



Stormwater Management Plan

NPDES Permit SCS790001

August 20, 2010



TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
1. INTRODUCTION	3
1.1 National Pollutant Discharge Elimination System (NPDES) Program Overview	3
1.2 Permit History and Application Description	3
1.3 City Role and Responsibility.....	4
1.4 Area of Jurisdiction	9
1.5 Description of SWMP and BMP Revision Process.....	10
1.6 SWMP Implementation.....	11
22. PROGRAM ELEMENTS	13
2.1 General Description.....	13
2.2 Program Elements	13
Element 1: Structural Controls and Stormwater Collection Systems Operation	13
Element 2: Post-Construction Stormwater Management in New Development and Redevelopment	16
Element 3: Existing Roadways.....	20
Element 4: Flood Control Projects	22
Element 5: Municipal Waste Treatment, Storage, or Disposal Facilities Not Covered by an NPDES Stormwater Permit	23
Element 6: Pesticides, Herbicides, and Fertilizers (PHFs) Application	25
Element 7: Illicit Discharge and Improper Disposal	26
Element 8: Industrial Runoff	30
Element 9: Construction Site Stormwater Runoff Control.....	33
Element 10: Monitoring Program.....	38
Element 11: Public Education and Outreach on Stormwater Impacts and Public Involvement/Participation	39
3. TOTAL MAXIMUM DAILY LOAD (TMDL) IMPLEMENTATION	43
4. AREA SPECIFIC REQUIREMENTS	44
5. REPORTING REQUIREMENTS	45
Element 1: Structural Controls and Stormwater Collection System Operation	48
Element 2: Post-Construction Stormwater Management in New Development and Redevelopment.....	49
Element 3: Existing Roadways.....	49
Element 4: Flood Control Projects	49
Element 5: Municipal Waste Treatment, Storage, or Disposal Facilities Not Covered by an NPDES Stormwater Permit	49
Element 6: Pesticides, Herbicides, and Fertilizers (PHFs) Application	50
Element 7: Illicit Discharge and Improper Disposal	50



Element 8: Industrial Runoff	51
Element 9: Construction Site Stormwater Runoff Control.....	51
Element 10: Monitoring Program.....	52
Element 11: Public Education and Outreach on Stormwater Impacts and Public Involvement/Participation	52
6. CERTIFICATION OF STORMWATER MANAGEMENT PROGRAM	54
APPENDIX A: NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	
PHASE I STORMWATER PERMIT NUMBER SCS79001	A
APPENDIX B: MAP OF CITY LIMITS	B
APPENDIX C: LIST OF INDUSTRIAL FACILITIES (PRIVATE)	C
APPENDIX D: MAP OF 303(D) LISTED WATERS AND TMDL POINTS	D



Executive Summary

The City of Columbia has been issued a permit under the National Pollutant Discharge Elimination System (NPDES) to discharge stormwater runoff from its Municipal Separate Stormwater Sewer System (MS4). The permit was issued in January 2010 and covers a permit term of five (5) years. The permit requires the City to develop a stormwater management program to address eleven (11) different categories of activities or elements.

The following document, “City of Columbia Stormwater Management Plan (SWMP)” describes the program being developed by the City to address the following eleven (11) elements.

1. Structural Controls and Stormwater Collection System Operation
2. Post-construction Stormwater Management in New Development and Redevelopment
3. Existing Roadways
4. Flood Control Projects
5. Municipal Waste Treatment, Storage, or Disposal Facilities not Covered by an NPDES Stormwater Permit
6. Pesticides, Herbicide, and Fertilizers (PHFs) Application
7. Illicit Discharge and Improper Disposal
8. Industrial Runoff
9. Construction Site Stormwater Runoff Control
10. Monitoring Program
11. Public Education and Outreach on Stormwater Impacts and Public Involvement/Participation

Each program element will contain a brief description of the element, the permit requirements, and the activities to be undertaken by the City to fulfill the permit requirements. In general, the SWMP will be implemented on a watershed schedule as defined in the permit. In some cases, it is more practical for the City to implement the activity citywide rather than by watershed. In such cases, it is allowable under the permit terms to do so.

Documentation of stormwater quality related activities undertaken by any department of the City is important. The City is required to prepare an annual report of activities or Best Management Practices (BMPs) implemented by the City during that year. The City is also required to evaluate the effectiveness of those BMPs and to revise the SWMP as appropriate. At the end of the five (5) year permit term a new permit will be negotiated and issued.



1. INTRODUCTION

1.1 National Pollutant Discharge Elimination System (NPDES) Program Overview **Executive Summary**

Stormwater runoff, often carrying pollutants, reaches the City of Columbia's waterways through a variety of means including the Municipal Separate Storm Sewer System (MS4s). In order to control the type and quantity of pollutants reaching streams and lakes, the federal government has implemented the National Pollutant Discharge Elimination System (NPDES) Stormwater Program.

"Mandated by Congress under the Clean Water Act, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the National Pollutant Discharge Elimination System (NPDES) permitting mechanism to require the implementation of controls designed to prevent harmful pollutants from being washed by stormwater runoff into local water bodies." (EPA 2010)

The Phase I rule issued in 1990 requires medium and large cities or certain counties with populations of 100,000 or more to obtain NPDES permit coverage for their stormwater discharges.

Phase II, issued in 1999, requires regulated small MS4s in urbanized areas, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges.

Generally, Phase I MS4s are covered by individual permits and Phase II MS4s are covered by a general permit. Each regulated MS4 is required to develop and implement a stormwater management program (SWMP) to reduce the contamination of stormwater runoff and prohibit illicit discharges.

1.2 Permit History and Application Description

In South Carolina, the Department of Health and Environmental Control (DHEC) is the NPDES Stormwater Program implementing agency. The City of Columbia was designated as a Phase I MS4 and was required to prepare and submit a Part 1 and Part 2 application package as part of the permitting process. Part 1 and Part 2 of the application were prepared by the City and submitted to DHEC in June, 2002. The application was reviewed and used by DHEC in the preparation of a draft NPDES individual permit for the City.



The first draft permit was received by the City of Columbia in June 2008. Once the permit was received by the City, negotiations regarding the permit requirements and implementation schedule began. After numerous iterations, a draft permit was placed on public notice by DHEC in October 2009. The thirty (30) day public comment period was extended in November 2009 through December 2009.

In January 2010, DHEC issued a notice of decision to issue the permit as written. Permit number SCS790001 became effective on January 25, 2010 and will expire on January 24, 2015. A copy of the permit is contained in Appendix A.

1.3 City Role and Responsibility

The City of Columbia has certain responsibilities in regards to compliance with Permit number SCS790001. These responsibilities are identified in Part I.C of the permit and are restated below.

1. The City is responsible for:
 - a. Compliance with permit conditions relating to discharges from portions of the MS4 where the City is the operator;
 - b. Stormwater management program (SWMP) implementation on portions of the MS4 where either, the City is the operator, the owner, or the responsible party;
 - c. Where permit conditions are established for specific portions of the MS4, the City need only comply with the permit conditions relating to those portions of the MS4 for which either, the City is the owner, the operator, or the responsible party;
 - d. A plan of action to assume responsibility for implementing stormwater management and monitoring programs on its portions of the MS4. (See Part II.H.3. of this permit also.); and
 - e. Assessment of proposed stormwater controls for potential impacts to ground water.
2. For all areas of the MS4 owned or operated by the City, the City is responsible for:
 - a. Submission of annual reporting requirements as specified in Part V.E. (ANNUAL REPORT);
 - b. Collection of monitoring data as required by Parts V.A through V.D.;
 - c. Ensuring implementation of system-wide management program elements, including any system-wide public education efforts.
3. For all areas of the MS4 owned or operated by the City, the City is specifically responsible for permit compliance on portions of the MS4:



- a. Where operational or SWMP implementation authority over portions of the MS4 exist; or,
 - b. Where both the owner and the operator are jointly responsible for permit compliance on those portions of the MS4.
4. The City must supply, in the first annual report, a list of entities such as military bases, large hospitals, prison complexes, universities, sewer districts, highway departments and others that operate a separate storm sewer system and that are located within the MS4 boundaries. An indication shall be made as to whether they are an integral part of the MS4.

Although the NPDES program impacts almost every department of the City, there are certain departments that will have primary responsibility for the requirements listed above. As the program matures, it is expected that primary responsibility may shift from one department to another. Significant changes will be reported in the annual report and/or SWMP updates.

The primary program areas and other responsible department(s) are as follows:

- **Stormwater Management Program Development**
 - Responsible Department/Division(s)/Section(s) – Utilities and Engineering Department/A.C.E. Construction Management Division/Stormwater Section: The Stormwater Section, which is under the Utilities and Engineering Department – A.C.E. Construction Management Division, will lead the development of the SWMP and will obtain input from other impacted departments as appropriate. The final SWMP will be reviewed by various departments to ensure that duties, tasks, processes, and procedures have been appropriately assigned.
- **Ordinance Development**
 - Responsible Department/Division(s) – Stormwater Section: New ordinances and ordinance revisions will be drafted by the Stormwater Section with input from other impacted departments.
 - Other Department/Division(s) – Legal: Legal will review the proposed ordinances and revisions for appropriateness.
 - Other Department/Division(s) – City Council: City Council has final authority to approve, revise, and deny proposed ordinance language.
- **Stormwater Management Program Implementation**
 - Element 1 – Structural Controls and Stormwater Collection System Operation
 - Responsible Department/Division(s) – Stormwater Section: There are three (3) distinct areas related to this program element; 1) inventory, 2) inspection, 3) maintenance. Each of the Divisions listed will have primary responsibility over one of these areas. The Stormwater Section will prepare the initial inventory of structural



- controls and develop the SOP for this element. The Stormwater Section will also be responsible for the intake of citizen complaints.
- Responsible Department/Division(s) – A.C.E Construction Management: The A.C.E. Construction Management Division will have primary responsibility for inspection and enforcement activities.
 - Responsible Department/Division(s) – Public Works Department:
 - The Public Works Department will have maintenance responsibilities for structural controls.
 - Element 2 – Post-construction Stormwater Management in New Development and Redevelopment
 - Responsible Department/Division(s) – A.C.E Construction Management: The A.C.E. Construction Management Division will review and inspect projects for proposed post-construction BMP plans.
 - Other Department/Division(s) –Stormwater Section: Design standards and BMPs will be developed in the Stormwater Section.
 - Other Department/Division(s) –Planning and Development Services Department: Planning and Development Services will be responsible for including water quality considerations in the planning process.
 - Other Department/Division(s) – Public Works Department: Any post-construction BMPs accepted into the City's system will be maintained by the Public Works Department.
 - Element 3 – Existing Roadways
 - Responsible Department/Division(s) – Public Works Department: The Public Works Department currently maintains the City owned road system and will have primary implementation responsibility for this element.
 - Other Department/Division(s) –A.CE. Construction Management Division: The A.C.E. Construction Management Division will provide plan review and inspection services associated with new roads and encroachments.
 - Other Department/Division(s)–Stormwater Section: The Stormwater Section will have primary responsibility for developing BMPs associated with road construction and maintenance.
 - Element 4 – Flood Control Projects
 - Responsible Department/Division(s) –Planning and Development Services Department: Proposed flood control projects will be reviewed for water quality controls by the Planning and Development Services Department.



- Other Department/Division(s) – A.C.E. Construction Management Division: As new projects are prepared and submitted to the City for review, applications will be reviewed for water quality considerations.
- Other Department/Division(s) – Public Works Department: Once a new flood control project has been constructed, the Public Works Department will be notified so that the structure can be incorporated into the inspection and maintenance schedule.
- Element 5 – Municipal Waste Treatment, Storage, or Disposal Facilities not Covered by an NPDES Stormwater Permit
 - Responsible Department/Division(s) – Public Works Department:
 - Solid Waste: Responsible for good housekeeping at City owned public works facilities.
 - Responsible Department/Division(s) – Fleet Services: Responsible for good housekeeping at City owned fleet facilities.
 - Other Department/Division(s) – Stormwater Section: Operator and City personnel training will be the primary responsibility of the Stormwater Section.
- Element 6 – Pesticides, Herbicide, and Fertilizers (PHFs) Application
 - Responsible Department/Division(s) – Stormwater Section: Primary responsibility for developing the public education component of the Pesticides, Herbicides, and Fertilizers program
 - Responsible Department/Division(s) – Public Works Department: Primary responsibility for ensuring that Public Works applicators are properly trained and certified.
 - Responsible Department/Division(s) – Parks & Recreation: Primary responsibility for ensuring that Parks and Recreation applicators are properly trained and certified.
 - Responsible Department/Division(s) – Department of Utilities: Primary responsibility for ensuring that Utilities applicators are properly trained and certified.
- Element 7 – Illicit Discharge and Improper Disposal
 - Responsible Department/Division(s) – Stormwater Section: The Stormwater Section is responsible for program oversight and identification of potential illicit discharges through inspections and other means. The Stormwater Section will also be responsible for the public outreach program promoting proper handling of waste oil and household hazardous waste.
 - Other Department/Division(s) – Utility and Engineering Department: Enforcement activities will be provided by the A.C.E. Construction Management Division in cooperation with the Stormwater Section.
 - Other Department/Division(s)/Section(s) – Public Works Department: Public Works employees routinely work on the storm



- sewer system. As potential illicit discharges are found, Public Works will notify the Stormwater Section of the potential violation.
- Other Department/Division(s) – Emergency Services: Primary responsibility for responding to spills.
 - Other Department/Division(s) – Code Enforcement: Code Enforcement will assist with enforcement activities.
 - Other Department/Division(s) – Department of Utilities: Responsible for reduction and response activities associated with sanitary sewage overflows.
 - Element 8 – Industrial Runoff
 - Responsible Department/Division(s) – Utilities and Engineering Department: A.C.E. Construction Management Division Inspectors will be the responsible party for conducting inspections and enforcement activities.
 - Other Department/Division(s) – Fleet Services: Responsible for good housekeeping activities associated with fleet management facilities.
 - Other Department/Division(s) - Stormwater Section: The Stormwater Section will prepare and maintain the facility inventory and prioritization list used by the A.C.E. Construction Management Division for inspections and enforcement activities.
 - Responsible Department/Division(s) – Department of Utilities: Responsible for good housekeeping activities associated with water and wastewater facilities.
 - Other Department/Division(s) – Public Works Department: Responsible for good housekeeping activities associated with solid waste management facilities.
 - Element 9 – Construction Site Stormwater Runoff Control
 - Responsible Department/Division(s) – Utilities and Engineering Department: The Construction Management Division will have primary responsibility for program oversight including plan review, site inspection, and permit tracking.
 - Other Department/Division(s) – Stormwater Section: The Stormwater Section will have primary responsibility for developing BMPs, developing a Design Manual to be utilized by SWPPP Preparers, conducting site operator training and enforcement actions.
 - Element 10 – Monitoring Program
 - Responsible Department/Division(s) - Stormwater Section: The permit requires that an annual monitoring plan be developed and implemented. Results of the monitoring are to be reported with each annual report. It is the responsibility of the Stormwater



- Section to develop, implement, and report the results of the monitoring program.
- Element 11 – Public Education and Outreach on Stormwater Impacts and Public Involvement/Participation
 - Responsible Department/Division(s) - Stormwater Section: The Stormwater Section will be primarily responsible for developing and conducting training and public education activities associated with stormwater quality. The Stormwater Section will also be responsible for public involvement and participation in the development and implementation of the City's Stormwater Management programs.
 - **Permit Compliance**
 - Responsible Department/Division(s) – Stormwater Section: Each Department is responsible for ensuring that it meets the requirements of the permit relative to its activities and assigned responsibilities. The Stormwater Section of the A.C.E. Construction Management Division; however, will have overall responsibility for checking the compliance of all other divisions and departments.
 - **Assessment of Controls**
 - Responsible Department/Division(s) –Stormwater Section: As required by the permit, an annual review of the controls developed for each program element must be reviewed for their effectiveness. Ineffective controls should be revised, supplemented or replaced by new controls. The Stormwater Section will lead the review of the controls and will obtain input from other impacted departments as appropriate. Any changes to the SWMP due to this analysis will be reviewed by various departments to ensure that duties, tasks, processes, and procedures have been appropriately assigned.
 - **Annual Reporting**
 - Responsible Department/Division(s) – Stormwater Section: Each impacted department or division will have responsibility for reporting its activities to the Stormwater Section. The Stormwater Section will then compile the data into the annual report.

1.4 Area of Jurisdiction

National Pollutant Discharge Elimination System (NPDES) permit number SCS790001 covers all areas located within the political boundary of the State of South Carolina served by the Municipal Separate Storm Sewer System (MS4) owned or operated by the City of Columbia, South Carolina.



A map of the City limits can be found in Appendix B. The City does not own, operate, or maintain storm sewer systems outside of its City limits. Within the City limits there are storm sewer systems that are owned, operated, and maintained by others that are not part of the City's MS4. Most notably are the systems owned, operated, and maintained by the following:

- a. South Carolina Department of Transportation
- b. University of South Carolina
- c. Fort Jackson
- d. Richland County School Districts
- e. State of South Carolina

When the City considers areas for annexation, a notice is sent to the Utilities and Public Works Department for review. The Department conducts a review of the application and may perform a site visit. Based on this review, the Department makes comments for consideration by the City Council. Once an area is approved for annexation a notice is sent to the Department. Any existing stormwater system may then be identified as part of the City's system. The Department of Public Works also receives notice that the system should be included in the operations and maintenance program.

The City will implement the SWMP on all new areas added to its portion of the Municipal Separate Storm Sewer System (or for which the City becomes responsible for implementation of stormwater quality controls) as expeditiously as practicable. For those areas that were previously under the jurisdiction of another NPDES Phase I or Phase II community, the City shall consider the SWMP from that community in implementation of the City's SWMP on that portion of the system.

1.5 Description of SWMP and BMP Revision Process

Permit number SCS790001 clearly identifies a process for reviewing and modifying the Stormwater Management Program (SWMP). These requirements can be found in Part II.H of the permit.

In general, the City must conduct an annual review of the current SWMP in conjunction with preparation of the annual report. Modifications to the SWMP may include adding new Best Management Practices, but cannot subtract or replace existing practices without additional justification.

A proposed SWMP was prepared and submitted by the City as part of the Part II application. Since that time, the City has undergone programmatic changes in preparation for permit issuance, terms and requirements of the permit have evolved, and Total Maximum Daily Loads have been issued for waters within the City's jurisdictional boundaries. These changes have caused the initial SWMP to be out of date and ineffectual. This SWMP has been prepared to meet the requirements of Permit Number



SCS790001, the overall goals of the NPDES program, and specific stormwater quality goals established by the City.

Part II.B.11.k of the permit (Public Education and Outreach on Storm Water Impacts and Public Involvement / Participation) states, “The permittee shall involve the public in the development, submittal and implementation of the stormwater management program.” The City intends to appoint a “citizens advisory group” to assist with the development of the stormwater program. This committee will meet, as requested by the City, to provide comment on various elements of the program. In general, the committee shall be comprised of citizens representing a diverse cross section of the City. By way of example, members may include representatives of such groups as contractors, other government agencies, developers, environmental groups, engineers, business leaders, and/or academia. The group will be convened as appropriate for review of this SWMP revision and for review of future major revisions to the SWMP.

1.6 SWMP Implementation

General Activities. The Permit calls for a phased approach to implementation on a watershed basis. Part III.A (Watershed Management) of the permit defines the four watershed areas and order of implementation; 1) Lower Saluda River Watershed, 2) Congaree River Watershed, 3) Broad River Watershed, and 4) Gills Creek Watershed. Part III.B (SWMP Implementation) of the permit provides the SWMP implementation schedule. The schedule provides a “Submitted” date, an “Implemented” date, and a “Reported” date for each year of the permit term (5 years).

According to Part III. B of the permit; “During the first year of the permit cycle, the City will update the SWMP and develop programs, processes, procedures, and ordinances necessary to implement the SWMP in the four (4) phases described in the table in Part II A. Where specific dates are provided in the permit for implementation, the latter of the specified date and the implemented date will prevail.”

Part III. B. also requires that, “The fourth year annual report is part of the reapplication process. Adjustments to the SWMP and to the monitoring plan for the next 5 yr. Permit cycle must be proposed through this annual report.”

The permit specifies that certain activities will be completed in the first 18 months of the permit. As noted above, the permit also describes several activities that must be done in the first year and the fourth year. In general; however, the permit does not provide strict guidance on which activities must be implemented at what time. It is the responsibility of the City to determine an appropriate schedule of implementation that meets the requirements of Parts III.A and III.B.

The Activities Section below provides a brief list of the general SWMP activities to be completed in each permit year. For this revision of the SWMP, only year one (YR1) and



year two (YR2) activities may be defined. Activities for the remaining years of the permit will be defined during the program review and annual reporting process each year. An implementation schedule specific to the activities in each program element can be found at the end of each element section.

Year 1 Activities

1. Update the Stormwater Management Plan
2. Develop programs, processes, and procedures to implement each of the eleven (11) program elements
3. Enact an ordinance(s) related to the following program elements:
 - a. Structural Control and Stormwater Collection System,
 - b. Post-construction Stormwater Management in New Development and Redevelopment,
 - c. Illicit Discharge and Improper Disposal,
 - d. Industrial Runoff, and
 - e. Construction Site Stormwater Runoff Control

Year 2 Activities

To Be Determined (TBD)

Year 3 Activities

TBD

Year 4 Activities

TBD

Year 5 Activities

TBD



2. PROGRAM ELEMENTS

2.1 General Description

The following sections describe the eleven (11) program elements that the City must address within its Stormwater Management Program. Each section contains a general description of the program element, activities required by the Permit, and an implementation schedule. The SWMP provides a general view of the overall stormwater management program and goals. The SWMP does not provide authority for program implementation or descriptions of detailed process and procedures to be followed during implementation.

2.2. Program Elements

Element 1 – Structural Controls and Stormwater Collection System Operation

General Description. The intent of the Structural Controls and Stormwater Collection System Operation element is to ensure that the City operates its system in a manner that reduces the discharge of pollutants to achieve the “effective prohibition” and “Maximum Extent Practical” (MEP) standards from Section 402(p)(3)(B) of the Clean Water Act.

This includes preparing an inventory of structural controls and developing an inspection and maintenance schedule. Authority to inspect, maintain, and repair structures located on private property is also required. A Best Management Practices manual meeting the requirements of SC Regulation 72-300 and 61-9 for construction and post-construction controls will be developed to create standardized design, construction, and maintenance of controls.

NOTE: In regards to this SWMP, structural controls are defined as those structures built to modify or control the quality of stormwater runoff, the volume of runoff, or the rate of flow. Structural controls are not those items built primarily for the purpose of conveyance, e.g. pipes and ditches.

Permit Requirements. *Within 18 months of the Effective Date of Permit Number SCS790001, the Permittee shall have a program in place to include:*

- *Implementation of structural controls.*
- *Implementation of inspection and maintenance activities for structural controls held by the MS4, or privately owned systems as applicable, per a schedule for these activities in accordance to Parts II.2.F and III.B.*
- *Inventory of existing structural controls, reasonably discoverable by the*



City, for both private and those owned by the City.

- *Identification of those existing facilities requiring repair and or maintenance pursuant to the schedule in Parts II.2.F and III.B.*
- *Authority to require periodic inspection, maintenance and repair of existing privately owned structural controls.*
- *A response mechanism for citizen's complaints, such as a hotline.*
- *Assessment of policies, procedures, and regulatory requirements for implementation of site appropriate structural and non-structural controls.*
- *Additional policies, procedures and regulatory requirements needed to review all structural controls during the approval process shall be developed and implemented through standard operating procedures (SOP).*
- *Implementation of the design criteria stated in SC Regulation 72-300 and 61-9 that are applicable to the Structural Controls and Stormwater Collection System Operation element.*
- *Adopt an ordinance*

Description of Control Measures (BMPs). The following describes the control measures to be implemented to address Element 1 - Structural Controls and Stormwater Collection System Operation.

Inventory: The Part II Application contains a map of the structural controls known to exist at the time of the application submittal. These controls included only those owned, operated, and maintained by the City of Columbia. An inventory of privately owned controls was not prepared.

This inventory will be updated on the watershed schedule indicated in Part III.B of the permit to include privately owned stormwater quality control structures and will be updated thereafter on a regular basis as new controls are added or removed from the system.

Easements: Article IV, Stormwater Quantity and Quality Control of the City's Stormwater Management and Sedimentation Control Ordinance contains a requirement that the city must be granted appropriate easements for newly constructed structural controls. Existing structural controls will be reviewed on a watershed basis to determine if appropriate easements are in place. Where easements for inspection, operation, and maintenance are not in place the City request an appropriate easement from the owner. This effort will occur on a watershed basis per the schedule in Section III.B of the permit (See Appendix A).

Inspections: Structural controls will be inspected per the schedule in Section III.B of the permit. The intent of the inspection process is to determine if the control is being operated and maintained as designed. The inspection will also look for structural damages to the system. An inspection report will be completed for each structure visited and work orders prepared for Department of Public Works, as appropriate. If the system



is privately owned and deficiencies are noted, then a notice of corrective action will be sent to the owner. Enforcement personnel within the Stormwater Section will provide follow up with the owner to ensure that appropriate corrective measures have been taken.

Once a structure has been repaired, a follow up inspection will be conducted.

Maintenance: The City will provide routine maintenance on structural controls owned by the City per the original design. For existing controls that do not have an established maintenance schedule, a schedule will be developed as part of the inventory and inspection process. As inspections of controls occur and maintenance and operational issues are identified, the maintenance schedule for each control may be modified.

Privately maintained structural controls must also be operated and maintained per the original design. The City may also request a modification of the maintenance items and schedule to address issues that impact the quality, peak flow, or volume of water leaving the control. Owners of privately operated and maintained structural controls will be notified of inspection results and will be required to address both routine maintenance and structural repair issues. If the owner fails to comply with the request, then the City will take appropriate action as described in the ordinance to ensure proper operation and maintenance occurs.

Citizen's Reporting Mechanism: Citizens may contact the City through one or more of its' reporting mechanisms such as completing the form found on the City's website to report operations and maintenance issues with structural controls.

Implementation Schedule. The permit allows 18 months from the effective date for program development activities. Those activities will be listed as a Year 1 activity below with a note (07/25/11) indicating that the activity may extend to the 18 month scheduled implementation time.

Year 1 Activities

1. Develop an ordinance allowing for inspection, maintenance, and repair of existing privately owned structural controls
2. Develop a process to prepare an inventory of privately and publicly owned structural controls **(07/25/11)**
3. Prepare a condition assessment program for existing structural controls **(07/25/11)**
4. Begin routine inspection and maintenance of known structural controls **(07/25/11)**
5. Create a reporting and response mechanism for citizens **(07/25/11)**
6. Develop a Standard Operating Procedure for review and approval of proposed structural controls **(07/25/11)**
7. Implement SC Regulation 72-300 and 61-9



Year 2 Activities

1. Prepare an inventory of publicly owned structural controls added since the time of the permit application within the Lower Saluda River Watershed
2. Prepare an inventory of privately owned structural controls within the Lower Saluda River Watershed
3. Prepare an assessment of privately and publicly owned structural controls within the Lower Saluda Watershed

Year 3 Activities

TBD

Year 4 Activities

TBD

Year 5 Activities

TBD

Element 2 – Post-construction Stormwater Management in New Development and Redevelopment

General Description. The goal of the post-construction element is to protect receiving waters from the discharge of pollutants, after construction is completed, by reducing pollutants to the MEP, to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act. New development and significant redevelopment projects that disturb greater than one acre, including projects that are less than one acre, but that are a part of a larger common plan are subject to this Element.

The program has been developed with an emphasis on watershed master planning, protecting wetlands, riparian areas, natural areas, stream corridors, and other critical water quality resource areas.

Permit Requirements. *Within 18 months of the Effective Date of Permit Number SCS790001, the Permittee shall have a program in place to address stormwater runoff from new development and significant redevelopment projects that disturb greater than one acre, including projects that are less than one acre, but that are a part of a larger common plan. The program shall apply to private and public development, including roads. The program must include the following;*

- *Measurable goals for each of the four watersheds in part III.A. The City shall develop quantifiable objectives for this element according to part III.B and identify them in the appropriate annual report.*



- *Creation and implementation of design and development standards for post-construction controls consistent with the Structural Controls and Stormwater Collection System Operation, the Existing Roadways, the Flood Control Projects, and the Construction Site Stormwater Runoff Control elements of the SWMP requirements of this permit. These standards will have the overall goal of improving the quality of stormwater runoff from the MS4 while placing emphasis on the following items, wherever feasible:*
 - *Minimizing the amount of impervious surfaces (roads, parking lots, roofs, etc)*
 - *Preserving, protecting, creating and restoring ecologically sensitive areas that provide water quality benefits;*
 - *Implementing stormwater management practices that prevent or reduce adverse impacts to streams, including requiring vegetated buffers along waterways and disconnecting discharges to surface waters from impervious surfaces such as parking lots;*
 - *Seeking to avoid or prevent hydro modification of streams or other water bodies caused by development, including roads, highways, and bridges;*
 - *Implementing standards to protect trees, and other vegetation; and implementing policies to protect native soils, prevent topsoil stripping and prevent compaction of soils.*
 - *Adopting and enforcing performance standards for flow control;*
 - *Encouraging low impact development (LID) / Green Infrastructure. For example, green roofs; porous pavements, water harvesting devices such as rain barrels and cisterns; downspout disconnection, infiltration, evapotranspiration and capture and use measures. The City shall provide for a reasonable suite of these types of practices to be legally implemented;*
 - *Providing incentives for redevelopment or other activities for which environmental benefit can be demonstrated, and provisions for options such as off-site mitigation for sites where implementation of these standards should be included.*
 - *Adding specific measurable standards in a post-construction ordinance for the design and development standards implemented per part II.B.2.D.b.i-vii (e.g. flow control standard, maintenance of pre-development hydrograph, minimum pervious surface percent, etc.)*
 - *If design and development standards are not developed to include these items, then an alternative with a rationale for each item to be technically and legally implemented shall be reported according to Part II.H.*
- *Develop project review, approval, compliance, and enforcement requirements and procedures that shall apply, at a minimum, to all new development and redevelopment disturbing one acre or more, including projects less than one acre that are a part of a larger common plan of development or sale. Where necessary, the City shall adopt or revise ordinances to reasonably ensure the applicability and enforceability of such requirements and procedures at all new*



- and redevelopment sites. The procedures shall include:*
- *Development of procedures for site plan review and approval process(es) that includes inter-departmental consultations, as needed, and a required re-approval process when changes to an approved plan are desired.*
 - *Post-construction inspection process to ensure that standards are being met. That includes enforceable procedures for bringing noncompliant projects into compliance; and*
 - *A requirement that legally enforceable arrangements are made by owners/operators of new or redevelopment sites for the long-term maintenance and operation of stormwater controls at their sites; and that the City is notified of changes in the responsible party for long-term maintenance.*
 - *Develop requirements for long-term operation and maintenance of structural post-construction stormwater quality controls. The long-term operation and maintenance program will include a maintenance schedule for City owned BMP and a mechanism for tracking maintenance performed on such BMP. The program will also provide a mechanism to ensure long-term operation and maintenance of privately owned BMP. These procedures shall include:*
 - *All newly approved post construction stormwater quality controls shall be scheduled for inspection and maintenance as frequently as necessary to demonstrate proper performance but in no case less than once a year once initially inspected.*
 - *A schedule to demonstrate proper performance of post-construction stormwater quality controls to the MEP, of all new and significantly redeveloped projects and those owned by the City. The schedule shall include the number and frequency of inspections and maintenance of the controls and must be included in the year 4 report as required in parts III.B and VI.C of this permit.*
 - *The City shall document compliance with the requirements for post-construction controls by summarizing the following in the annual report.*
 - *Annual reports must include status of implementation of these items with respect to incorporation into relevant documents and implementation via relevant policies. Reports shall include proposed time frames, changes and measurable goals.*
 - *A summary of the number and types of new and redevelopment projects that the City reviewed to include the number and type of management practices installed.*
 - *A summary of management practice maintenance inspections conducted by the City, including a summary of the number requiring maintenance or repair, the number brought into compliance within stipulated timeframe, and the number of enforcement actions taken.*
 - *A summary of any changes to local ordinances to implement the standards outlined in this section.*



- *The City shall track and maintain records of post-construction review, approval, compliance and enforcement activities. A summary of this information shall be included in the City's annual report.*

Description of Control Measures (BMPs). The following describes the control measures to be implemented to address Element 2 - Post-construction Stormwater Management in New Development and Redevelopment.

Design Standards: The City of Columbia will create a set of design standards and Best Management Practices that address water quality issues. The design standards and BMP Manual may be updated from time to time to incorporate additional BMPs. Removal or significant modification of a BMP contained within the BMP Manual will be subjected to the process contained within Section II. H. and Section VII.B. Until such time as the City prepares its own BMP Manual, the City will use the BMP Manual prepared by the South Carolina Department of Health and Environmental Control.

Plan review: Design and construction drawings for new development and significant redevelopment must be submitted to the City for review and approval. Plans will be reviewed by a “Certified Plan Reviewer” for adherence to Article IV, Stormwater Quantity and Quality Control of the City’s Stormwater Management and Sedimentation Control Ordinance and minimum design standards. Deficiencies in the design and drawings will be noted and revisions required prior to plan approval.

Inspection:

Once plans have received final approval to be constructed, a City inspector will be assigned the project and inspections will be scheduled as appropriate for the project size, complexity, and duration. Inspections will be documented on the appropriate inspection form. The project owner, contractor, and engineer of record will be notified in writing of the inspection results and of any corrective items that must be addressed. A follow up inspection will be conducted to ensure that corrective measures have been taken.

Enforcement action per Article IV, Stormwater Quantity and Quality Control of the City’s Stormwater Management and Sedimentation Control Ordinance will be taken as necessary.

Maintenance: When construction of a post-construction BMP is complete and the BMP has been accepted into the City’s system, the Public Works Department (PWD) will be notified that a new structural control has been added to the inventory. The PWD will also be provided a copy of the recommended maintenance schedule.



Implementation Schedule.

Year 1 Activities

1. Develop an ordinance related to post-construction controls. The ordinance must provide for development of design standards, plan review and approval processes, site inspections, enforcement activities, and long-term maintenance of controls,
2. Create design and development standards for post-construction controls (**07/25/11**),
3. Develop project review, approval, compliance, and enforcement requirements (**07/25/11**),
4. Develop long-term operation and maintenance requirements for post-construction stormwater structural controls (**07/25/11**),
5. Develop a maintenance schedule for city owned post-construction structural controls (**07/25/11**),

Year 2 Activities

TBD

Year 3 Activities

TBD

Year 4 Activities

TBD

Year 5 Activities

TBD

Measurable Goals

Measurable goals will be developed and documented for each of the watersheds contained in Part III.A of the permit in the annual report preceding the implementation within that watershed.

Element 3 – Existing Roadways

General Description. The Existing Roadways Element is designed to address runoff from roadway maintenance, construction, and encroachments. The majority of roads within the City limits; however, are owned, operated, and maintained by the South Carolina Department of Transportation (SCDOT). Because the SCDOT has been issued a separate NPDES Stormwater Phase I permit, the City is only responsible for implementing this element on roads that the City owns.



Permit Requirements. *Within 18 months of the Effective Date of Permit Number SCS790001, the Permittee shall have a program in place to include:*

- *Road Maintenance:*
The Permittee shall develop and implement policies, procedures, or regulatory requirements for the use of structural and nonstructural controls, and shall revise maintenance activities as appropriate to minimize the amount of pollutants that are captured in the stormwater runoff from roadways. Regular inspection and maintenance of these structures in accordance to Parts II.2.F and III.B as well as the periodic disposal of trash will be part of these activities.
- *Road Construction:*
All City crews and hired contractors shall address stormwater quality issues when performing construction activities within right-of-ways. A road construction SOP that includes water quality BMP must be implemented.
- *Road Encroachments:*
Spill prevention, material management practices, and good housekeeping shall be considered when issuing encroachment permits.
- *Implementation of the design criteria stated in SC Regulation 72-300 and 61-9 that are applicable to this Existing Roadways element.*

Description of Control Measures (BMPs). The following describes the control measures to be implemented to address Element 3 – Existing Roadways.

Road Construction: The City shall adhere to the design standards and recommended BMPs in its BMP manual when constructing new roadways. Once constructed, permanent controls will be noted in the City's inventory of structural controls and will be inspected and maintained per the design recommendations.

City hired road contractors are required via their contract with the City to adhere to City standards during construction.

Road Maintenance: The City of Columbia Public Works Department is seeking accreditation under the American Public Works Association. “The purpose of the accreditation program is to provide a means of formally verifying and recognizing public works agencies for compliance with the recommended practices set forth in the Public Works Management Practices Manual.”, American Public Works Association. As part of the process, the Department will incorporate water quality BMPs into its standards and practices, as appropriate.

Road Encroachments: The City of Columbia requires that an Encroachment Permit application be submitted to the City when individuals desire to construct within the City's right of way. The encroachment permit review will include consideration of water quality concerns. Generally, road encroachment permit applications to the City are for projects with relatively minor potential for water quality impacts – signage ,driveways, etc. Larger



projects with a larger potential impact are typically required to submit a land development application.

Implementation Schedule.

Year 1 Activities

1. Review the City's road maintenance and construction policies, procedures, and design standards for water quality structural and non-structural control measures **(07/25/11)**
2. Revise the City's road maintenance and construction practices to include water quality control measures, as appropriate **(07/25/11)**
3. Begin regular inspection of structural controls associated with roadway construction and maintenance **(07/25/11)**
4. Create a Standard Operating Procedure for construction activities in road rights-of-way **(07/25/11)**
5. Consider spill prevention, material management practices, and good housekeeping when issuing encroachment permits
6. Implement SC Regulation 72-300 and 61-9

Year 2 Activities

TBD

Year 3 Activities

TBD

Year 4 Activities

TBD

Year 5 Activities

TBD

Element 4 – Flood Control Projects

General Description. The City of Columbia does not own, operate, or maintain flood control structures within it's jurisdiction at the time of this writing. The permit does require; however, consideration of water quality impacts when planning, designing, and constructing stormwater capital improvement projects; therefore, focuses on theses activities.

Permit Requirements. *Within 18 months of the Effective Date of Permit Number SCS790001, the City shall have a program in place to include:*



- *Policies, procedures, or regulatory requirements, as necessary, to address water quality issues when retrofitting existing flood control structures.*
- *Procedures that incorporate these ideas into the planning stages of any new or existing flood control project. Additionally, the Permittee shall assess water quality impacts on receiving water for all flood management projects identified in the watershed planning process (or equivalent).*
- *Implementation of the design criteria stated in SC Regulation 72-300 that are applicable to this Flood Control Projects element.*

Description of Control Measures (BMPs). The following describes the control measures to be implemented to address Element 4 – Flood Control Projects.

As stormwater Capital Improvement Projects, retrofits of existing structural controls, and new flood control structures are planned and designed, consideration will be given to overall water quality. Design standards and requirements contained within the BMP Manual must be adhered to in the design and construction of the project. Additionally, the project must conform to the requirements of SC Regulation 72-300.

In watersheds that contain a stream listed on the 303(d) list or that has an established Total Maximum Daily Load (TMDL) the project plan must specifically address the pollutant of concern. It is the responsibility of the designer to identify the impaired water, the pollutant of concern, the proximity of the planned project to the impaired water, and measures to address the pollutant of concern during and after project construction.

Implementation Schedule

Year 1 Activities

1. Create a Standard Operating Procedure to address water quality issues when a new flood control structure is proposed (**07/25/11**)
2. Implement SC Regulation 72-300 and 61-9, as appropriate, when a new flood control structure is proposed

Year 2 Activities

TBD

Year 3 Activities

TBD

Year 4 Activities

TBD

Year 5 Activities

TBD



Element 5 – Municipal Waste Treatment, Storage, or Disposal Facilities not Covered by an NPDES Stormwater Permit

General Description. Because the City does not own, operate, or maintain an unpermitted municipal waste treatment, storage, or disposal facility within its jurisdiction, the focus of this Element is on good housekeeping practices throughout municipal operations. Education and training are at the center of this Element.

Permit Requirements. *The Permittee shall implement the specific activities for Industrial Runoff in item II.B.8, below on or before the implemented date prescribed in the SWMP Implementation Schedule in Part III B.*

- *Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations as an integral part of the SWMP;*
- *Identify all facilities, prioritize their periodic inspection and implement good housekeeping practices; and,*
- *Using training materials that are available from SCDHEC, EPA, or other organizations, include in your program employee training to prevent and reduce stormwater pollution from all municipal activities such as park and open space maintenance, new construction and land disturbances, and stormwater system maintenance among others.*

Description of Control Measures (BMPs). The following describes the control measures to be implemented to address Element 5 – Municipal Waste Treatment, Storage, or Disposal Facilities not Covered by an NPDES Stormwater Permit.

Good housekeeping: The City Public Works and Fleet Services facility is located within the City limits and has the potential to discharge pollutants to the MS4. A Stormwater Pollution Prevention Plan (SPPP) is currently being developed for this facility. The City also owns three (3) fueling stations; 1) Industrial Park, 2) Harbison, and 3) Public Works facility.

Training: The City will provide a routine training program targeting overall NPDES compliance and good housekeeping activities. Targeted staff will include those that have the potential for a direct impact on water quality associated with stormwater runoff. Key personnel may include construction and maintenance staff, those that regularly use potential pollutants, and those employed within City facilities that store, use, or dispose of potential pollutants.

Implementation Schedule

Year 1 Activities



1. Identify City owned properties that have the potential to contribute pollutants to runoff
2. Prioritize periodic inspections for the identified facilities
3. Develop an operations and maintenance plan (good housekeeping) to reduce or prevent polluted runoff from the identified facilities
4. Develop and implement a training program for employees to reduce or prevent storm water pollution from City owned facilities

Year 2 Activities

TBD

Year 3 Activities

TBD

Year 4 Activities

TBD

Year 5 Activities

TBD

Element 6 – Pesticides, Herbicide, and Fertilizers (PHFs) Application

General Description. Clemson University, Department of Pesticide Regulation provides for training and certification of commercial applicators of pesticides and herbicides. The goal of this Element is to educate the general public on the proper storage, use, and disposal of pesticides, herbicides, and fertilizers and to supplement the Clemson training with staff training and outreach focusing on fertilizer application.

Permit Requirements *Within 18 months of the Effective Date of Permit Number SCS790001, the City shall develop an education and public awareness program for the general public, city landscaping staff, and commercial applicators to teach the proper use of pesticides and fertilizers. Should there be an identified impairment potentially caused by PHF application, there may be additional activities to be carried out by the City to abate the source to the MEP.*

Description of Control Measures (BMPs). The following describes the control measures to be implemented to address Element 6 – Pesticides, Herbicide, and Fertilizers (PHFs) Application.

The City will make information regarding the appropriate storage, use, and disposal of pesticides, herbicides, and fertilizers available to commercial applicators and the general public through brochures, websites, mailings or other means.



The City will determine the most appropriate audiences to target with any PHF campaign(s) based on who is most likely to contribute to PHF pollution problems. One or more campaigns will be developed based on the identified audience's barriers to and motivators for use of best management practices. Appropriate media and methods will be used to reach the audience.

City Departments overseeing the application of pesticides and herbicides will have Clemson Certified Applicators trained as part of the Clemson University, Department of Pesticide Regulation, to oversee the appropriate use, storage, and disposal of pesticides and herbicides. Basic training will also be developed for and delivered to City staff applying pesticides and herbicides under the supervision of these Certified Applicators. Additional training will be developed for City staff that handle fertilizer in its proper use, storage and disposal.

Implementation Schedule

Year 1 Activities

1. Develop a public education and awareness program to teach the proper use of pesticides, herbicides, and fertilizers (**07/25/11**)
2. Develop a training program for City staff in the proper use, storage and handling of pesticides, herbicides, and fertilizers (**07/25/11**)

Year 2 Activities

TBD

Year 3 Activities

TBD

Year 4 Activities

TBD

Year 5 Activities

TBD

Element 7 – Illicit Discharge and Improper Disposal

General Description. Direct discharge of pollutants into the storm drainage system can have a significant impact on water quality in the receiving stream. In an effort to reduce the potential for pollutants entering waterways via direct discharge the City has developed a program to detect and eliminate illicit discharges. The program includes routine monitoring of outfalls, tracking of non-stormwater discharges, inspection of facilities, and a mechanism for requiring the removal of illicit discharges. The program



also addresses spill prevention and response and limiting seepage of sanitary sewage into the storm drainage system.

Permit Requirements. *Within 18 months of the Effective Date of Permit Number SCS790001, the City shall develop and implement a program, including a schedule, to detect and remove (or require the discharger to the MS4 to apply for a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include provisions for the following:*

- *Inspection, Ordinances, and Enforcement Measures:*
The City shall update the Stormwater Ordinance to enable inspection and enforcement measures to achieve the effective prohibition required under section 402(p)(3)(B)(ii) of the Clean Water Act.
 - *Dry Weather Field Screening Program:*
The City shall have a program in place to include:
 - *Field screening of all outfalls discharging from the MS4, at least once per permit term per Part III.B:*
 - *Testing; and*
 - *Recording of collected field screening data.*
 - *Investigation and Elimination of Suspected Illicit and/or Improper Disposal:*
The City shall develop and implement standard procedures to be followed to investigate portions of the MS4 that, based on the results of the field screen or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-stormwater.
- The City shall have a program in place to include:*
- *Identification and tracking of illicit discharges in identified watershed areas;*
 - *Recording citizen complaints;*
 - *A response mechanism for citizen complaints, such as a hot line to report suspected illicit discharges and improper disposal;*
 - *Field-screening and citizen complaint follow-up.*
 - *The City shall address all identified instances of illicit connections and improper disposal as soon as possible but no later than 10 days from source identification.*
 - *When, and if, elimination will take longer than 10 days, the City shall require the responsible party to submit a plan with a schedule for elimination that meets the ASAP standard in II.B.7.c.v, above.*
 - *Spill Prevention and Response:*
The City shall develop and implement procedures to prevent, contain, and respond to spills that may discharge into the MS4 in a manner that effectively mitigates potential pollutant discharges to surface or ground waters.

The City shall have a program in place to include:



- *Review and summary of all existing spill prevention and response programs within the jurisdiction of the City, including the City's Hazardous Material Contingency Plan. Agency and organizational responsibilities should also be identified and summarized.*
- *Coordination and/or cooperative activities and program supplements as necessary.*
- *Training of appropriate personnel in spill prevention and response procedures and in techniques to mitigate pollutant discharges from spills to the MS4, surface waters, or ground water. Personnel shall be trained to recognize and timely assess the nature of spills and to promptly report all spills to the appropriate authority.*
- *Provide maps of the MS4 area to response agencies as requested.*
- *Oils, Toxics, and Household Hazardous Waste Control:*
The City shall prohibit to the MEP the discharge or disposal of used motor vehicle fluids, and household hazardous wastes, into the MS4. The Permittee shall have a program in place to include implementation of a public outreach program.
- *Detection and Elimination of Sanitary Sewage and Septage Seepage in the MS4:*
Controls must be in place to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems wherever applicable. The City shall implement the program, as described in the SWMP, to limit the infiltration of sanitary seepage into the MS4. Where the City has authority over the sewer collection system, the City shall implement the Sanitary Sewer Seepage and Infiltration Control Program and the Illicit Discharge Detection and Elimination program as required herein.

Description of Control Measures (BMPs). The following describes the control measures to be implemented to address Element 7 – Illicit Discharge and Improper Disposal.

Illicit Discharge Detection and Elimination: The city will conduct visual inspection during dry weather of all outfalls according to the schedule established in Section III.B of the permit. Dry weather is considered to be a period of not less than 72 hours with less than 0.1 inch of rainfall within the watershed.

During the inspection those outfalls that have a dry weather flow will be identified for further investigation. Dry weather flow will be tracked upstream to the source or until the flow disappears. Testing of the flow will conducted, as necessary, to determine whether or not the flow contains potential pollutants.

Those discharges that contain non-permitted flows will be removed from the MS4 per the requirements of Article IV, Stormwater Quantity and Quality Control of the City's Stormwater Management and Sedimentation Control Ordinance. Those discharges that do not contain non-permitted flows will be noted in the database. Detailed field operating procedures will be developed for the illicit discharge tracking and elimination process.



Spill Prevention and Response: The City will utilize, to the extent possible, existing public outreach programs (SCDHEC, Richland County, etc.) regarding oils, toxics, and household waste disposal to meet the requirements of this element and the requirements of Element 11 – Public Education and Outreach on Stormwater Impacts and Public Involvement/Participation.

Sanitary sewage and septic seepage: The City of Columbia Wastewater Maintenance Division currently implements a Sanitary Sewer Overflow program. This Division also conducts Inflow and Infiltration (I&I) maintenance activities to limit the amount of sewer that escapes the system through cracks, leaks, and overflows.

Citizen Reporting Mechanism: Citizens may contact the City through one or more of its' reporting mechanisms such as completing the form found on the City's website to report potential illicit discharges, accidental spills, and illegal dumping.

Implementation Schedule

Year 1 Activities

1. Develop an ordinance allowing for inspection and enforcement of potential illicit discharges and to prohibit to the maximum extent practical the discharge or disposal of used motor vehicle fluids and household hazardous wastes into the storm sewer system (**07/25/11**)
2. Develop a schedule for field screening of all outfalls (**07/25/11**)
3. Develop a Standard Operating Procedure for identifying and tracking potential illicit discharges (**07/25/11**)
4. Create a reporting and response mechanism for citizens (**07/25/11**)
5. Review and summarize existing spill prevention and response programs within the City (**07/25/11**)
6. Develop a training program for appropriate personnel in spill prevention and response procedures (**07/25/11**)
7. Provide maps to response agencies when requested
8. Develop a means of tracking and reporting sanitary sewer overflow and infiltration/inflow activities (**07/25/11**)

Year 2 Activities

TBD

Year 3 Activities

TBD

Year 4 Activities

TBD



Year 5 Activities

TBD

Element 8 – Industrial Runoff

General Description. Element 8 – Industrial Runoff requires the City to address both privately and publically owned facilities that treat, store, dispose of, or recover hazardous materials or materials that have the potential to contribute substantial pollutant loadings to the MS4.

A function of this program will be to identify and inspect appropriate facilities. Annual training on the requirements of the City's stormwater management program will be provided to operators of these facilities.

Permit Requirements. *Within 18 months of the Effective Date of this permit, the Permittee shall have a program in place, including any necessary ordinance, to:*

- *Identify priorities and procedures for inspections:*
Identify all targeted facilities and determine priority sites to be inspected for determination of NPDES stormwater permit compliance and / or compliance with the City's Industrial Runoff Control Program requirements. Also, the Permittee shall provide a listing in each ANNUAL REPORT of additionally identified industrial facilities which discharge stormwater into the MS4 which have not been previously reported. Not only stormwater discharges from the eleven (11) categories of industrial activity identified in SC Regulation 61-9 122.26(b)(14), but also those facilities not subject to NPDES permitting requirements that the City determines to have the reasonable potential to contribute substantial pollutant loadings to the MS4 must be included as required in parts III.B and VI.C of this permit.
- *The City shall have a program in place to include:*
 - *A city wide inventory of all facilities identified in Part 8.a above to be submitted the first annual report. This inventory will be updated with new and removed facilities. Updates, citizen complaints and incidents of noncompliance shall be included in each annual report.*
 - *Necessary follow-up activities for the facility inspection program to ensure the control of identified pollution sources through NPDES, or MS4 means. The City shall perform periodic inspections of all facilities. The City shall maintain records of inspections and enforcement.*
 - *Inspect all sites until 100% of all sites are inspected at least once during the first permit term.*



- A schedule with city-wide prioritization of the number and frequency of inspections all facilities identified in Part 8.a. must be included in the year 4 report as required in parts III.B and VI.C of this permit
- An annual Industrial Operators Training Course to educate and inform local industries of appropriate stormwater controls and pollution prevention activities. Enhance as necessary.
- *Review of Stormwater Pollution Prevention Plans for Industries:*
The City shall have a program in place to include the following:
 - Review of stormwater pollution prevention plans for priority facilities and create a SOP regarding spill, complaints, un-permitted discharges and other violations. The City must implement a method to notify SCDHEC Bureau of Water of suspected noncompliance with NPDES permitted facilities or those that may be required by SCDHEC to have a permit but do not.
 - Legal authority necessary to perform inspections and to enforce any penalties and/or fines necessary to comply with the requirements of this NPDES permit.

Description of Control Measures (BMPs). The following describes the control measures to be implemented to address Element 8 – Industrial Runoff.

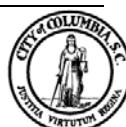
Inventory: Appendix C contains a list of the industrial facilities identified during the Part II Application process within the City of Columbia that meet the criteria contained in Section II.B.8 of the permit.

Prioritization: In general, facilities have been prioritized for frequency of inspection based on the following criteria.

- Type and volume of pollutant(s) stored and used on-site
- History of major spills of pollutants
- Proximity of site to a waterbody
- Relationship of pollutants on-site to stream impairment(s) within the watershed

Inspections: Inspections will be conducted in accordance with Article IV, Stormwater Quantity and Quality Control of the City's Stormwater Management and Sedimentation Control Ordinance. While facilities may be inspected more often if warranted, each facility listed will be inspected no less than once per permit term. All inspections will be documented and deficiencies will be reported to the facility owner. Follow up inspections will be conducted to ensure that the noted deficiencies have been addressed. Enforcement actions will be taken as required by ordinance.

Stormwater Pollution Prevention Plans: During the inspection process, Stormwater Pollution Prevention Plans (for facilities requiring a SPPP) will be reviewed to ensure



that the plan is current and that it addresses all of the potential pollutants stored and used on-site.

Facilities suspected of noncompliance with their NPDES permit will be reported to the SCDHEC Bureau of Water via written communication. The facility owner or manager will be copied on the correspondence as appropriate.

As part of the Annual Report, the City shall provide an inventory of industrial facilities. The inventory shall note which facilities have an NPDES permit and which facilities do not. This action shall meet the requirement of Section II. B. 8.c.i. – “The City must implement a method to notify SCDHEC Bureau of Water of suspected noncompliance with NPDES permitted facilities or those that may be required by SCDHEC to have a permit but do not.”

Training: The City will provide an annual Industrial Operators Training course to educate operators on appropriate stormwater controls and pollution prevention activities. This course may be taught in person, on-line, or in conjunction with other jurisdictions.

Citizens Reporting Mechanism: Citizens may contact the City through one or more of its’ reporting mechanisms such as completing the form found on the City’s website to report potential spills and unauthorized discharges of pollutants from industrial facilities.

Implementation Schedule

Year 1 Activities

1. Develop an ordinance to allow for inspection and monitoring of facilities and that prohibits the discharge of pollutants into the storm sewer system (**07/25/11**)
2. Prepare an inventory of facilities that meet the criteria found in Part II. B.8 of the permit (**07/25/11**)
3. Prioritize facilities for inspection and develop an inspection schedule (**07/25/11**)
4. Create an operators training course (**07/25/11**)
5. Create a Standard Operating Procedure regarding spills, complaints, un-permitted discharges and other violations of the ordinance (**07/25/11**)

Year 2 Activities

TBD

Year 3 Activities

TBD

Year 4 Activities

TBD



Year 5 Activities

TBD

Element 9 – Construction Site Stormwater Runoff Control

General Description. The intent of the Construction Site Stormwater Runoff Control Element is to reduce the quantity of pollutants leaving active construction sites through effective design standards, plan review, and site inspection measures. The City will guide development via a BMP Manual and will provide training to designers. Plan reviewers and site inspectors will be certified appropriately and citizens will be provided a mechanism for reporting potential violations of Article IV, Stormwater Quantity and Quality Control of the City's Stormwater Management and Sedimentation Control Ordinance.

Permit Requirements. *The City shall implement a program, including any necessary ordinance, to reduce erosion and sedimentation at construction sites such that sediment is retained on-site to the MEP within 18 months of the Effective Date of Permit Number SCS790001. All Stormwater management and sediment/erosion control plans shall adhere to the standards set forth in 48-1-10, et seq, S.C. Code of Laws, 1976, SC Water Classifications and Standards, (SC Regulation 61-68 and 61-69), Water Pollution Control Permits (Chapter 10 Title 48 of the Code of Laws of South Carolina) (SC Regulation 61-9), and in the SC Stormwater Management and Sediment Reduction Regulations Chapter 72 and Chapter 14 Title 48 of the Code of Laws of South Carolina.*

- *Site Planning and Non-structural & Structural Best Management Practices:*
Specific activities to be completed under this item are:
 - *Develop a Design Manual to be utilized by plan preparers and designers submitting plans for review to the Permittee. The Design Manual shall include Water Quality Protection BMP, as appropriate.*
 - *Ensure plan reviewers are either qualified professionals as defined in South Carolina Regulation 72-300 and 61-9 or have completed, and become certified through, a plan reviewer course acceptable to the SCDHEC.*
 - *Develop and implement procedures for site plan review for all sites that disturb 1 acre or more. Additionally, identify potential water quality impacts that the discharge of pollutant(s) of concern to TMDL waters and to waters on the South Carolina 303(d) List of Impaired Waters may have. The Pollution Prevention Plan shall limit sediment discharges and protect water quality to the MEP and shall include an assessment showing that the BMPs selected will control the construction and post-construction stormwater discharges such that the stormwater discharges will not cause or contribute to a violation of water quality standards.*



- An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to enforce compliance with the effective prohibition of 402(p)(3)(B)(ii) of the CWA including stop work orders, penalties, and / or holding of occupancy permits.
- Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.
- *Inspection and Enforcement:*
Specific activities to be completed under this item are:
 - Develop, implement, and use a permit tracking system. The system should track a project from plan review to final stabilization. This includes inspection and enforcement activities. The tracking system should enable the City to develop a list of ongoing facilities and to prioritize them for inspection. It should also include a mechanism to transition the tracking of operation and maintenance of stormwater controls from the construction program to the post construction program.
 - Develop and implement a SOP for inspections and escalation of enforcement. Specify the minimum number of inspections that will be performed during the term of the permit and establish progressive goals regarding the number of sites to be inspected.
 - All new approvals must be inspected initially within the first two weeks of commencement of land disturbing activity.
 - A response mechanism must be provided to report citizen complaints, such as a hotline. Response time to the complainant shall be no later than two business days and, if appropriate, site visit no later than three business days from initial complaint.
 - All active sites shall be inspected at least monthly during construction.
 - All inspection and enforcement data shall be thoroughly documented in the tracking system.
 - Ensure that the City's inspectors are either qualified professionals as defined in South Carolina Regulation 72-300 or 61-9 or have completed, and become certified through, an erosion prevention and sediment control inspector course acceptable to the SCDHEC.
- *Site Operator Training:*
Provide training to construction site operators to emphasize the importance of the proper installation and maintenance of sediment controls. Develop and implement an effective communication process with construction contractors to educate them on areas in which improvements are needed and to enforce any required actions. The City should offer periodic training every two years.
- *Decision process:*
The City must document its decision process for the development of the Construction Site Stormwater Runoff Control program. Such documentation may be included in the City SWMP or in the annual report submitted pursuant to Section 5 of



this permit. The City must develop a rationale statement that addresses the overall construction site stormwater control program and the individual BMP, measurable goals, and responsible persons for the program. The rationale statement must include the following information, at a minimum:

- *The mechanism (ordinance or other regulatory mechanism) that will be used to require erosion and sediment controls at construction sites and why that mechanism was chosen. If there is a need to develop the mechanism, describe the plan and a schedule to do so. If the ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with your SWMP description.*
- *The SOP to ensure compliance with the erosion and sediment control regulatory mechanism, including the sanctions and enforcement mechanisms that will be used to ensure compliance. Describe the procedures for when certain sanctions will be used. Possible sanctions include non-monetary penalties (such a stop work orders), fines, bonding requirements, and/or permit denials for non-compliance.*
- *Requirements for construction site operators to implement appropriate erosion and sediment control BMP and control waste at construction sites that may cause adverse impacts to water quality. Such waste includes discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste. Procedures for plan review, including the review of preconstruction site plans, which incorporate consideration of potential water quality impacts. For construction projects that disturb 1 acre or more and discharge the pollutant or pollutants of concern to a water on the South Carolina 303(d) List of Impaired Waters, the Stormwater Pollution Prevention Plans prepared by applicants for construction sites that City of Columbia reviews and approves must limit sediment discharge and must contain a written quantitative and qualitative assessment showing that the BMP selected will control the construction and post construction stormwater discharges so that the stormwater discharges will not have reasonable potential to cause or contribute to a violation of water quality standards. A copy of the most current 303(d) List of Impaired Waters can be obtained from:*

*Water Quality Division
Bureau of Water
SCDHEC
2600 Bull Street
Columbia, SC 29201*

- *Your procedures for receipt and consideration of information submitted by the public. Consider coordinating this requirement with your public education program.*



- *Your SOP for site inspection and enforcement of control measures, including how you will prioritize sites for inspection.*
- *Who is responsible for overall management and implementation of your construction site stormwater control program and, if different, who is responsible for each of the BMPs identified for this program.*
- *Describe how you will evaluate the success of this minimum measure, including how you selected the measurable goals for each of the BMPs.*
- *The City will begin implementation of the design criteria stated in SC Regulation 72-300 and 61-9 which are applicable to the Construction Site Stormwater Runoff Control element.*
- *Develop procedures for receipt and consideration of information submitted by the public.*

Description of Control Measures (BMPs). The following describes the control measures to be implemented to address Element 9 – Construction Site Stormwater Runoff Control.

Article IV, Stormwater Quantity and Quality Control of the City's Stormwater Management and Sedimentation Control Ordinance authorizes the creation of a Stormwater Management program to, in part, address runoff from construction sites. A Best Management Practices Manual will provide minimum design standards and guidance on the use of BMPs to reduce erosion, control sediment, and to address other water quality concerns.

To ensure that designers adhere to the standards developed in the BMP Manual, the City will review plans for all sites one (1) acre and above and for smaller sites that are part of a larger planned development. Plans will be reviewed to determine compliance with the ordinance, the BMP Manual, and any relevant TMDLs.

The following sections describe the proposed activities within this element.

Design Standards: The City of Columbia will revise its existing design standards to address water quality issues and will create Best Management Practices to address those issues. The design standards and BMP Manual may be updated from time to time to incorporate additional BMPs. Removal or significant modification of a BMP contained within the BMP Manual will be subjected to the process contained within Section II. H. and Section VII.B.

Plan review: Design and construction drawings for new development and significant redevelopment must be submitted to the City for review and approval. Plans will be reviewed by a “Certified Plan Reviewer” for adherence to Article IV, Stormwater Quantity and Quality Control of the City’s Stormwater Management and Sedimentation



Control Ordinance and minimum design standards. Deficiencies in the design and drawings will be noted and revisions required prior to plan approval.

Inspection:

Once plans have received final approval to be constructed, a certified City inspector will be assigned the project and inspections will be scheduled as appropriate for the project size, complexity, and duration. Inspections will be documented on the appropriate inspection form. The project owner, contractor, and engineer of record will be notified in writing of the inspection results and of any corrective items that must be addressed. A follow up inspection will be conducted to ensure that corrective measures have been taken.

Enforcement action per Article IV, Stormwater Quantity and Quality Control of the City's Stormwater Management and Sedimentation Control Ordinance will be taken as necessary.

Citizen's Reporting Mechanism: Citizens may contact the City through one or more of its' reporting mechanisms such as completing the form found on the City's website to report potential violations of the Construction Site Runoff Program.

Site Operator Training: Training for site operators will be provided every two (2) years as required by the permit. Potential topics for the training include (by way of example):

- Installation of controls
- Maintenance of controls
- Principles of sediment and erosion control
- Handling and disposal of construction site waste
- Construction site good housekeeping

Permit Tracking System: In order to more efficiently track construction site program permitting, inspection, and enforcement activities, the City will develop a permit tracking system. A system is currently under development by the City. Per the City's contract with its consultant.

“The “NPDES Compliance Tracking System” (NCTS) is a software program designed to provide a method for tracking the City’s forthcoming National Pollutant Discharge Elimination System (NPDES) stormwater permit requirements...

The software places a high level of importance on the management of construction sites and post-construction activities as these are two major components of the permit. Furthermore, a plan will be developed for a seamless integration of the software into the City’s GIS and computerized maintenance management system (CMMS).”



Implementation Schedule

Year 1 Activities

1. Develop an ordinance to reduce erosion and sedimentation associated with construction sites (**07/25/11**)
2. Create a manual containing design standards and BMPs (**07/25/11**)
3. Create a plan review, inspection, and enforcement program (**07/25/11**)
4. Develop a Standard Operating Procedure for inspections and enforcement activities (**07/25/11**)
5. Develop, implement, and use a permit tracking system (**07/25/11**)
6. Create a reporting and response mechanism for citizens (**07/25/11**)
7. Develop a site operators training program (**07/25/11**)
8. Document the decision process for development of the Construction Site Runoff Program (First Annual Report)

Year 2 Activities

TBD

Year 3 Activities

TBD

Year 4 Activities

TBD

Year 5 Activities

TBD

Decision Process

The City will document the decision process as part of its first annual report.

Element 10 – Monitoring Program

General Description. Watersheds within the City may contain waterbodies impaired for a variety of pollutants. The State has also issued a Total Maximum Daily Load for Gills Creek. The purpose of the Monitoring Program is to collect data in these watersheds to establish baseline data and to monitor the progress of implemented Best Management Practices. The Monitoring Program may include piped and ditched outfall monitoring, BMP monitoring, and/or in-stream monitoring.



Permit Requirements. *The Permittee shall implement the monitoring program as described in detail in Part V of this permit. In addition, the program shall incorporate monitoring requirements identified in Part II.B.7.b and in Part IV, if applicable.*

Description of Control Measures (BMPs). The following describes the control measures to be implemented to address Element 10 – Monitoring Program.

A map containing those watersheds within the City that contained impaired waters listed on the State's 303(d) list and those that have a TMDL can be found in Appendix D.

The City will develop a monitoring plan to identify sources of pollutants associated with a TMDL/and/or impairment, identify appropriate BMPs to address those sources, and to demonstrate progress towards reducing or eliminating those sources. As the plan is implemented, it is anticipated that the plan may require modification in order to effectively meet the requirements of the permit. Recommended revisions to the plan will be made with each annual report and implemented as contained within the plan revision.

Implementation Schedule

Year 1 Activities

1. Develop a monitoring plan to identify sources of pollutants associated with a TMDL or impairment

Year 2 Activities

TBD

Year 3 Activities

TBD

Year 4 Activities

TBD

Year 5 Activities

TBD

Element 11 – Public Education and Outreach on Stormwater Impacts and Public Involvement/Participation

General Description. For the stormwater quality program to be successful there must be “buy-in” from City staff, City leadership, and from the citizens of Columbia. In order to build support from all stakeholders, the City will implement an educational program that includes disseminating information to the public, engaging the public in the process, and training of City staff.



Permit Requirements. Within 18 months of the Effective Date of Permit Number SCS790001, the City shall have an ongoing program in place throughout the permit term to include:

- A public education program to distribute educational materials or conduct Equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff. Additional information can be obtained from the SCDHEC Stormwater Phase II Outreach Resource Website.
- The City must document the decision process for the development of a stormwater public education and outreach program in the annual report submitted pursuant to part V.E. of this permit.
- Implementation of a Public Education and Outreach program on Stormwater Impacts. Enhance and modify as necessary.
- A comprehensive training program for City employees on the Implementation of this SWMP.
- Provide designer training for plan reviewers, construction inspectors and the design community with emphasis on post-construction water quality BMP planning, design, construction and maintenance. This must include BMP design and use as well as sediment loss prevention.
- Implementation of a public education program regarding used oil recycling and household hazardous waste programs as described in Item II.B.7.e, above. Illicit discharge awareness and a response mechanism must be provided to report citizen complaints, such as a hotline
- Development and implementation of the public education and outreach program on stormwater impacts, and the public involvement/participation programs to encourage the public to reduce their use of pesticides, herbicides, and fertilizers. The program may include Carolina Yards and Neighborhoods, Home-A-Syst or equivalent programs which assist homeowners in minimizing residential use of pesticides & herbicides and in improving landscape design and maintenance to protect the environment and restore native habitats and a yard waste component. The program may include placing brochures/pamphlets prepared on these pertinent topics in public buildings for distribution to the residents and publishing a semi-annual article/notice in a community newsletter announcing the availability of these materials and providing tips for homeowners of ways to reduce their use of pesticides, herbicides and fertilizers. If utilizing public employee applicators, training can be accomplished through the Clemson University Department of Pesticide Regulation.
- The City shall develop a program to address domestic animal waste. Pet owners and others must be educated about the adverse impact this source, once transported via runoff, may have on water quality. The City will work with pet owners, homeowners associations, or others as it may be appropriate to incorporate a stormwater quality message to minimize the stormwater pollution



potential associated with animal waste. Resources may be obtained from EPA and SCDHEC. The Animal Waste component of the Public Education & Public Participation program will be outlined in the first ANNUAL REPORT and implemented in each watershed on or before the implemented date prescribed in the SWMP Implementation Schedule in Part III B.

- *For Construction Site Stormwater Runoff Control – See Items II.B.9.c and II.B.9.d.iv, see Construction Site Runoff, above. The Permittee must have developed, and implemented the provisions of this Public Education and Outreach on Stormwater Impacts and Public Involvement / Participation applicable to the technical provisions of the Construction Site Stormwater Runoff Control element.*
- *The City shall develop a training program for city employees regarding the reduction of pollutant runoff from municipal operations.*
- *The City shall involve the public in the development, submittal and implementation of the stormwater management program.*
- *The City shall conduct an annual review and, if appropriate, revise this Public Education and Outreach on Stormwater Impacts and Public Involvement and Participation element to upgrade it to achieve the MEP standard.*

Description of Control Measures (BMPs). The following describes the control measures to be implemented to address Element 11 – Public Education and Outreach on Stormwater Impacts and Public Involvement/Participation.

Public Education: Program content:

1. Pesticides, herbicides, and fertilizers
2. Pet waste
3. Used oil and household waste

Program activities:

1. Speakers at civic and environmental groups
2. Brochures and other display materials
3. Website postings
4. Citizens reporting mechanism (See Elements 1 and 8)

Training: Training requirements are found throughout the permit and have been addressed in various elements within this SWMP. The following lists all of the training programs being implemented by the City.

It should be noted that several topics may be addressed in a single training session. All topics will be addressed per the permit, but topics may not be addressed individually.

- City Employees
 - NPDES Overview and SWMP Implementation
 - Construction and Maintenance Water Quality Issues



- Good Housekeeping and Pollution Reduction
- PHF Application (As provided by Clemson University)
- Spill prevention and response
- Construction Site Designers and Operators (every two years)
 - Stormwater Quality for Designers
 - Stormwater Quality for Operators
- Industrial Facility Operators (Annual)
 - Water Quality and Pollution Prevention

Implementation Schedule

Year 1 Activities

1. Develop a public education/public involvement program related to storm water discharges, used oil recycling, household hazardous wastes, domestic animal waste and pesticides, herbicides, and fertilizers
2. Document the decision process used to create the program
3. Develop a comprehensive training program for City employees regarding SWMP implementation (**07/25/11**)
4. Develop a designer training program for plan reviewers, construction inspectors, and the design community on post-construction water quality BMPs (**07/25/11**)
5. Conduct a review of the public education program

NOTE: The domestic animal waste program must be developed and described in the first Annual Report. Documentation of the decision process and a review of the public education program must also be reported in the first Annual Report. The other components of the program may be developed by (**07/25/11**).

Year 2 Activities

TBD

Year 3 Activities

TBD

Year 4 Activities

TBD

Year 5 Activities

TBD



3. TOTAL MAXIMUM DAILY LOAD (TMDL) IMPLEMENTATION

General Description. Streams within a given watershed may be listed on the State's 303(d) list of impaired waterways for a variety of uses because of number of potential pollutants. Once placed on the 303(d) list, the State will develop a Total Maximum Daily Load for the impaired stream. The TMDL will contain a Waste Load Allocation that is applicable to the City's discharges. WLAs will establish either a required reduction in the pollutant from the City's discharges or will establish a maximum limit for discharges. The City is required to develop a program to reduce the pollutant loading in each impaired watershed.

Permit Requirements. *The SWMP update for WLA / TMDL and impaired waters 303(d) implementation shall:*

- *Report results of effluent sampling conducted in accordance to 122.21(g)(7) and analyzed for the pollutant of concern with analytical methods approved under 40 CFR Part 136. When no analytical method is approved, the applicant may use any method suitable to SCDHEC Bureau of Environmental Services but must provide a description of such method;*
- *Revise, if necessary, the following the assessment of controls to include,*
 - *public participation and coordination;*
 - *b. the management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate;*
 - *c. description of staff and equipment available to implement the TMDL;*
 - *d. controls the City may impose on a system-wide, watershed, jurisdictional, or individual outfall basis;*
 - *e. Estimated reductions in loadings of the pollutant of concern in from MS4 discharges expected as a result of implementing the SWMP update; and,*
 - *f. The assessment shall also identify known impacts of stormwater controls on ground water.*
- *Include a summary of data, including monitoring data and BMP performance, that is accumulated from the previous SWMP update; and,*
- *Identification of water quality improvements.*
 - *List impaired waters by watershed*
 - *List TMDLs approved and in process by watershed*
 - *Develop goals for each watershed*
 - *Develop Implementation Plan (IP) for each watershed*
 - *Provide implementation schedule*
 - *Describe process for handling new impaired waters and TMDLs*



4. AREA SPECIFIC REQUIREMENTS

Permit requirements for specific SWMPs are formulated to maintain or improve water quality standards. Section 401 review is initiated by a federal permit. Some of the activities mentioned in the permit (like areas of new development) may require a 401 Certification if they directly involve impacts to waters of the State (including wetlands). Structural practices should be placed on upland soils to the degree attainable as the installation of these and other devices may be subject to Section 404 of the Clean Water Act.



5. REPORTING REQUIREMENTS

Each year the City must prepare a report of its activities related to the SWMP. The report must be prepared according to part V.D of the permit and submitted according to the schedule found in Part III. B.

Permit Requirements. *The City shall prepare an annual system-wide report to be submitted by the Reported Date for each Phase. The first annual report shall be submitted by July 25, 2011 and subsequent annual reports every twelve months thereafter, when the Phases are fully implemented. The preparation and submittal of a system-wide report shall be coordinated and prepared by a member or designated representative from the City. The City shall sign and certify the report in accordance with Part VI.H. & VI.I. of the permit, and shall include a statement or resolution that the City's governing body or agency (or delegated representative) has reviewed or has been apprised of the content of the report.*

- *The report shall include the following sections:*
 - *Contacts List*
 - *SWMP Evaluation*
 - *Summary Table*
 - *Narrative Report*
 - *Monitoring Section*
 - *Summary of SWMP and Monitoring Modifications*
 - *Fiscal Analysis*
 - *Any information required to be submitted by the reported date*
 - *Appendices*
- *Specific Requirements. The following items describe in more detail the specific requirements for the report.*
 - *Provide a list of contacts and responsible parties (e.g.: agency, name, phone number) who had input to and are responsible for the preparation of the report.*
 - *Provide an overall evaluation of the SWMP including: Objective of Program; Major Findings (e.g.: water quality improvements or degradation); Major Accomplishments; Overall Program Strengths / Weaknesses; and Future Direction of Program.*
 - *Provide a Summary Table of SWMP Elements. A Summary Table of appropriate SWMP annual activities for the Permittee shall be provided. The purpose of the Summary Table is to document in a concise form the program activities and The City's 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 shall be discussed in the narrative section of the ANNUAL REPORT. The following are examples of SWMP activities to be included in the*



Summary Table:

- *Structural Controls - maintenance and/or inspection activities of existing structural controls*
- *Areas of New Development and Significant Redevelopment – description of watershed prioritization for developing watershed master plans*
- *Roadway Maintenance - street sweeping, litter control activities, and maintenance on stormwater structures & roadside ditches*
- *Flood Control Projects – review of existing stormwater master plans to assess water quality impacts on receiving water for all flood management projects identified in the master planning process*
- *Municipal Waste TSD Facilities - inspections, monitoring, and implementation of control measures*
- *Pesticide, Herbicide, and Fertilizer Application - certification training and public education*
- *Illicits - facility inspections, investigations, enforcement actions, illicit (dry weather) screening, illicit public reporting, oil/household hazardous waste collection, and storm sewer inlet stenciling*
- *Industrial Facilities - inspection activities and monitoring*
- *Construction - training of inspectors, certification of construction site operators, inspections, and enforcement actions*
- *Monitoring Program – stormwater and ambient monitoring activities*
- *Public Education Program - Summary of public notification and education activity.*
- *The Summary Table shall indicate the City's SWMP activities and accomplishments. Items to be reported include:*
 - *Activity description;*
 - *Number of activities (with frequency) that were scheduled for implementation and/or accomplishment in program element discussion (i.e., once/6 months, 100%/5 years, 6 sites monitored once/year, all sites inspected/permit term). Enter “Not Applicable” (N/A) if no specific schedule was specified;*
 - *Status of schedule for year (“yes” for schedule was adhered to, or “no” for schedule was not adhered to);*
 - *Number of activities which were accomplished; and*
 - *The availability of documentation (i.e., inspection reports) for those activities which were accomplished and comments describing the reason(s) for any noncompliance.*
- *The report shall contain a Narrative Report to succinctly discuss the SWMP elements which were not included within the SWMP Summary Table. Those SWMP elements required to be developed under Parts II*



and III of this permit shall be discussed within this section of the report following development. The Permittee shall include a brief discussion of the following applicable SWMP Elements:

- *Structural Controls Maintenance*
- *Development Planning Procedures*
- *Roadway Maintenance*
- *Flood Management*
- *Municipal Facilities*
- *Pesticides, Herbicides, and Fertilizers*
- *Illicits Inspection/Investigation/Enforcement*
 - *Inspection Ordinance and Enforcement Measures*
 - *Dry Weather Field Screening Program*
 - *Investigation of illicit discharges*
 - *Spill Response*
 - *Oil and Household Hazardous Waste*
 - *Sanitary Sewer Seepage*
- *Industrial Facility Inspection*
- *Construction Planning Procedures and Inspections*
- *Monitoring Activities*
- *Education Activities*
- *Any additional elements of SWMP*
- *The format for the Narrative Report section of the report shall be a brief discussion of the SWMP Element. The aspects of the City's activities concerning a SWMP Element shall be succinctly discussed in the section of the Narrative Report dedicated to that Element. The discussion shall include the following:*
 - *Objective of SWMP Element,*
 - *SWMP Element activities completed and those in progress,*
 - *General discussion of Element. Explanation of all Element activity deficiencies (e.g.: activities described in the program that have not been fully implemented or completed). Results of activities shall be summarized and*
 - *discussed (e.g.: maintenance caused by inspection, pollutants detected by monitoring, investigations as a result of dry and wet weather screening, number and nature of enforcement items, education activities participation),*
 - *Status of SWMP Element with respect to Parts II and III of the permit,*
 - *SWMP Element strengths and weaknesses,*
 - *Assessment of controls, and*
 - *Discussion of Element revisions that are summarized elsewhere in the report.*



- *The report shall contain a Monitoring Section which discusses the progress and results of the monitoring programs required under Parts II, III and V of the permit.*
 - *The Monitoring Section of the report shall include a summary of the monitoring program developed and implemented under Part V of the permit. The details to be discussed include:*
 - *Brief summary statement of the objective of each monitoring project included under the program,*
 - *Summary chart of the data from the monitoring completed,*
 - *Discussion of any results or conclusions derived from the monitoring completed,*
 - *Status of monitoring with respect to the compliance schedule in Part V.B of the permit, and*
 - *Discussion of monitoring program revisions that are summarized elsewhere in the report.*
 - *The Monitoring Section of the report shall include the following information as required in Parts II, III and V of the permit.*
 - *Provide a summary of SWMP and monitoring modifications made during the permit year, including,*
 - *A list of entities such as military bases, large hospitals, prison complexes, universities, sewer districts, highway departments and others that operate a separate storm sewer system and are located within your MS4 area. Indicate whether they are an integral part of your SMS4.*
 - *An update for annexation, or de-annexation*
 - *Provide a complete fiscal analysis for the City's program implementation, both for the past calendar year and the next. The analysis shall indicate budgets and funding sources as required in part II.G.*
 - *The following information shall be included as Appendices within the report for each watershed:*
 - *Analytical data collected from the monitoring program.*
 - *Results of illicit connections screening or dry weather screening.*
 - *Any other data specifically requested by SCDHEC to substantiate statements and conclusions reached in any reports.*

Reporting Data. Based on the requirements of the permit, the following is a list of data that should be collected throughout the permit year and reported in the Annual Report.



Element 1: Structural Controls and Stormwater Collection System Operation

- Number and type of controls implemented
- Location map of controls
- Number and type of controls inspected
- Inspection dates
- Number and type of controls requiring maintenance/repair
- Maintenance/repair dates

Element 2: Post-Construction Stormwater Management in New Development and Redevelopment

- Implementation status
- Number and type of new/redevelopment projects reviewed
- Number and type of management practices installed
- Maintenance inspections conducted
- Number of controls requiring maintenance
- Number of controls requiring repair
- Number of controls brought into compliance
- Number of enforcement actions
- Summary of local ordinance changes
- Approval, compliance, and enforcement activities

Element 3: Existing Roadways

- Inspection and maintenance activities associated with stormwater controls
- Street sweeping schedule

Element 4: Flood Control Projects

- Types of policies/procedures/requirements developed to address water quality issues
- Policy implementation dates
- Flood control retrofit activities
- Water quality impact assessments

Element 5: Municipal Waste Treatment, Storage, or Disposal Facilities not covered by an NPDES Stormwater Permit

- Training Activities
 - Type
 - Date
 - Attendees
- Facility Inspections
 - Inspection reports
 - Inspection dates



- Good Housekeeping Practices Implemented
 - Type
 - Date

Element 6: Pesticides, Herbicides, and Fertilizers (PHFs) Application

- General Public Program Implementation Date
 - Training activities and dates
- City Landscaping Staff Program Implementation Date
 - Training activities and dates
- Commercial Applicators Program Implementation Date
 - Training activities and dates
- Compile list of identified impairments potentially associated with PHFs
- Compile list of impairment mitigation activities

Element 7: Illicit Discharges and Improper Disposal

- Illicit discharge detection/removal schedule
- Annual outfall dry weather field screening activities
 - Location
 - Date and time
 - Summary of findings
 - Collected field screening data
- Investigation/elimination of suspected illicit/improper disposal
 - Identification of discharges
 - Tracking of discharges
 - Citizen complaint records
 - Responses to complaints
 - Follow-up activities
 - Date when illicit connections/improper disposal identified
 - Response information (date and type)
 - Elimination activities (date and type)
- Spill Prevention and Response
 - Types of procedures implemented
 - Schedule of implementation
 - Description of cooperative activities with other agencies
 - Identify and record program supplements
 - Personnel training activities
 - When
 - Where
 - Who
 - Summary of training
- Oils, Toxics, and Household Hazardous Waste Control
 - Public Outreach Program
 - Implementation date
 - Implementation activities



- Detection and elimination of sanitary sewage and septage seepage in the MS4
 - Description of activities to limit sanitary sewage and septage in the MS4

Element 8: Industrial Runoff

- Provide listing of additionally identified industrial facilities which discharge stormwater into the MS4 which have not been previously reported.
- A city wide inventory of all facilities identified in Part 8a of Permit are required for first annual report.
- Prepare a schedule and frequency of inspections with prioritization for the year 4 report.
- Conduct city wide inventory of industrial facilities
 - Date
 - Time
 - Who conducted
 - Photos
 - Summary
- Update inventory with new/removed facilities
- Maintain records of citizens complaints
- Maintain records for responses to citizen complaints
- Maintain records of non-compliance incidents
- Identify follow-up activities for each facility
- Number of periodic inspections
- Records of inspections and enforcement actions
- Maintain records of training information, dates, and attendees, topics
- Review Industry SWPPPs

Element 9: Construction Site Stormwater Runoff Control

- Track how may plans were reviewed, approved, denied.
- Identify and maintain records of potential water quality impacts
- Track enforcement and compliance activities
- Number of stop work orders
- Amount of penalties
- Conduct site inspections
 - Date and time
 - Inspector name
 - Non-compliance issues
 - Compliance Date
- Record Inspection and Enforcement Activities
 - Tracking system should include
 - Number of inspections
 - Citizen Complaints



- Type of Complaint
 - Response to complaint
- Enforcement Actions
 - Type
 - Date
 - Compliance (date and how)
- Site operator Training
 - Type of training provided to contractor
 - Date of training
 - Attendees
- Develop a rationale statement that addresses overall construction site storm water control program and the individual BMP, measurable goals, and responsible persons for the program.

Element 10: Monitoring Program

- Monitoring plan
- Results

Element 11: Public Education and Outreach on Stormwater Impacts and Public Involvement/Participation

- Document decision process for development of a stormwater public education and outreach program
- Educational materials/outreach activities
 - Type
 - When provided
 - Who received
- Employee SWMP and designer training program
 - Topics
 - Schedule
 - Dates
 - Attendees
- Public education program
 - Topics
 - Schedule
 - Attendees
 - Type of media used
 - Annual review/revisions to program
- Animal Waste Program
 - Outreach/education activities



Consistency with TMDL WLA:

- The monitoring plan and results of the previous year's monitoring program are to be submitted with each annual report.
- Monitoring results and analysis will be submitted with every annual report.

Additional Reporting Requirements:

- Compile a list of entities such as military bases, large hospitals, prison complexes, universities, sewer districts, highway departments and others that operate a separate storm sewer system and that are located within the MS4 boundaries.
- SWMP compliance shall be reported annually.
- SWMP and updates must be included in annual report.
- The SWMP shall clearly identify roles and responsibility of The City. The SWMP portions developed and implemented must be included in annual report covering the permit year in which they were developed and implemented.
- Provide a fiscal analysis for the City's program implementation, both for the past calendar year and the next in an annual report. The analysis shall indicate budgets and funding sources.
- Each year, the sampling program shall be revised as appropriate and described by the submitted date, properly conducted and the results will be included in the Annual Report. The location of each monitoring station shall be inventoried and identified on a map and in a database, included in the Annual Reports. In addition, the Annual Report will include all measured analytical data inclusive of the reported date in Part III.B. of the permit.



6. CERTIFICATION OF STORMWATER MANAGEMENT PROGRAM

“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 gathered and evaluated 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.”

Signature: _____

DATE: _____

Steven A. Gantt
City Manager

