the County has initiated quarterly sampling reports to provide a more immediate overview of sample results as the implementation of its monitoring program continues. Appendix D includes all the quarterly reports from the 2022-2023 reporting period. Each report includes a brief description of the County's sampling program, an overview of the specific quarterly sampling activities, and highlights notable results. Lab results for the macroinvertebrate samples (2022-2023) and sediment samples (entire permit term) are included within the quarterly reports in Appendix D.

A summary of the TMDL, impaired, and sensitive's water sampling locations and samples collected in the 2022-2023 reporting year can be found in Tables 1 through 3 below.

Thirteen sets of samples were collected in each of the following quarters: 2022-Q4, 2023-Q1, and 2023-Q2. A full set was not collected in 2022-Q3 due to a lack of significant rain events. Only six of the eleven sets were collected. We were able to collect additional make-up samples for sites BER-TMDL-5 and HRS-TMDL-6 during 2023-Q1. No others were collected. The total number of samples collected for the 2022-2023 permit year was 47.

Table 1. TMDL Implementation Monitoring Stations Sampled in 2022-2023 Reporting Year		
Station Name	Abbreviated Station Name	Number of Samples Collected
Redbourne Lane	HLS-TMDL-1	3
Business Park Boulevard	CRN-TMDL-2	3
Dare Circle	GIL-TMDL-3	4
Hampton Trace	GIL-TMDL-4	3
Peake Road	BER-TMDL-5	4
Pine Grove Road	HRS-TMDL-6	4
Northpoint Boulevard	CRN-TMDL-7	4
Old Still Road	JAK-TMDL-8	4
Williamsburg Drive	BRD-TMDL-10	4
Jayne Lane	BRD-TMDL-11	4
Upland Trail Road	KLY-TMDL-13	4
Knightbridge Road	LJC-TMDL-14	3
Branham Road	TFM-TMDL-15	3

Two additional sampling sites were added in Q4-2022 with the first date of sampling occurring on 11/30/22. The new sites were:

- LJC-TMDL-14
- TFM-TMDL-15

During the 2022-2023 reporting year, there were several changes that took place at a number of impaired sites that affected the monitoring program. Below is a summary of those site/condition changes:

- **CGR-IMP-17**: Stopped sampling in Q2 2022 due to Congaree River Sediment Cleanup Project. This site was not sampled in this past fiscal year (Q3 2022 – Q2 2023) since this project was ongoing and the site was scheduled to be removed following the publishing of the final 2020/2022 303(d) list. Additional information regarding the decision to discontinue sampling at this site can be found in the Monitoring Plan in Appendix K of this report. Sampling at this site was officially discontinued following final publication of the 2020/2022 Combined 303(d) list in April 2023.
- **TFM-IMP-18**: This site was not sampled in Q3 2022 or Q4 2022 due to lack of flow at the site when the lab attempted to sample. Samples were able to be collected in Q1 2023 and Q2 2023.
- **GIL-IMP-21**: This is a newly established site for this fiscal year. Although sampling was scheduled to begin during Q3 2022, additional sampling was performed during Q1 2022 and Q2 2022. Lead sampling, which is the POC, was first performed on 8/30/2022 during Q3 2022.

Throughout the 2022-2023 reporting year, a total of seventy-four (74) samples were successfully collected from the following quarters: 2022-Q3, 2022-Q4, 2023-Q1 and 2023-Q2. As stated, samples were not collected at TFM-IMP-18 in both the 2022-Q3 and 2022-Q4 quarters. This was due to ambient conditions resulting in a lack of flow at the station.

All of the monitoring data for this program is currently being stored in the *Aquarius Samples* program.

Table 2. Impaired Watershed Monitoring Stations Sampled in 2022-2023 Reporting Year

Station Name	Abbreviated Station Name	Number of Samples Collected
Clarkson Rd at Cedar Creek	CDR-IMP-1/2	4
South Cedar Creek Rd at Unnamed Tributary	CDR-IMP-3	4
Bluff Rd at Toms Creek	TOM-IMP-4	4
Clement Rd at Smith Branch	BRD-IMP-5	4
Fairfield Rd at Crane Creek	CRN-IMP-6	4
Unnamed Tributary (to Smith Branch) at Bethune Court	SMI-IMP-7	4
Monticello Rd at Crane Creek	CRN-IMP-8	4
Muddy Ford Rd at Wateree Creek	WTR-IMP-9	4
Leesburg Rd at Mill Creek	MIL-IMP-10	4
Zeigler Rd at Toms Creek	TOM-IMP-11	4
Pineview Rd at Reeder Point Branch	RDR-IMP-12	4
Old Garners Ferry Rd at Mill Creek	CGR-IMP-13	4
Blackberry Rd at Toms Creek	TOM-IMP-14	4
Legrand Rd at Little Jackson Creek	LWK-IMP-15	4
Percival Rd at Colonels Creek	CLN-IMP-16	4
Sandfield Rd at Twenty-five Mile Creek	TFM-IMP-18	2
Cedar Creek Rd at Cedar Creek	BCD-IMP-19	4
Piney Woods Rd at Stoops Creek	SLD-IMP-20	4
Forest Drive at Gills Creek	GIL-IMP-21	4

Table 3. Sensitive Waters Monitoring Stations Sampled in 2022-2023 Reporting Year

Station Name	Abbreviated Station Name	Number of Samples Collected
Old Bluff Rd at Dry Branch	DRB-SEN-3	1

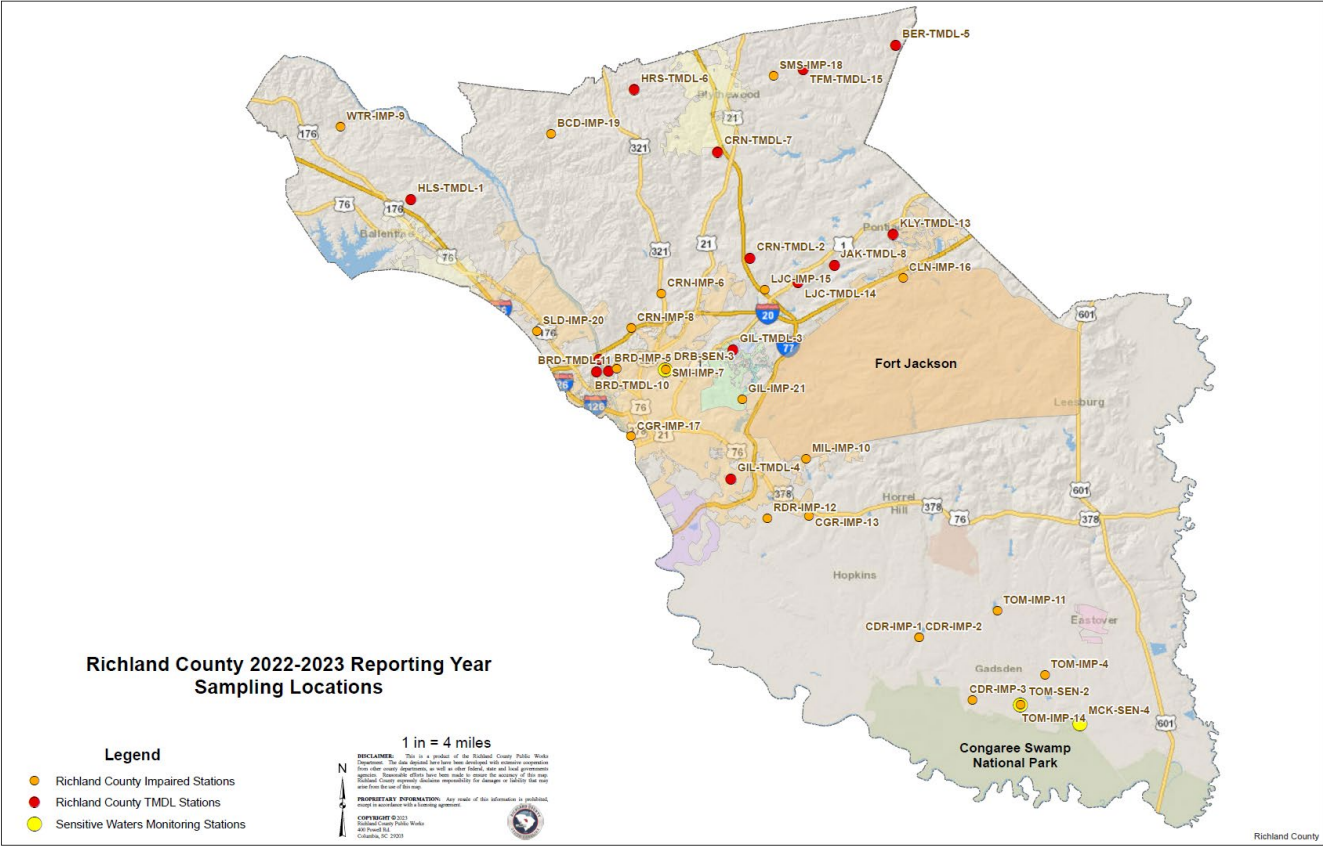


Figure 3. Sampling Locations for the 2022-2023 Reporting Year

VI. Fiscal Analysis

1. What is the source of funds proposed to meet the necessary expenditures?

Ad valorem tax assessment.

2. What are the legal restrictions on the use of the funds?

The funds are subject to millage cap legislation.

3. Use the table below to summarize the fiscal analysis for the program implementation both for the past calendar year as well as the next.

Fiscal Year	Stormwater Budget	Source of Funding
FY 16/17	\$5,289,806	Ad valorem tax assessment
FY 17/18	\$3,861,269	Ad valorem tax assessment
FY 18/19	\$4,053,471	Ad valorem tax assessment
FY 19/20	\$3,482,654	Ad valorem tax assessment
FY 20/21	\$3,083,362	Ad valorem tax assessment
FY 21/22	\$3,878,234	Ad valorem tax assessment
FY 22/23	\$3,570,448	Ad valorem tax assessment

VII. Summary of SWMP and Monitoring Modifications

The Richland County SWMP includes actions that when implemented will aid in the reduction of pollutants discharged from Richland County's MS4 to the Maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate requirements of the Clean Water Act. The contents of the SWMP will change due to the iterative process of implementing the stormwater program. The SWMP will be revisited on an annual basis to reflect accomplishments, potential revisions to program components, and additions of other activities or expanded efforts.

The SWMP is organized into the following sections: Introduction, Stormwater Management Plan, SWMP Requirements, Monitoring and Fiscal Analyses. A copy of the SWMP is included in the Appendix L.

VIII. Water Quality Based Effluent Limitations (WQBEL)

Richland County has established and is implementing a water quality-monitoring plan designed to meet WQBEL requirements contained in the County's municipal separate storm sewer system (MS4) National Pollutant Discharge Elimination System (NPDES) permit, while also informing the County on water quality conditions in waterways that receive discharge from the County's MS4. During the 2022-2023 reporting period, Richland County went above and beyond to overcome challenges associated with maintaining a robust monitoring program.

To better understand and interpret the sampled metals data required by the permit the County began collecting hardness samples at the TMDL monitoring sites in 2020 Q3. This data is used by the County to calculate sample specific chronic criteria for metals using the equations provided by SCDHEC in Regulation 61-68: Water Classifications and Standards. A conversion calculation is used to estimate the dissolved metal concentration of the sample given the sampled total concentration and hardness. A partitioning coefficient is also calculated using the sampled TSS. Together these factors were used to calculate a total recoverable adjusted CCC (Criterion Chronic Concentration). This has been implemented at the new impaired site, GIL-IMP-21, and the new TMDL sites, LJC-TMDL-14 and TFM-TMDL-15, in the 2022-2023 reporting period.

During this reporting period, the County made the decision to begin working with Ferguson Waterworks to determine locations to implement structural BMPs to reduce *E. coli* loading at targeted TMDL outfalls. The County also developed a microbial source tracking (MST) sampling plan to help determine sources of *E. coli* in five strategic TMDL sites selected in combination with the proposals made by Ferguson Waterworks. The County plans to implement structural BMPs following initial rounds of MST testing to determine sources of MST within the targeted watersheds. These samplings will occur as soon as weather permits.

IX. Appendices

Appendix A: Draft Third Cycle Permit Parts III, IV, and V

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

Appendix C: Employee Training Sign-in Sheets

Appendix D: Water Quality Monitoring Quarterly Reports

Appendix E: Outfall and CIP Map

Appendix F: MS4 Illicit Discharges, SSOs, Inspections, and Investigations

Appendix G: List of Industrial Sites

Appendix H: Location of Stormwater Structural Controls

Appendix I: Gills Creek Watershed Annual Report

Appendix J: Education and Outreach Program Plan

Appendix K: MS4 NPDES Monitoring Plan

Appendix L: Stormwater Management Plan

Appendix M: TMDL Implementation Plans

*Appendix C through Appendix M are included in digital format on attached CD.

Appendix A: Draft Third Cycle Permit Parts III, IV and V

Part III. Water Quality Based Effluent Limitations

A. WQBEL

There are no numeric effluent limitations at the time of permit issuance. Should the need arise for an effluent limitation, a permit modification may be necessary, and the permit can be reopened according to Part VIII. The permit modification should reflect the terms of compliance with the effluent limitation(s) imposed. Effluent limitations, when determined by the Department to be necessary, will be imposed by modification of this permit in accordance with SC Regulation 61-9.

Part IV. Monitoring Requirements

A. Monitoring Requirements

Monitoring Strategy - In order to assess and address the impact of MS4 discharges on surface water quality the Permittee shall develop a monitoring strategy to determine the most efficient monitoring locations for collecting data useful to both the Permittee and SCDHEC. The strategy should consider all watersheds within the MS4 with an emphasis on currently impaired or TMDL watersheds and watersheds that contain a large portion of Permittee owned stormwater infrastructure. The strategy should utilize available data to assess the potential for and impact of pollutants, including but not limited to the following factors:

- SCDHEC TMDL, impaired, and sensitive watersheds and monitoring locations
- Risk and consequences to water quality and quantity such as:
 - o SSOs, EPA sites of interest, sewer lines, highly developed areas, potable water source intakes, recreation areas, and flood prone areas
- Trends from historical monitoring data
- MS4 area and existing infrastructure
- Other monitoring efforts (Adjacent MS4, USGS, volunteer)

Monitoring Plan - Upon completion, the strategy should be used to develop a monitoring plan that includes a schedule for implementing and tracking the progress of monitoring activities and BMPs. The monitoring plan update should be treated as an iterative process and should be reevaluated based on collected monitoring data. The monitoring plan should be updated as necessary, with the most up to date plan submitted annually with the Annual Report.

B. TMDL

Existing TMDL - There are existing TMDLs applicable to Permittees as of the effective date of this permit. If a TMDL is approved for any waterbody into which the MS4 discharges, the Permittee is to review the TMDL to determine whether the TMDL includes a Wasteload Allocation (WLA) applicable to the Permittee. If there are WLA applicable to the permittee, the Permittee is required to implement the TMDL within a timeframe consistent with the TMDL and with applicable parts of this permit.

Newly Established TMDL - Once a TMDL has been established, or approved, for any watershed into which the MS4 discharges, any limitations, conditions and requirements contained in the TMDL applicable to the discharges authorized herein, including monitoring frequency and reporting required becomes part of this permit. Applicable limitations, conditions and requirements contained in the TMDL are those limitations, conditions and requirements set forth in the TMDL implementation plan and attributed to discharges from the MS4.

Should an applicable TMDL, approved for a water body located within the permit area, be either more rigorous, or more stringent than the conditions of this permit, the affected Permittee(s) shall be responsible for implementation of the TMDL as prescribed. Implementation of the TMDL shall consist of incorporating into the SWMP, to the maximum extent practicable (MEP), the necessary measures to reach the goal of the TMDL and a schedule to accomplish the measures, with the schedule becoming a part of the permit requirements.

TMDL Implementation Plan - The Permittee will develop and submit to SCDHEC a TMDL Implementation Plan after development of any TMDL applicable to the Permittee. The TMDL Implementation Plan will contain details including, but not limited to the frequency of monitoring, the monitoring approach, and monitoring locations. The Permittee may develop one overall TMDL Implementation Plan to outline the proposed assessment approach for all applicable TMDL due to the number of currently effective TMDL. The Permittee may use innovative technological approaches to assess potential sources of the POC in the TMDL watersheds. If the source identification yields a pollutant source within the Permittee's control, the Permittee will subsequently implement BMP to address the contribution of the POC to protect water quality. For all other identified sources of the POC, the Permittee will notify the appropriate party to mitigate or remove the pollutant source. Monitoring associated with Part IV of this permit may be used in conjunction with data collected in the TMDL Implementation Plans to address the POC. Where a TMDL Wasteload Allocation (WLA) is assigned to point sources, Permittee shall review its SWMP requirements for the control of stormwater discharges to WQMS identified in the TMDL. For MS4 discharges of the pollutant(s) of concern to TMDL waters, Permittee shall identify discharges located in the TMDL watershed draining to the impaired WQMS. The SWMP shall include a TMDL Implementation Plan for each effective, or approved TMDL.

1. The TMDL Implementation Plan shall be developed within 12 months of the effective date of this permit for existing TMDL and within 12 months from the EPA approval or establishment date for new TMDL.
2. The Permittee may utilize existing monitoring data or initiate additional monitoring, as deemed necessary by the Permittee.
3. Data must be assessed to guide the Permittee to the implementation of BMP to address the WLA.
4. The TMDL Implementation Plan must identify BMP and schedule of implementation of BMP to achieve progress towards addressing the TMDL WLA, as long as the intended uses are not supported. The TMDL Implementation Plan shall be updated to include this information within 48 months for existing TMDL and within 48 months from the EPA approval or establishment date for new TMDL. It is expected that implementation of BMP will begin during the current permit term and continue through the next permit.

C. Impaired Water Quality Monitoring Stations (WQMS)

The SWMP will address discharges to water bodies listed as impaired on the most current 303(d).

1. *For each impaired WQMS*, the Permittee should determine from its IDDE and Water Quality monitoring program whether discharges from the MS4 contribute the pollutant of concern to waterbodies with impaired WQMS listed in the most current 303(d) list. This determination shall be included in the *first ANNUAL REPORT* and updated in the ANNUAL REPORT following issuance of a new 303(d) list. All POC contributing to the impairments listed must be effectively addressed.
2. The **SWMP Requirements** must be updated as appropriate to address the discharge of the POC present in MS4 stormwater discharges that contribute, to impaired waterbodies, to the MEP, in

the *second ANNUAL REPORT*.

Part V. Sampling Collection and Analytical Requirements

Sample collection frequency and parameters analyzed will be outlined in the County's monitoring plan. At a minimum the following General Monitoring Requirements outlined in Part V.A below will be followed.

A. General Monitoring Requirements.

1. Each year the sampling program shall be described by the submitted date, conducted after the approval and the results included in the ANNUAL REPORT by the reported date. For the purposes of this permit, the location of each monitoring station shall be inventoried and identified on a map and in a database, included in the SWMP, and the ANNUAL REPORTS and the method used in identifying them in each subsequent year. In addition, the ANNUAL REPORT will include all measured analytical data if requested.

The methods, parameters, and field techniques shall be in accordance with SC Regulation 61-9.122.26(d)(1)(iv)(D). Records of all analytical results shall be maintained in accordance with Part VII.R. of this permit.

2. The Department may allow or establish appropriate site specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rain fall), protocols for collecting samples under 40 CFR Part 136, that quantitative data shall be provided for additional parameters, and additional time for submitting data on a case-by-case basis.
3. The monitoring and sampling locations shall be selected such that the permittee can use the information collected in a useful manner to evaluate any trends in the reduction of pollutants loads discharged to waters of South Carolina during the term of the permit. The pollutant loading trends will be used to evaluate the effectiveness of the Permittee's SWMP to reduce the discharge of pollutants to the MEP and to not cause nor contribute to violations of Water Quality Standards.
4. When the permittee is unable to collect samples due to adverse climatic conditions, the permittee must submit in lieu of sampling data, a description of why samples could not be collected, including available documentation of the event. Adverse climatic conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, etc.).

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

The National Pollutant Discharge Elimination System Permit (NPDES) Stormwater Permit No. SCS400001 issued to Richland County and effective on July 01, 2016 contains several conflicting deadlines, ambiguous/absolute language, and conflicting/unrealistic requirements that make permit compliance impractical. A number of these items were presented to the South Carolina Department of Health and Environmental Control (SCDHEC) during the permit drafting and negotiation period. These issues were also presented to SCDHEC during the public comment period and again during an in-person meeting between SCDHEC and Richland County staff on October 4, 2016.

Some of the permit requirements are relatively minor and may be clarified through simple revisions to current permit language, while other issues are more significant and threaten the County's ability to remain permit compliant. For these issues, it may be more prudent to completely revise specific sections of the permit.

At the request of SCDHEC, the County sent a table containing the critical issues that if not addressed would put the County in a position where it would be impossible to meet some requirements in the permit. A response from SCDHEC was received by the County on December 16, 2016 to address these critical issues. After a thorough review of the SCDHEC responses, the summary table below shows the status of the clarifications found in the SCDHEC response. For a more detailed explanation of the response status, see the tables on the following pages.

Critical Issues (Red Comments)			
Compliance Issue	<u>SCDHEC Response Status</u> Did SCDHEC sufficiently address the County concerns?	Absolute Language	<u>SCDHEC Response Status</u> Did SCDHEC sufficiently address the County concerns?
Part II.B.2.c.iii.(pg.8)	No	Part II.B.2.d.ii.(pg.9)	Yes
Part II.B.2.k.v.(pg.15)	Partially Addressed	Part II.B.3.b.ii.(pg.16)	No
Part II.B.3.(pg.15)	No	Part II.B.7.c.iii.(e)(pg.25)	Yes
Part II.B.8.c.(pg.30)	Partially Addressed	Part II.B.7.g.iv.(pg.27)	Partially Addressed
Part III.A.2.a.iv.(pg.49)	No	Part II.B.9.c.v.(d)(pg.36)	Partially Addressed
Part III.A.2.a.vi.(pg.49)	No	Part III.A.2.a.i.(pg.48)	No
Part III.A.2.b.i.(pg.50)	No	Part III.A.2.a.iii.(a)(pg.48)	No
Part III.A.2.b.ii.(pg.50)	No	Part III.A.2.b.vii.(pg.51)*	No
Part III.A.2.b.vi.(pg.51)	No		
Part IV.C.(pg.61)	No		

*2 instances in the same section of permit

During the October 4, 2016 meeting, County staff presented all critical, major and minor issues that were identified within the permit. It was agreed at that time that SCDHEC would only address the critical issues, since addressing the major and minor issues would have required the reopening of the permit. The County requests that SCDHEC address the issues in the following table while developing the new third cycle permit. All critical, major, and minor issues listed in the tables have a corresponding permit reference where the complete permit language can be found and reviewed in context with the entirety of the related sections of the permit. Highlights within the permit are color coded to correspond to the types of issue (**Critical Issue**, **Major Issue**, **Minor Issue**), and in

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

most cases are accompanied by a comment box that explains the issue in more detail. The County is acceptable to a meeting during the permit negotiation process to discuss any of the issues outlined in this document so that a resolution can be reached between both parties.

Major Issues (Orange Comments)				Minor Issues (Yellow Comments)		
Compliance Issue	RC	Scheduling Conflict	RC	Clarification Needed	RC	Permit Reference
Part II.B.2.a.(pg.7)	10	Part II.B.2.k.(pg.14)		Part II.B.1.d.vii.(pg.7)	7	Part II.A.1.(pg.3)
Part II.B.2.c.v.(pg.9)	17, 18	Part II.B.5.a.ii.(a)(pg.18)		Part II.B.2.(pg.7)	8, 9	Part II.B.1.c.(pg.5)
Part II.B.2.d.(pg.9)	19, 20	Part II.B.5.a.iii.(pg.19)	50	Part II.B.2.b.(pg.8)	11	Part V.A.1.3.a.iv.(f)(p.68)
Part II.B.2.d.i.(pg.9)	21	Part II.B.7.c.(pg.23)	58	Part II.B.2.c.(pg.8)	12, 13	Part VI.A.1.a.(pg.70)
Part II.B.2.j.i.(pg.13)*		Part II.B.7.c.iii.(pg.24)		Part II.B.2.d.iii.(pg.9)		
Part II.B.3.b.vi.(pg.16)	49	Part II.B.7.c.iii.(f)(pg.25)		Part II.B.2.d.iv.(pg.9)	24	
Part II.B.5.a.iii.(a).(pg.19)	50	Part II.I Table II.I.4.(pg.47)		Part II.B.2.g.(pg.10)		
Part II.B.7.g.vi.(a)-(c)(pg.27)	63	Part VI.A.1.a.(pg.70)		Part II.B.2.h.(pg.10)	34	
Part II.B.8.a.(pg.29)		Part VI.C.1.(pg.74)		Part II.B.3.a.(pg.15)		
Part II.B.10.c.Table(pg.41)		Appendix F		Part II.B.3.b.iv.(pg.16)	48	
Part III.A.2.a.iii.(c)(pg.48)	88			Part II.B.5.b.i.(pg.20)		
Part III.A.2.a.v.(pg.49)				Part II.B.5.b.ii.(pg.20)		
Part III.A.2.b.(pg.50)	96, 97			Part II.B.6.b.v.(pg.21)	55, 56	
Part III.A.4.a.v.(pg.53)				Part II.B.7.c.iii.(d)(pg.25)		
				Part II.B.7.h.(pg.28)	*64*	
				Part II.B.10.a.vii.(pg.40)		
				Part III.A.4.c.(pg.54)		

After the October 4, 2016 meeting the following critical issues that were identified in the current permit were submitted to SCDHEC for a response. This submittal included a proposed clarification section (See COUNTY REQUEST headings) to properly address these concerns. SCDHEC sent a response to the County on December 17, 2016, which can be seen in the table below under the SCDHEC RESPONSE headings. The County is now submitting a counter response (See COUNTY COUNTER RESPONSE headings) which are shown within the blue highlights in the tables below.

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
1.	Part II.B.2.c.iii.(pg.8)	These may include practices such as infiltration, evapotranspiration, rain harvesting and storm water reuse and recharge that demonstrate the runoff reduction and pollution removal necessary to maintain pre-development levels to the MEP and to protect water quality.	This permit does not have the authority to require runoff reduction.	<p>COUNTY REQUEST (10/4/2016): Runoff reduction is one of a variety of methods for reducing pollutant loadings. This section does not require use of runoff reduction, but rather allows for runoff reduction methods to be used when appropriate.</p> <p>SCDHEC RESPONSE (12/17/2016): Methods used to support establishment of the New Development and Redevelopment Standards part of the Area of New Development and Redevelopment element of the permit must be defensible and be consistent with the MEP standard, be protective of water quality and be satisfactory to the appropriate water quality requirements of the CWA.</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The SCDHEC response does not sufficiently address the issue of runoff reduction having to be demonstrated. Runoff reduction is one of a variety of methods for reducing pollutant loadings. This section should not require the use of runoff reduction, but rather allow for runoff reduction methods to be used when appropriate. The County should have the ability to decide which method is most appropriate.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	<p>New development or redevelopment standards to be used can be either one, combination, or equivalent combination of design strategies, control measures, practices or provisions. These may include practices such as infiltration, evapotranspiration, rain harvesting and stormwater reuse and recharge that demonstrate the runoff reduction and pollution removal necessary to maintain pre- development levels to the MEP and to protect water quality. The first inch of runoff must be managed</p> <p>Richland County, Town of Arcadia Lakes, City of Forest Acres and potential future permittees must establish, implement and enforce a requirement that owners or operators of new development and redeveloped sites discharging to the MS4, which disturb greater than or equal to one acre (including projects that disturb less than one acre that are part of a LCP), design, install, implement, and maintain stormwater control measures that approximate pre-development conditions to the MEP and protect water quality by the second ANNUAL REPORT.</p>		

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

		<p>New Development Standards to be used can be either one, combination, or equivalent combination of design strategies, control measures, practices or provisions such as infiltration, evapotranspiration, rain harvesting, and stormwater reuse and recharge that demonstrate the runoff reduction and pollutant removal necessary to maintain pre-development conditions to the MEP and to protect water quality. The first inch of runoff must be addressed. Appendix A contains examples of specific standards that could be adopted. Permittees must describe the site design strategies, control measures and other practices deemed necessary by the MS4 to maintain, or in the case of redevelopment improve, pre-development hydrology in order to meet these requirements.</p> <p>Incentives for Redeveloped Sites. - When considered at the watershed scale, certain types of developed sites can either reduce existing impervious surfaces, or at least create less 'accessory' impervious surfaces. MS4 may develop a program to allow adjustments to the performance standard for new development or redevelopment sites that qualify.</p> <p>For areas of new development, there shall be no increase in the discharge of pollutants with respect to pre-development levels to the "effective prohibition" and "MEP" standards from Section 402(p)(3)(B) of the Clean Water Act;</p> <ul style="list-style-type: none"> i. Impervious surfaces shall be minimized; ii. BMP with the best pollutant removal performance shall be selected for post construction storm water management; iii. Forested stream buffers and wetlands shall be protected; and, iv. Drainage "hot spots" shall be effectively addressed. <p>For areas of significant redevelopment, incentives for water quality improvements shall be developed prior to the SECOND ANNUAL REPORT and provided to the MEP when upgrading components of the MS4 or, when replacing deteriorating components of the MS4, to meet appropriate water quality criteria;</p> <ul style="list-style-type: none"> i. Forested riparian buffers will be restored; ii. Controls including, but not limited to, BMP, control techniques, and system, design and engineering methods are required to reduce the discharge of pollutants to the MEP as deemed appropriate for the control of such pollutants; and, iii. Implementation of redevelopment water quality requirements, including incentives to encourage re-development to the MEP <p>Evaluate and modify, as necessary, the post-construction element. Individual BMP, measurable goals, and responsible persons for the program must be described. This narrative must be included in the SWMP, and in the ANNUAL REPORT. It must include the following information, at a minimum:</p> <ul style="list-style-type: none"> (a) Description of the existing program to address stormwater runoff from new development and redevelopment projects, including any specific priority areas for this program, and modifications completed during the reporting period (c) List of non-structural BMP in the program, including, as appropriate: <p>Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space, provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation.</p> <p>Policies or ordinances and incentives that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure;</p> <p>Education programs for developers and the public about project designs that minimize water quality impacts; and Measures such as: minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, and source control measures often thought as good housekeeping, preventive maintenance and spill prevention.</p> <p>Methods used to support establishment of the New Development and Redevelopment Standards part of the Area of New Development and Redevelopment element of the permit must be defensible and be consistent with the MEP standard, be protective of water quality and be satisfactory to the appropriate water quality requirements of the CWA.</p>
--	--	--

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
2.	Part II.B.2.k.v.(pg.15)	MS4 and commercially owned, operated or maintained structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, yearly. The remaining structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, on a 25% /year basis.	<p>This section requires the inspection and maintenance of commercially owned BMPs annually. This could be interpreted that the County must provide maintenance rather than require maintenance by the owner. This places an unusual burden on the MS4.</p> <p>Further, there is a scheduling conflict with annually and 25% per year. Richland County should set the inspection schedule in the SWMP in accordance with the IDDE requirements and their knowledge of critical points within the system.</p>	<p>COUNTY REQUEST (12/10/2016): This section requires that County owned structural controls should be maintained as necessary and inspected a minimum of 25%/year. The County should require that commercially owned, operated, or maintained storm water controls and BMPs be inspected yearly at a minimum and maintained as necessary.</p> <p>SCDHEC RESPONSE (12/17/2016): It is expected that MS4 and commercially owned, operated or maintained structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, yearly. The remaining structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, on a 25% / year basis. Detailed inspection reports with extensive explanation of results and correction actions taken must be part of the MS4 inventory of Structural Controls and Storm Water Collection System and of Post-Construction BMP in areas where new development and redevelopment has taken place. Whether permittees conduct the inspection and maintenance (or require commercially owned facilities to perform it by themselves), or if the permittees themselves contract the inspection and maintenance shall be stated in the written SOP. Documentation and reporting of Inspection and maintenance of Post Construction BMP are expected in the quantity and, frequency required by the permit.</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): SCDHEC clarifies that the County may require owners to inspect, but the response does not address the scheduling conflict or what is meant by "remaining structural controls". If SCDHEC does not clarify what constitutes "remaining structural controls", then Richland County will define what those structures are in the updated SWMP that corresponds with the third cycle permit.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	<p>"Storm water point source" means a conveyance or system of conveyances (including but not limited to pipes, conduits, ditches and channels) primarily used for collecting and conveying storm water runoff and that is located in an urbanized area as designated by the Bureau of the Census; discharges from lands of facilities used for industrial or commercial activities.</p> <p>Permittees are expected to have a Written Standard Operating Procedures (SOP). The Structural Controls and Storm Water Collection System Operation and the Areas of New Development and Redevelopment elements of the SWMP must be effectively addressed in accordance to a written SOP no later than 18 months from the effective date of the permit. Among other components expected to be clearly specified in the SOP by the first ANNUAL REPORT, there are agreements where maintenance responsibilities are in place.</p> <p>It is expected that MS4 and commercially owned, operated or maintained structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, yearly. The remaining structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, on a 25% / year basis.</p> <p>Detailed inspection reports with extensive explanation of results and correction actions taken must be part of the MS4 inventory of Structural Controls and Storm Water Collection System and of Post-Construction BMP in areas where new development and redevelopment has taken place.</p> <p>Whether permittees conduct the inspection and maintenance (or require commercially owned facilities to perform it by themselves), or if the permittees themselves contract the inspection and maintenance shall be stated in the written SOP. Documentation and reporting of Inspection and</p>		

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

		maintenance of Post Construction BMP are expected in the quantity and, frequency required by the permit.
--	--	--

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
3.	Part II.B.3.(pg.15)	<ul style="list-style-type: none"> Water turnouts, drainage systems designed to reduce the volume and velocity of ditch flow, shall be constructed in conjunction with the roadside drainage ditches in accordance with accepted roadway drainage practices Existing turnouts must direct diverted flow onto vegetated areas where it can be adequately dispersed. The turnouts shall not direct diverted flow or road runoff into Waters of the State to the MEP. 	<p>The County was told during the permit negotiation process that these bullets would be removed.</p> <p>This section regulates volume and velocity and is not supported by the federal register. This section is very confusing (e.g., are volume controls required in every ditch?) and required compliance with SCDOT standards (not allowing for more or less stringent standards, if desired, and what is SCDOT standards change or are rescinded?).</p>	<p><u>COUNTY REQUEST (12/10/2016):</u> Option A: Delete language through a minor modification to the permit.</p> <p>Option B: Clarify that the section implies that these standards will be applied where appropriate.</p> <p><u>SCDHEC RESPONSE ABBREVIATED RESPONSE (12/17/2016):</u> The Existing Road Runoff Element of the Storm Water Management Program must implement practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters from discharges from these areas including pollutants discharged.</p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> The County requests that this language <u>not</u> be included in the third cycle permit, as agreed upon by SCDHEC during the negotiations for the second cycle permit.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	In response to comments, this section was edited prior to the final permit decision to avoid prescriptiveness. Water turnouts are drainage systems designed to reduce the volume and velocity of ditch water flow. These water turnouts shall be constructed in conjunction with the roadside drainage ditches in accordance with accepted roadway drainage practices. Existing turnouts must direct diverted water flow onto vegetated areas where flow energy can be adequately dispersed prior to discharge. Turnouts shall not direct diverted water flow or road runoff directly into waters of the State to the MEP. <i>The Existing Road Runoff Element of the Storm Water Management Program must implement practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters from discharges from these areas including pollutants discharged.</i>		

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
4.	Part II.B.8.c.(pg.30)	Monitor for Industrial Runoff: The County shall continue to implement a monitoring (or self monitoring) program as required in Parts III. A. I, 2.a.viii & b.viii, 3, 4; IV and V, which includes analytical monitoring for stormwater discharges associated with:	Could require monitoring at a large number of facilities. Also, facilities that are covered under the IGP are already required to monitor. Tables referenced in vii do not exist in Appendix D. Redundant with IDDE program. Why sample the industrial discharge if POC is not showing up at the outfall?	<p><u>COUNTY REQUEST (12/10/2016):</u> In the context of this requirement, “self-monitoring” means that the County does not have to monitor facilities identified in parts i., v., vi., and vii. that are currently monitoring themselves. Further, outfall dry weather screening constitutes “monitoring”.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> This section was edited prior to the final permit decision. Richland County is expected to have adequate legal authority to:</p> <ol style="list-style-type: none"> Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the MS4 by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity, and,

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

		<p>i. industrial facilities identified in II.B.8.a, above,</p> <p>v. facilities subject to effluent guidelines (40 CFR Subchapter N), SC R. 61-9 122.26(b)(14)(i),</p> <p>vi. facilities with existing NPDES permit,</p> <p>vii. facilities where it is known, or there is reason to believe, that any of the pollutants Tables II, III & IV of Appendix D is present as required under SC R. 61-9 122.21(g)(7)(vi) & (vii).</p>		<p>2. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions. (See subparts II.A, above, and II.F & I, below, in this permit). The County must have the legal authority necessary to require industries to self-monitor in order to provide analytical data necessary to demonstrate compliance with permit conditions affected by their discharges.</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): SCDHEC response does address legal authority but does not discuss the issue of duplicating monitoring efforts at facilities. The County requests that the terms “self-monitoring” and “monitoring” be clarified in the third cycle permit.</p>
	<p><u>SCDHEC FULL RESPONSE (12/17/2016):</u></p>	<p>Richland County is required to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the County determines are contributing a substantial pollutant loading to the MS4. The monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, includes the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD5, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under this permit. Tables II, III & IV of Appendix D refer to Refer to 40 CFR Part 122, Appendix D; where, table II is the Organic Toxic Pollutants in Each of Four Fractions in Analysis by Gas Chromatography/Mass Spectroscopy (GS/MS), table III is the Other Toxic Pollutants (Metals and Cyanide) and Total Phenols, and table IV is the Conventional and Nonconventional Pollutants Required To Be Tested by Existing Dischargers if Expected to be Present. Quantitative results for Hazardous Substances Required To Be Identified by Existing Dischargers if Expected To Be Present in stormwater discharges should also be submitted. https://www.gpo.gov/fdsys/pkg/CFR-2010-title40-vol21/pdf/CFR-2010-title40-vol21-part122-appD.pdf</p> <p>This section was edited prior to the final permit decision.</p> <p>Richland County is expected to have adequate legal authority to:</p> <ol style="list-style-type: none"> 1. Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the MS4 by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity, and, 2. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions. (See subparts II.A, above, and II.F & I, below, in this permit). The County must have the legal authority necessary to require industries to self-monitor in order to provide analytical data necessary to demonstrate compliance with permit conditions affected by their discharges. 		

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
5.	Part III.A.2.a.iv.(pg.49)	iv. Where redevelopment occurs, water quality must be improved when upgrading, or replacing MS4 components to meet the WLA / WQS as follow:	This sets an unrealistic requirement that cannot always be obtained and should be deleted or revised. Even if discharge of DO depleting pollutants is reduced to zero from a single site, there may not be a noticeable change in the receiving water DO levels.	<p>COUNTY REQUEST (12/10/2016): “Where redevelopment occurs, water quality must be improved” means the water quality associated with storm water runoff from the site must be improved to the MEP.</p> <p>SCDHEC RESPONSE (12/17/2016): When evaluating compliance with water quality-based effluent limitations in this permit, it shall be ensured that:</p> <ol style="list-style-type: none"> A. The level of water quality achieved by implementing the limitations on point sources established under the derived from, and complies with all applicable water quality standards; and B. WQBEL implemented to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

		Since this is under the Dissolved Oxygen section, does this standard only apply to DO?	<p>wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The SCDHEC response is confusing, but may address the issue assuming item A. is meant to imply that runoff from redevelopment sites must meet water quality standards, as opposed to each redevelopment site having to show improvement downstream. The County requests that the term “Where redevelopment occurs, water quality must be improved” be revised to include the MEP standard in the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	<p>The NPDES storm water program regulates MS4 discharges to protect water quality. The proposed permit requires the development, implementation, and enforcement of a storm water management program designed to reduce the discharge of pollutants from the MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.</p> <p>Elements in Part II of the permit include BMP designed to satisfy the “best available” and “best conventional” (BAT & BCT) technology requirements. Implementation of these BMP consistent with the SWMP provisions in Part II constitute compliance with the standard of reducing pollutants to the “MEP”.</p> <p>Where sources located within the jurisdiction of a discharger are subject to WQBEL, pollutant sources in that specific jurisdiction shall be subject to the same WQBEL.</p> <p>MS4 discharges authorized in the proposed permit have been determined to contribute to a violation of a water quality standard or to be a significant contributor of pollutants to waters of the State. The following factors were considered while imposing these WQBEL:</p> <ul style="list-style-type: none"> (A) The location of the discharge with respect to receiving waters; (B) The size of the discharge; (C) The quantity and nature of the pollutants discharged; and (D) Factors such as Total Maximum Daily Loads (TMDL), Water Quality Monitoring Station (WQMS) impairments (303(d)) and sensitive waters (classified as ONRW, ORW and TPGT). <p>These WQBEL are needed based on a “TMDL” approved or established by EPA that addresses the pollutant(s) of concern, impaired water quality monitoring stations (303(d) WQMS) that do not have a TMDL and sensitive waters. Waste Load Allocations (WLA) for point sources in TMDL are needed to protect water quality based on consideration of existing in-stream concentrations and in pollutant contributions from MS4 sources, among other factors. Pollutants of concern in Part III of the proposed permit include Dissolved Oxygen (DO), Escherichia Coli (E.coli), BIO (or a parameter that addresses macroinvertebrate impairment such as imperviousness), Copper (Cu) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the MS4. Authorized storm water discharges subject to these WQBEL will occur, within the drainage area addressed by the TMDL, 303(d) WQMS or whose presence is deleterious to sensitive waters and its intended uses.</p> <p>Water bodies receiving MS4 discharges, include downstream segments, lakes and estuaries, where pollutants from the MS4 discharges accumulate and cause water degradation. WQBEL apply to; areas where there are known water quality impacts to TMDL watersheds and to 303(d) and sensitive waters; discharges that causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses; and, reflect water quality concerns requiring the MS4 to assess, evaluate, prioritize and retrofit control devices to provide the additional pollutant removal necessary to protect water quality by considering the adverse impacts associated with MS4 discharges. The goal of these WQBEL is to prevent MS4 discharges from causing exceedances of water quality standards, including impairment of designated uses, or other adverse water quality impacts, including habitat and biological impacts. For the purpose of Part III, the non-numeric, narrative, effluent limitations requiring implementation of specific BMP are the most appropriate form of WQBEL (including reduction of pollutants to the MEP) to protect water quality. WQBEL are based on TMDL, 303(d) WQMS) and Sensitive Waters. The proposed permit requires that the permittee monitors parameters in the stream receiving permitted discharges to identify water quality improvements. WQBEL are necessary to achieve water quality standards (WQS) by; controlling all 303(d) pollutants of concern (POC); accounting for existing controls on point and nonpoint sources of pollution for discharges that cause, has the reasonable potential to cause, or contributes to in-stream excursions of WQS; ensuring that WQBEL are consistent with the assumptions and requirements of any available WLA for the discharge. The WQBEL listed in Part III.A.2.a from i to xi, specifically apply, in the manner prescribed, to watersheds draining to WQMS impaired for DO.</p> <p>When evaluating compliance with water quality-based effluent limitations in this permit, it shall be ensured that:</p> <ul style="list-style-type: none"> (A) The level of water quality achieved by implementing the limitations on point sources established under the derived from, and complies with all applicable 		

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

		water quality standards; and (B) WQBEL implemented to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.
--	--	--

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
6.	Part III.A.2.a.vi.(pg.49)	vi. Municipal operations, and activities, in the watershed must eliminate their potential to discharge oxygen depleting pollutants.	This is similar in nature to comments on Section III.A.2.a.iv, p 49 and exceeds the MEP standard. No mention of MEP. For example, a tree (dead leaves) has the potential to cause a discharge of oxygen depleting pollutants.	COUNTY REQUEST (12/10/2016): "Eliminate their potential" means to eliminate sources to the MEP. SCDHEC RESPONSE (12/17/2016): While there is a practical aspect to Storm Water Management Program (SWMP) implementation, the minimum requirement of the permit is to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. After two permit cycles, increased number of adverse water quality impacts, non-numeric water quality based effluent limitations expressed as permit requirements became necessary to achieve water quality standards and /or to protect narrative water quality criteria, numeric water quality criteria, or both, as consistent with the assumptions and requirements of available wasteload allocations. <i>Implementation of the WQBEL in Part III.A of the permit is expected to reverse the adverse pollution trends; therefore, protecting water quality.</i> COUNTY COUNTER RESPONSE (1/1/2021): While there is mention of MEP in the SCDHEC response, it still reinforces the permit requirement. The second half of the response discounts MEP. The County requests that the use of MEP be applied to this permit requirement in the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.
	SCDHEC FULL RESPONSE (12/17/2016):	While there is a practical aspect to Storm Water Management Program (SWMP) implementation, the minimum requirement of the permit is to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. After two permit cycles, increased number of adverse water quality impacts, non-numeric water quality based effluent limitations expressed as permit requirements became necessary to achieve water quality standards and /or to protect narrative water quality criteria, numeric water quality criteria, or both, as consistent with the assumptions and requirements of available wasteload allocations. Implementation of the WQBEL in Part III.A of the permit is expected to reverse the adverse pollution trends; therefore, protecting water quality.		

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
7.	Part III.A.2.b.i.(pg.50)	i. Structural controls, including flood control projects, detaining large amounts of water over a period of time shall be managed to prevent increased bacteria levels.	This is not possible to control except through extraordinary means. What is a large amount of water?	COUNTY REQUEST (12/10/2016): Implies to control levels of bacteria from sources of pet and human waste to the MEP. SCDHEC RESPONSE (12/17/2016): SEE SCDHEC RESPONSE IN 6. ABOVE COUNTY COUNTER RESPONSE (1/1/2021): While there is mention of MEP in the SCDHEC response, it still reinforces the permit requirement. The second half of the response discounts MEP. The County requests that the use of MEP be applied to this permit requirement in the third cycle permit. The County has included revised Part III, IV, and V sections

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

				of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	See SCDHEC response in item 6. above		

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
8.	Part III.A.2.b.ii.(pg.50)	ii. The storm sewer system shall be proactively maintained with the frequency necessary to ensure that pathogens will not be discharged.	This is impossible to achieve.	<p><u>COUNTY REQUEST (10/4/2016):</u> The emphasis of this section is pathogens, therefore, activities should focus on detecting, locating and correcting cross-connections with sanitary sewer systems to the MEP.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> SEE SCDHEC RESPONSE IN 6. ABOVE</p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> While there is mention of MEP in the SCDHEC response, it still reinforces the permit requirement. The second half of the response discounts MEP. The County requests that the use of MEP be applied to this permit requirement in the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	See SCDHEC response in item 6. above		

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
9.	Part III.A.2.b.vi.(pg.51)	vi. Municipal activities, and operations, in the watershed must eliminate their potential to discharge pathogens.	Same as comment for Sections III.A.2.a.iv and III.A.2.a.vi. No mention of MEP here and this is an unrealistic requirement that cannot always be obtained. For example, a bird flying overhead has the potential to cause bacteria to be deposited and washed off of the site.	<p><u>COUNTY REQUEST (12/10/2016):</u> “Eliminate their potential” means to eliminate sources to the MEP. Further, the emphasis of this section is pathogens, therefore, activities should focus on eliminating human waste to the MEP.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> SEE SCDHEC RESPONSE IN 6. ABOVE</p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> While there is mention of MEP in the SCDHEC response, it still reinforces the permit requirement. The second half of the response discounts MEP. The County requests that the use of MEP be applied to this permit requirement in the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	See SCDHEC response in item 6. above		

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
10.	Part IV.C.(pg.61)	C. Impaired Water Quality Monitoring Stations (WQMS)	This section implies that monitoring will be required at all outfalls in watersheds with a known impairment. This is overly burdensome and unnecessary.	<p>COUNTY REQUEST (12/10/2016): Compliance means, “monitoring only those outfalls determined to contribute directly, or indirectly, to the impairment.”</p> <p>SCDHEC RESPONSE (12/17/2016): Part III.B provides the opportunity to establish a baseline to assess direct and indirect MS4 pollutant loads contributing to these impairments. In this way, the level of analytical monitoring effort necessary to demonstrate the effective implementation of the WQBEL required in Part III.A to correct and improve WQMS impairments as required in Part IV.C can be discerned. <i>Correction and /or improvement of the alluded impairment is the measure of compliance for the WQMS in question.</i></p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The SCDHEC response implies that the permit language “provides the opportunity” to establish a baseline. However, the permit language <u>requires</u> monitoring at each outfall. These are contradicting statements and should be addressed in the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	Part III.B provides the opportunity to establish a baseline to assess direct and indirect MS4 pollutant loads contributing to these impairments. In this way, the level of analytical monitoring effort necessary to demonstrate the effective implementation of the WQBEL required in Part III.A to correct and improve WQMS impairments as required in Part IV.C can be discerned. Correction and/or improvement of the alluded impairment is the measure of compliance for the WQMS in question.		

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
11.	Part II.B.2.d.ii.(pg.9)	ii. BMP with the best pollutant removal performance shall be selected for post construction storm water management;	This section only allows consideration of highest pollutant removal. Setting the standard of BMP with the best pollutant removal performance discounts other practices that may be able to achieve the required results with less operation and maintenance, life cycle costs, more effective use of space, etc.	<p>COUNTY REQUEST (12/10/2016): For the purpose of this permit “best pollutant removal” considers the impact of operation and maintenance, life cycle costs, and other design and construction criteria and does not imply that a BMP with a higher removal efficiency should be selected over one that meets the design criteria, but has lower costs, more effective use of land, etc.</p> <p>SCDHEC RESPONSE (12/17/2016): Part II of the permit, the SWMP, is predicated on MEP standard. It means that if implemented to the MEP (Maximum Extent Practicable), and not the mep (minimum extent possible) pollutant loads from urban runoff discharges should not have a deleterious effect on receiving water quality. MEP consists of five elements: the effectiveness to address the pollutant(s) of concern, public acceptance, cost, technical feasibility, and compliance with Federal, State and local laws and regulations. The following link (NO ENDORSEMENT TO THE PRODUCT ADVERTISED) clearly illustrates the ‘balance’ of the MEP concept. https://www.youtube.com/watch?v=qsQPGVseIHM</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The response by SCHEC is adequate in addressing the County’s concerns on this permit requirement.</p>

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	Part II of the permit, the SWMP, is predicated on MEP standard. It means that if implemented to the MEP (Maximum Extent Practicable), and not the mep (minimum extent possible) pollutant loads from urban runoff discharges should not have a deleterious effect on receiving water quality. MEP consists of five elements: the effectiveness to address the pollutant(s) of concern, public acceptance, cost, technical feasibility, and compliance with Federal, State and local laws and regulations. The following link (NO ENDORSEMENT TO THE PRODUCT ADVERTISED) clearly illustrates the 'balance' of the MEP concept. https://www.youtube.com/watch?v=qsQPGVseIHM
--	--	--

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
12.	Part II.B.3.b.ii.(pg.16)	ii. Amount of soil disturbance must be limited to just the immediate area under repair,	Almost always need a larger area than "just the area under repair".	<p><u>COUNTY REQUEST (12/10/2016):</u> Immediate area means the area under construction and an appropriate adjacent area required to safely and properly complete construction.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> Measures described in II.B.3 of the permit are appropriate to control pollutants in storm water discharges associated with small linear construction activities like those found in road projects identified by this SWMP elements. The observed practice of stockpiling sediment alongside areas beyond "just the immediate area" under repair are indicative of sediment control practices that may be qualified as marginal at best. Land disturbing activities beyond "just the immediate area" under repair are; ineffective in addressing sediment; resulting sediment mounds, at the very least, create an eyesore; cubic yards resulting from unnecessary disturbance result in increasing costs; and, run counter to Federal, State and local requirements to properly control sediment. <i>Implementation of the SOP required in the permit will effectively address the lack of stormwater pollution prevention in road maintenance, BPJ (Best Professional Judgement).</i></p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> The response by SCHEC is inadequate in addressing the County's concerns on this permit requirement. The third cycle permit should include language that allows for the MEP standard to be applied to the entirety of Section II of the new permit, or the permit language should be revised in accordance with the comment provided above in the COUNTY REQUEST (12/10/2016).</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	Measures described in II.B.3 of the permit are appropriate to control pollutants in storm water discharges associated with small linear construction activities like those found in road projects identified by this SWMP elements. The observed practice of stockpiling sediment alongside areas beyond "just the immediate area" under repair are indicative of sediment control practices that may be qualified as marginal at best. Land disturbing activities beyond "just the immediate area" under repair are; ineffective in addressing sediment; resulting sediment mounds, at the very least, create an eyesore; cubic yards resulting from unnecessary disturbance result in increasing costs; and, run counter to Federal, State and local requirements to properly control sediment. Implementation of the SOP required in the permit will effectively address the lack of stormwater pollution prevention in road maintenance, BPJ.		

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

13.	Part II.B.7.c.iii.(e)(pg.25)	(e) An internal log documenting the results of all field screening performed shall be maintained. This shall include identification of direct and illicit discharges and a surveillance inspection program to effectively address high bacteria count concerns by eliminating all illicit sources to achieve the "effective prohibition" and "MEP" standards from Section 402(p)(3)(8) of the Clean Water Act and to be consistent with South Carolina Pollution Control Act, Title 48, Chapter I of the Code of Laws of South Carolina.	As noted in the IDDE section of the permit, it is not always possible to determine the source of an illicit much less eliminate it. This requirement will almost certainly cause the County to be in non-compliance with the permit from the effective date onward.	<p><u>COUNTY REQUEST (12/10/2016):</u> While this section contains “eliminating all illicit inspections” it also contains the MEP standard. The County is required to identify and eliminate discharges containing high bacteria counts. Further all bacteria means “non-naturally” occurring pathogenic bacteria such as pet waste and human waste.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> Permits for discharges from municipal storm sewers may be issued on jurisdiction-wide basis; shall include a requirement to effectively prohibit illicit discharges; and shall require controls to reduce the discharge of pollutants to the MEP. For the third iteration of this, a phase I Medium MS4 NPDES stormwater permit, <i>field screening, including identification of direct and illicit discharges and a surveillance inspection program to effectively address high bacteria count concerns, to eliminate all illicit sources is the minimum level of effort expected to be implemented to achieve compliance with the "effective prohibition" and "MEP" standards from Section 402(p)(3)(B) of the Clean Water Act and to be consistent with South Carolina Pollution Control Act, Title 48, Chapter 1 of the Code of Laws of South Carolina.</i></p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> The response by SCHEC is inadequate in addressing the County’s concerns on this permit requirement. The third cycle permit should include language that allows for the MEP standard to be applied to the entirety of Section II of the new permit, or the permit language should be revised in accordance with the comment provided above in the COUNTY REQUEST (12/10/2016).</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	Permits for discharges from municipal storm sewers may be issued on jurisdiction-wide basis; shall include a requirement to effectively prohibit illicit discharges; and shall require controls to reduce the discharge of pollutants to the MEP. For the third iteration of this, a phase I Medium MS4 NPDES stormwater permit, field screening, including identification of direct and illicit discharges and a surveillance inspection program to effectively address high bacteria count concerns, to eliminate all illicit sources is the minimum level of effort expected to be implemented to achieve compliance with the "effective prohibition" and "MEP" standards from Section 402(p)(3)(B) of the Clean Water Act and to be consistent with South Carolina Pollution Control Act, Title 48, Chapter 1 of the Code of Laws of South Carolina.		

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
14.	Part II.B.7.g.iv.(pg.27)	iv. Permittees will detect and address all infiltration, inflow and cross connections through the Public Sewer Districts (PSD) in the MS4. Previously unknown problems shall be addressed upon discovery. Advise appropriate utility owner of violation if constituents common to wastewater contamination are discovered in the MS4 during field screening or routine system inspections.	Unrealistic to address all infiltration etc., further, this is a function of the sanitary sewer provider.	<p><u>COUNTY REQUEST (12/10/2016):</u> It is expected that the County will work with public sewer districts within Richland County to detect and address infiltration, inflow, and cross connections to the MEP.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> One of the regulatory requirements of the Illicit Discharges and Improper Disposal element of the SWMP is to detect and remove (or require the discharger to the MS4 to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The Illicit Discharges and Improper Disposal element shall include controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.</p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> The response by SCHEC is adequate in addressing the County’s concerns on this permit requirement assuming the third cycle permit will apply the MEP standard to this requirement and/or the entirety of Section II of the permit.</p>

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	One of the regulatory requirements of the Illicit Discharges and Improper Disposal element of the SWMP is to detect and remove (or require the discharger to the MS4 to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The Illicit Discharges and Improper Disposal element shall include controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.
--	--	---

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
15.	Part II.B.9.c.v.(d)(pg.36)	(d) Retain at least one Certified Stormwater Operator/Inspector on staff at all times (these individuals shall be either field supervisors, heavy equipment operators actively involved in County earth moving activities, or engineering staff responsible for specifying erosion control measures for Permittees activities).	The County has no control on when people leave employment. Even if the County hires several certified inspectors, it is conceivable that they could all leave at one time leaving the County non-compliant. There should be some time allowance to provide for hiring of staff.	<p><u>COUNTY REQUEST (12/10/2016):</u> SCDHEC realizes that the County may have periods of time without a Certified Stormwater Operator/Inspector on staff. During such times the County must proceed with training of existing staff or be actively engaged in the hiring process of appropriately trained replacement staff to replace the unfilled position in a timely manner.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> Municipalities must secure resources to comply with permit conditions and to implement the storm water program. The storm water program shall include the staff required to implement the program. BMP, control techniques, and proper system design and engineering methods are all integral part of this element. It makes it paramount to count on qualified and certified personnel. When found deficient, as the Department audit for this element demonstrated, the necessary resources to implement this element shall be met. <i>Audit recommendations are expected to be fully addressed. Training and retention requirements are expected to be met.</i></p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> The response by SCHEC is adequate in addressing the County's concerns on this permit requirement assuming the third cycle permit will apply the MEP standard to this requirement and/or the entirety of Section II of the permit.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	Municipalities must secure resources to comply with permit conditions and to implement the storm water program. The storm water program shall include the staff required to implement the program. BMP, control techniques, and proper system design and engineering methods are all integral part of this element. It makes it paramount to count on qualified and certified personnel. When found deficient, as the Department audit for this element demonstrated, the necessary resources to implement this element shall be met. Audit recommendations are expected to be fully addressed. Training and retention requirements are expected to be met.		

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
16.	Part III.A.2.a.i.(pg.48)	i. Pollutants (including floatables) from all conveyances (including roadways) must be controlled. It must be demonstrated that removal efficiency of oxygen depleting pollutants for BMP implemented to this effect must approximate the WLA I WQS.	<p>Will not be possible to have this apply to all conveyances</p> <p>Confusing language.</p>	<p><u>COUNTY REQUEST (12/10/2016):</u></p> <ol style="list-style-type: none"> This section should only reference dissolved oxygen issues. Consider deleting "(including floatables) as a minor permit modification. SCDHEC realizes that controlling pollutants from all conveyances including roadways is unreasonable. The MEP standard should apply to this section. Issue a minor permit modification such that the second sentence reads, "The removal efficiencies of BMPs for oxygen depleting pollutants must approximate the WLA/WQs, to the MEP". <p><u>SCDHEC RESPONSE (12/17/2016):</u> As stated in the answer to comments 7, 8 & 9, above, Part II of the permit deals with the implementation of the SWMP. Proper implementation of the SWMP is predicated on the MEP standard. Adverse water quality impacts makes it necessary to develop water quality-based non-numeric effluent limitations (WQBEL) to ensure that water quality standards are protected and that applicable provisions of the CWA are met.. WQBEL contained in</p>

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

			<p>part III.2.a of the permit must be implemented to effectively address impairments where DO is the POC. Illicit discharges of sewage and seepage are expected to be completely eradicated for reaches adversely impacted by E.coli.</p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> The response provides conflicting resolution. One portion says that MEP applies, but the next sentence uses the absolute phrase “completely eradicated”. It may not be possible to completely eradicate illicit discharges and still meet MEP standards. The County requests that the MEP standard be applied to the entirety of Section III of the third cycle permit, or the permit language should be revised in accordance with the comments provided above in the COUNTY REQUEST (12/10/2016). The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	As stated in the answer to comments 7, 8 & 9, above, Part II of the permit deals with the implementation of the SWMP. Proper implementation of the SWMP is predicated on the MEP standard. Adverse water quality impacts makes it necessary to develop water quality-based non-numeric effluent limitations (WQBEL) to ensure that water quality standards are protected and that applicable provisions of the CWA are met. WQBEL contained in part III.2.a of the permit must be implemented to effectively address impairments where DO is the POC. Illicit discharges of sewage and seepage are expected to be completely eradicated for reaches adversely impacted by E.coli.	

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
17.	Part III.A.2.a.iii.(a)(pg.48)	(a) BMP with the best removal performance for oxygen depleting substances must be implemented to the MEP.	This phrase is used throughout this section and leaves no room for other considerations such as cost, safety, efficiency etc. Even though a BMP may meet the requisite criteria, only the one with the best removal performance can be used.	<p><u>COUNTY REQUEST (12/10/2016):</u> For the purpose of this permit “best pollutant removal” considers the impact of operation and maintenance, life cycle costs, and other design and construction criteria and does not imply that a BMP with a higher removal efficiency should be selected over one that meets the design criteria, but has lower costs.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> SEE SCDHEC RESPONSE IN 16. ABOVE</p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> The response by SCHEC is inadequate in addressing the County’s concerns on this permit requirement. The third cycle permit should include language that allows for the MEP standard to be applied to the entirety of Section III of the current permit, or the permit language should be revised in accordance with the comment provided above in the COUNTY REQUEST (12/10/2016). The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	SEE SCDHEC RESPONSE IN 16. ABOVE		

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

18.	Part III.A.2.b.vii.(pg.51)*	vii. All illicit discharges of sewage and /or seepage must be detected and eliminated. These include dry and wet weather overflows from sanitary sewers, infiltration of seepage from sanitary sewers and from septic tanks. The "effective prohibition" in 402(p)(3)(B)(ii) of the CWA is applicable to these non-stormwater discharges. Fully documenting the total eradication of these discharges is required.	Impossible/unrealistic requirement	<p><u>COUNTY REQUEST (12/10/2016):</u> This section is subject to the MEP standard. It is also recognized that the County does not have authority over all Public Sewer Districts in the County.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> SEE SCDHEC RESPONSE IN 16. ABOVE</p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> The County requests that the MEP standard will be applied to the entirety of Section III of the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	SEE SCDHEC RESPONSE IN 16. ABOVE		

<i>Basis for Performance Standard</i>	<i>Description</i>	<i>Performance Standard</i>
Rainfall	Minimum storm volume to be retained on site.	Design, construct, and maintain stormwater management practices that manage rainfall on-site, and prevent the off-site discharge of the precipitation from [insert standards, such as "the first one inch of rainfall from a 24-hour storm preceded by 48 hours of no measurable precipitation"]. Discharge volume reduction can be achieved by canopy interception, soil amendments, evaporation, rainfall h200esting, engineered infiltration, extended filtration and/or evapotranspiration and any combination of the aforementioned practices. This first one inch of rainfall must be 100% managed with no discharge to surface waters, except when the permittee chooses to implement the Incentives for Redeveloped Sites in Part II.B.2.j.i, above.
Rainfall	Minimum storm size to be retained on site	Design, construct, and maintain stormwater management practices that manage rainfall on-site, and prevent the off-site discharge of the precipitation from all rainfall events less than or equal to [insert standards, such as "the 95th percentile rainfall event"]. This objective must be accomplished by the use of infiltration, evapotranspiration and/or harvest and reuse of rainwater. The 95th percentile rainfall event is the event whose precipitation total is greater than or equal to 95 percent of all storm events over a given period of record.
Recharge/Runoff	Hydrologic Analysis	Design, construct, and maintain stormwater management practices that preserve the pre- development runoff conditions following construction. The post-construction rate, runoff volume, peak flow, duration and temperature of discharges must not exceed the pre-development rates and the pre- development hydrograph for 1, 2, 10, 25, 50 and 100 year storms must be replicated through site design and other appropriate practices. These goals must be accomplished through the use of infiltration, evapotranspiration, and/or rainwater harvesting and reuse practices. Defensible and consistent hydrological assessments and modeling methods must be used and documented.
Recharge	Groundwater Recharge Requirements	Any "major development" project, which is one that disturbs [insert standards, such as at least one (1) acre of land or creates at least 0.25 acres of new or additional impervious surface], must comply with one of the following two groundwater recharge requirements: <ul style="list-style-type: none"> • Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100 percent of the average annual pre-construction groundwater recharge volume for the site; or • Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater discharges volume from pre-construction to post-construction

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

		for the two-year storm is infiltrated.
--	--	--