City of Petersburg, VA

MS4 Program Plan

2013 – 2018 Permit Term

City of Petersburg
10-1-2015

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9VAC25-890-40. General permit.

Any operator whose registration statement is accepted by the department will receive coverage under the following state permit and shall comply with the requirements therein and be subject to all applicable requirements of the Virginia Stormwater Management Act (Article 2.3 (§ 62.1-44.15:24 et seq.) of Chapter 3.1 of Title 62.1 of the Code of Virginia) and the Virginia Stormwater Management Program (VSMP) Regulations (9VAC25-870).

General Permit No.: VAR04

Effective Date: July 1, 2013

Expiration Date: June 30, 2018

GENERAL VPDES PERMIT FOR DISCHARGES OF STORMWATER FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

AUTHORIZATION TO DISCHARGE UNDER THE VIRGINIA STORMWATER MANAGEMENT PROGRAM AND THE VIRGINIA STORMWATER MANAGEMENT ACT

In compliance with the provisions of the Clean Water Act, as amended and pursuant to the Virginia Stormwater Management Act and regulations adopted pursuant thereto, this state permit authorizes operators of small municipal separate storm sewer systems to discharge to surface waters within the boundaries of the Commonwealth of Virginia, except those waters specifically named in State Water Control Board regulations which prohibit such discharges.

The authorized discharge shall be in accordance with this cover page, Section I—Discharge Authorization and Special Conditions, Section II—MS4 Program and Section III—Conditions Applicable To All State Permits, as set forth herein. The operator shall utilize all legal authority provided by the laws and regulations of the Commonwealth of Virginia to control discharges to and from the MS4. This legal authority may be a combination of statute, ordinance, permit, specific contract language, order or interjurisdictional agreements.

For operators of small MS4s that are applying for initial coverage under this general permit, the schedule to develop and implement the MS4 Program Plan shall be submitted with the completed registration statement.

For operators that have previously held MS4 state permit coverage, the operator shall update the MS4 Program Plan in accordance with the following schedule. Until such time as the required updates are completed and implemented, the operator shall continue to implement the MS4 Program consistent with the MS4 Program Plan submitted with the registration statement.

Table 1: Schedule of MS4 Program Plan Updates Required in this Permit		
Program Update Requirement	Permit Reference	Update Completed By
Public Education Outreach Plan (Minimum Control Measure 1 – Public Education and Outreach on Stormwater Impacts)	Section II B 1	
Illicit Discharge Procedures - (Minimum Control Measure 3 – Illicit Discharge Detection and Elimination)	Section II B 3	
Individual Residential Lot Special Criteria (Minimum		

Control Measure 5 – Post-Construction Stormwater Management in New Development and Development on Prior Developed Lands)	Section II B 5 c (1) (d)	
Operator-Owned Stormwater Management Inspection Procedures (Minimum Control Measure 5 – Post-Construction Stormwater Management in New Development and Development on Prior Developed Lands)	Section II B 5	12 months after permit coverage
Identification of Locations Requiring SWPPPs (Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping for Municipal Operations)	Section II B 6 b	
Nutrient Management Plan (NMP) Locations - (Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping for Municipal Operations)	Section II B 6 c (1) (a)	
Training Schedule and Program - (Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping for Municipal Operations)	Section II B 6	
Updated TMDL Action Plans (TMDLs approved before July of 2008) – (Special Conditions for Approved Total Maximum Daily Loads (TMDL) Other Than Chesapeake Bay)	Section I B	
Chesapeake Bay TMDL Action Plan – (Special Condition for Chesapeake Bay TMDL)	Section I C	24 months after permit coverage
Stormwater Management Progressive Compliance and Enforcement – (Minimum Control Measure 4 - Construction Site Stormwater Runoff Control)	Section II B 5	
Daily Good Housekeeping Procedures (Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping for Municipal Operations)	Section II B 6 a	
Other TMDL Action Plans for applicable TMDLs approved between July 2008 and June 2013 - (Special Conditions for Approved Total Maximum Daily Loads (TMDL) Other Than Chesapeake Bay)	Section I B	36 months after permit coverage
Outfall Map Completed - (Minimum Control Measure 3 – Illicit Discharge Detection and Elimination) – Applicable to new boundaries identified as "urbanized" areas in the 2010 Decennial Census	Section II B 3 a (3)	48 months after permit coverage
SWPPP Implementation - (Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping for Municipal Operations)	Section II B 6 b (3)	
NMP Implementation - (Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping for Municipal Operations)	Section II B 6 c (1) (b)	60 months after permit coverage

*Updates should be submitted with the appropriate annual report.

SECTION I

DISCHARGE AUTHORIZATION AND SPECIAL CONDITIONS

A. Coverage under this state permit. During the period beginning with the date of coverage under this general permit and lasting until the expiration and reissuance of this state permit, the operator is authorized to discharge in accordance with this state permit from the small municipal separate storm sewer system identified in the registration statement into surface waters within the boundaries of the Commonwealth of Virginia and consistent with 9VAC25-890-30.

B. Special conditions for approved total maximum daily loads (TMDL) other than the Chesapeake Bay TMDL. An approved TMDL may allocate an applicable wasteload to a small MS4 that identifies a pollutant or pollutants for which additional stormwater controls are necessary for the surface waters to meet water quality standards. The MS4 operator shall address the pollutants in accordance with this special condition where the MS4 has been allocated a wasteload in an approved TMDL.

1. The operator shall maintain an updated MS4 Program Plan that includes a specific TMDL Action Plan for pollutants allocated to the MS4 in approved TMDLs. TMDL Action Plans may be implemented in multiple phases over more than one state permit cycle using the adaptive iterative approach provided adequate progress to reduce the pollutant discharge in a manner consistent with the assumptions and requirements of the specific TMDL wasteload is demonstrated in accordance with subdivision 2 e of this subsection. These TMDL Actions Plans shall identify the best management practices and other interim milestone activities to be implemented during the remaining terms of this state permit.

a. In accordance with Table 1, the operator shall update the MS4 Program Plans to address any new or modified requirements established under this special condition for pollutants identified in TMDL wasteload allocations approved prior to July 9, 2008.

b. In accordance with Table 1, the operator shall update the MS4 Program Plan to incorporate approvable TMDL Action Plans that identify the best management practices and other interim milestone activities that will be implemented during the remaining term of this permit for pollutants identified in TMDL wasteload allocations approved either on or after July 9, 2008, and prior to issuance of this permit.

c. Unless specifically denied in writing by the department, TMDL Action Plans and updates developed in accordance with this section become effective and enforceable 90 days after the date received by the department.

2. The operator shall:

a. Develop and maintain a list of its legal authorities such as ordinances, state and other permits, orders, specific contract language, and interjurisdictional agreements applicable to reducing the pollutant identified in each applicable WLA;

b. Identify and maintain an updated list of all additional management practices, control techniques and system design and engineering methods, beyond those identified in Section II B, that have been implemented as part of

the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA;

c. Enhance its public education and outreach and employee training programs to also promote methods to eliminate and reduce discharges of the pollutants identified in the WLA;

d. Assess all significant sources of pollutant(s) from facilities of concern owned or operated by the MS4 operator that are not covered under a separate VPDES permit and identify all municipal facilities that may be a significant source of the identified pollutant. For the purposes of this assessment, a significant source of pollutant(s) from a facility of concern means a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL. (For example, a significant source of pollutant from a facility of concern for a bacteria TMDL would be expected to be greater at a dog park than at other recreational facilities where dogs are prohibited);

e. Develop and implement a method to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs. The evaluation shall use any newly available information, representative and adequate water quality monitoring results, or modeling tools to estimate pollutant reductions for the pollutant or pollutants of concern from implementation of the MS4 Program Plan. Monitoring may include BMP, outfall, or in-stream monitoring, as appropriate, to estimate pollutant reductions. The operator may conduct monitoring, utilize existing data, establish partnerships, or collaborate with other MS4 operators or other third parties, as appropriate. This evaluation shall include assessment of the facilities identified in subdivision 2 d of this subsection. The methodology used for assessment shall be described in the TMDL Action Plan.

3. Analytical methods for any monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the Environmental Protection Agency (EPA). Where an approved method does not exist, the operator must use a method consistent with the TMDL.

4. The operator is encouraged to participate as a stakeholder in the development of any TMDL implementation plans applicable to their discharge. The operator may incorporate applicable best management practices identified in the TMDL implementation plan in the MS4 Program Plan or may choose to implement BMPs of equivalent design and efficiency provided that the rationale for any substituted BMP is provided and the substituted BMP is consistent with the assumptions and requirements of the TMDL WLA.

5. Annual reporting requirements.

a. The operator shall submit the required TMDL Action Plans with the appropriate annual report and in accordance with the associated schedule identified in this state permit.

b. On an annual basis, the operator shall report on the implementation of the TMDL Action Plans and associated evaluation including the results of any monitoring conducted as part of the evaluation.

6. The operator shall identify the best management practices and other steps that will be implemented during the next state permit term as part of the operator's reapplication for coverage as required under Section III M.

7. For planning purposes, the operator shall include an estimated end date for achieving the applicable wasteload allocations as part of its reapplication package due in accordance with Section III M.

C. Special condition for the Chesapeake Bay TMDL. The Commonwealth in its Phase I and Phase II Chesapeake Bay TMDL Watershed Implementation Plans (WIP) committed to a phased approach for MS4s, affording MS4 operators up to three full five-year permit cycles to implement necessary reductions. This permit is consistent with the Chesapeake Bay TMDL and the Virginia Phase I and II WIPs to meet the Level 2 (L2) scoping run for existing developed lands as it represents an implementation of 5.0% of L2 as specified in the 2010 Phase I WIP. Conditions of future permits will be consistent with the TMDL or WIP conditions in place at the time of permit issuance.

1. Definitions. The following definitions apply to this state permit for the purpose of the special condition for discharges in the Chesapeake Bay Watershed:

"Existing sources" means pervious and impervious urban land uses served by the MS4 as of June 30, 2009.

"New sources" means pervious and impervious urban land uses served by the MS4 developed or redeveloped on or after July 1, 2009.

"Pollutants of concern" or "POC" means total nitrogen, total phosphorus, and total suspended solids.

"Transitional sources" means regulated land disturbing activities that are temporary in nature and discharge through the MS4.

2. Chesapeake Bay TMDL planning.

a. In accordance with Table 1, the operator shall develop and submit to the department for its review and acceptance an approvable Chesapeake Bay TMDL Action Plan. Unless specifically denied in writing by the department, this plan becomes effective and enforceable 90 days after the date received by the department. The plan shall include:

(1) A review of the current MS4 program implemented as a requirement of this state permit including a review of the existing legal authorities and the operator's ability to ensure compliance with this special condition;

(2) The identification of any new or modified legal authorities such as ordinances, state and other permits, orders, specific contract language, and interjurisdictional agreements implemented or needing to be implemented to meet the requirements of this special condition;

(3) The means and methods that will be utilized to address discharges into the MS4 from new sources;

(4) An estimate of the annual POC loads discharged from the existing sources as of June 30, 2009, based on the 2009 progress run. The operator shall utilize the applicable versions of Tables 2 a-d in this section based on the river basin to which the MS4 discharges by multiplying the total existing acres served by the MS4 on June 30, 2009, and the 2009 Edge of Stream (EOS) loading rate:

Table 2 a: Calculation Sheet for Estimating Existing Source Loads for the James River Basin
*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2

		Total Existing Acres Served by MS4	2009 EOS Loading Rate	Estimated Total POC Load Based on 2009 Progress

Subsource	Pollutant	(6/30/09)	(lbs/acre)	Run
Regulated Urban Impervious	Nitrogen		9.39	
Regulated Urban Pervious			6.99	
Regulated Urban Impervious	Phosphorus		1.76	
Regulated Urban Pervious			0.5	
Regulated Urban Impervious	Total Suspended Solids		676.94	
Regulated Urban Pervious			101.08	

Table 2 b: Calculation Sheet for Estimating Existing Source Loads for the Potomac River Basin

*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2

Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	2009 EOS Loading Rate (lbs/acre)	Estimated Total POC Load Based on 2009 Progress Run
Regulated Urban Impervious	Nitrogen		16.86	
Regulated Urban Pervious			10.07	
Regulated Urban Impervious	Phosphorus		1.62	
Regulated Urban Pervious			0.41	
Regulated Urban Impervious	Total Suspended Solids		1,171.32	
Regulated Urban Pervious			175.8	

Table 2 c: Calculation Sheet for Estimating Existing Source Loads for the Rappahannock River Basin

*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2

				Estimated Total POC

Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	2009 EOS Loading Rate (lbs/acre)	Load Based on 2009 Progress Run
Regulated Urban Impervious	Nitrogen		9.38	
Regulated Urban Pervious			5.34	
Regulated Urban Impervious	Phosphorus		1.41	
Regulated Urban Pervious			0.38	
Regulated Urban Impervious	Total Suspended Solids		423.97	
Regulated Urban Pervious			56.01	

Table 2 d: Calculation Sheet for Estimating Existing Source Loads for the York River Basin
*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2

Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	2009 EOS Loading Rate (lbs/acre)	Estimated Total POC Load Based on 2009 Progress Run
Regulated Urban Impervious	Nitrogen		7.31	
Regulated Urban Pervious			7.65	
Regulated Urban Impervious	Phosphorus		1.51	
Regulated Urban Pervious			0.51	
Regulated Urban Impervious	Total Suspended Solids		456.68	
Regulated Urban Pervious			72.78	

(5) A determination of the total pollutant load reductions necessary to reduce the annual POC loads from existing sources utilizing the applicable versions of Tables 3 a-d in this section based on the river basin to which the MS4 discharges. This shall be calculated by multiplying the total existing acres served by the MS4 by the first permit cycle required reduction in loading rate. For the purposes of this determination, the operator shall utilize those

existing acres identified by the 2000 U.S. Census Bureau urbanized area and served by the MS4.

Table 3 a: Calculation Sheet for Determining Total POC Reductions Required During this Permit Cycle for the James River Basin

*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2

Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	First Permit Cycle Required Reduction in Loading Rate (lbs/acre)	Total Reduction Required First Permit Cycle (lbs)
Regulated Urban Impervious	Nitrogen		0.04	
Regulated Urban Pervious			0.02	
Regulated Urban Impervious	Phosphorus		0.01	
Regulated Urban Pervious			0.002	
Regulated Urban Impervious	Total Suspended Solids		6.67	
Regulated Urban Pervious			0.44	

Table 3 b: Calculation Sheet for Determining Total POC Reductions Required During this Permit Cycle for the Potomac River Basin

*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2

Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	First Permit Cycle Required Reduction in Loading Rate (lbs/acre)	Total Reduction Required First Permit Cycle (lbs)
Regulated Urban Impervious	Nitrogen		0.08	
Regulated Urban Pervious			0.03	
Regulated Urban Impervious	Phosphorus		0.01	
Regulated Urban Pervious			0.001	
Regulated Urban Impervious	Total Suspended Solids		11.71	
Regulated Urban				

Pervious			0.77	

Table 3 c: Calculation Sheet for Determining Total POC Reductions Required During this Permit Cycle for the Rappahannock River Basin

*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2

Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	First Permit Cycle Required Reduction in Loading Rate (lbs/acre)	Total Reduction Required First Permit Cycle (lbs)
Regulated Urban Impervious	Nitrogen		0.04	
Regulated Urban Pervious			0.02	
Regulated Urban Impervious	Phosphorus		0.01	
Regulated Urban Pervious			0.002	
Regulated Urban Impervious	Total Suspended Solids		4.24	
Regulated Urban Pervious			0.25	

Table 3 d: Calculation Sheet for Determining Total POC Reductions Required During this Permit Cycle for the York River Basin

*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2

Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	First Permit Cycle Required Reduction in Loading Rate (lbs/acre)	Total Reduction Required First Permit Cycle (lbs)
Regulated Urban Impervious	Nitrogen		0.03	
Regulated Urban Pervious			0.02	
Regulated Urban Impervious	Phosphorus		0.01	
Regulated Urban Pervious			0.002	
Regulated Urban Impervious	Total		4.60	

Regulated Urban Pervious	Suspended Solids		0.32	

(6) The means and methods, such as management practices and retrofit programs that will be utilized to meet the required reductions included in subdivision 2 a (5) of this subsection, and a schedule to achieve those reductions. The schedule should include annual benchmarks to demonstrate the ongoing progress in meeting those reductions;

(7) The means and methods to offset the increased loads from new sources initiating construction between July 1, 2009, and June 30, 2014, that disturb one acre or greater as a result of the utilization of an average land cover condition greater than 16% impervious cover for the design of post-development stormwater management facilities. The operator shall utilize Table 4 to develop the equivalent pollutant load for nitrogen and total suspended solids. The operator shall offset 5.0% of the calculated increased load from these new sources during the permit cycle.

(8) The means and methods to offset the increased loads from projects as grandfathered in accordance with 9VAC25-870-48, that disturb one acre or greater that begin construction after July 1, 2014, where the project utilizes an average land cover condition greater than 16% impervious cover in the design of post-development stormwater management facilities. The operator shall utilize Table 4 to develop the equivalent pollutant load for nitrogen and total suspended solids.

(9) The operator shall address any modification to the TMDL or watershed implementation plan that occurs during the term of this state permit as part of its permit reapplication and not during the term of this state permit.

Table 4: Ratio of Phosphorus Loading Rate to Nitrogen and Total Suspended Solids Loading Rates for Chesapeake Bay Basins

Ratio of Phosphorus to Other POCs (Based on All Land Uses 2009 Progress Run)	Phosphorus Loading Rate (lbs/acre)	Nitrogen Loading Rate (lbs/acre)	Total Suspended Solids Loading Rate (lbs/acre)
James River Basin	1.0	5.2	420.9
Potomac River Basin	1.0	6.9	469.2
Rappahannock River Basin	1.0	6.7	320.9
York River Basin	1.0	9.5	531.6

(10) A list of future projects and associated acreage that qualify as grandfathered in accordance with 9VAC25-870-48;

(11) An estimate of the expected costs to implement the requirements of this special condition during the state permit cycle; and

(12) An opportunity for receipt and consideration of public comment regarding the draft Chesapeake Bay TMDL

Action Plan.

b. As part of development of the Chesapeake Bay TMDL Action Plan, the operator may consider:

(1) Implementation of BMPs on unregulated lands provided any necessary baseline reduction is not included toward meeting the required reduction in this permit;

(2) Utilization of stream restoration projects, provided that the credit applied to the required POC load reduction is prorated based on the ratio of regulated urban acres to total drainage acres upstream of the restored area;

(3) Establishment of a memorandum of understanding (MOU) with other MS4 operators that discharge to the same or adjacent eight digit hydrologic unit within the same basin to implement BMPs collectively. The MOU shall include a mechanism for dividing the POC reductions created by BMP implementation between the cooperative MS4s;

(4) Utilization of any pollutant trading or offset program in accordance with §§ 62.1-44.19:20 through 62.1-44.19:23 of the Code of Virginia, governing trading and offsetting;

(5) A more stringent average land cover condition based on less than 16% impervious cover for new sources initiating construction between July 1, 2009, and June 30, 2014, and all grandfathered projects where allowed by law; and

(6) Any BMPs installed after June 30, 2009, as part of a retrofit program may be applied towards meeting the required load reductions provided any necessary baseline reductions are not included.

3. Chesapeake Bay TMDL Action Plan implementation. The operator shall implement the TMDL Action Plan according to the schedule therein. Compliance with this requirement represents adequate progress for this state permit term towards achieving TMDL wasteload allocations consistent with the assumptions and requirements of the TMDL. For the purposes of this permit, the implementation of the following represents implementation to the maximum extent practicable and demonstrates adequate progress:

a. Implementation of nutrient management plans in accordance with the schedule identified in the minimum control measure in Section II related to pollution prevention/good housekeeping for municipal operations;

b. Implementation of the minimum control measure in Section II related to construction site stormwater runoff control in accordance with this state permit shall address discharges from transitional sources;

c. Implementation of the means and methods to address discharges from new sources in accordance with the minimum control measure in Section II related to post-construction stormwater management in new development and development of prior developed lands and in order to offset 5.0% of the total increase in POC loads between July 1, 2009, and June 30, 2014. Increases in the POC load from grandfathered projects initiating construction after July 1, 2014, must be offset prior to completion of the project; and

d. Implementation of means and methods sufficient to meet the required reductions of POC loads from existing sources in accordance with the Chesapeake Bay TMDL Action Plan.

4. Annual reporting requirements.

a. In accordance with Table 1, the operator shall submit the Chesapeake Bay Action Plan with the appropriate

annual report.

b. Each subsequent annual report shall include a list of control measures implemented during the reporting period and the cumulative progress toward meeting the compliance targets for nitrogen, phosphorus, and total suspended solids.

c. Each subsequent annual report shall include a list of control measures, in an electronic format provided by the department, that were implemented during the reporting cycle and the estimated reduction achieved by the control. For stormwater management controls, the report shall include the information required in Section II B 5 e and shall include whether an existing stormwater management control was retrofitted, and if so, the existing stormwater management control type retrofit used.

d. Each annual report shall include a list of control measures that are expected to be implemented during the next reporting period and the expected progress toward meeting the compliance targets for nitrogen, phosphorus, and total suspended solids.

5. The operator shall include the following as part of its reapplication package due in accordance with Section III M:

a. Documentation that sufficient control measures have been implemented to meet the compliance target identified in this special condition. If temporary credits or offsets have been purchased in order to meet the compliance target, the list of temporary reductions utilized to meet the required reduction in this state permit and a schedule of implementation to ensure the permanent reduction must be provided; and

b. A draft second phase Chesapeake Bay TMDL Action Plan designed to reduce the existing pollutant load as follows:

(1) The existing pollutant of concern loads by an additional seven times the required reductions in loading rates using the applicable Table 3 for sources included in the 2000 U.S. Census Bureau urbanized areas;

(2) The existing pollutant of concerns loads by an additional eight times the required reductions in loading rates using the applicable Table 3 for expanded sources identified in the U.S. Census Bureau 2010 urbanized areas;

(3) An additional 35% reduction in new sources developed between 2009 and 2014 and for which the land use cover condition was greater than 16%; and

(4) Accounts for any modifications to the applicable loading rate provided to the operator as a result of TMDL modification.

SECTION II

MUNICIPAL SEPARATE STORM SEWER SYSTEM MANAGEMENT PROGRAM

A. The operator of a small MS4 must develop, implement, and enforce a MS4 Program designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP), to protect water quality, to ensure compliance by the operator with water quality standards, and to satisfy the appropriate water quality requirements of the Clean Water Act and its attendant regulations. The MS4 Program must include the minimum control measures described in paragraph B of this section. Implementation of best management practices consistent with the provisions of an iterative MS4 Program required pursuant to this section constitutes compliance with the standard of reducing pollutants to the "maximum

extent practicable," protects water quality in the absence of a TMDL wasteload allocation, ensures compliance by the operator with water quality standards, and satisfies the appropriate water quality requirements of the Clean Water Act and regulations in the absence of a TMDL WLA. The requirements of this section and those special conditions set out in Section I B also apply where a WLA is applicable.

B. Minimum control measures.

NOTE regarding minimum control measures for public education and outreach on stormwater impacts and public involvement/participation: "Public" is not defined in this permit. However, the department concurs with the following EPA statement, which was published in the Federal Register, Volume 64, No. 235, page 68,750 on December 8, 1999, regarding "public" and its applicability to MS4 programs: "EPA acknowledges that federal and state facilities are different from municipalities. EPA believes, however, that the minimum measures are flexible enough that they can be implemented by these facilities. As an example, DOD commentators asked about how to interpret the term "public" for military installations when implementing the public education measure. EPA agrees with the suggested interpretation of "public" for DOD facilities as "the resident and employee population within the fence line of the facility." The department recommends that nontraditional MS4 operators, such as state and federal entities and local school districts, utilize this statement as guidance when determining their applicable "public" for compliance with this permit.

1. Public education and outreach on stormwater impacts.

a. The operator shall continue to implement the public education and outreach program as included in the registration statement until the program is updated to meet the conditions of this state permit. Operators who have not previously held MS4 permit coverage shall implement this program in accordance with the schedule provided with the completed registration statement.

b. The public education and outreach program should be designed with consideration of the following goals:

(1) Increasing target audience knowledge about the steps that can be taken to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;

(2) Increasing target audience knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and

(3) Implementing a diverse program with strategies that are targeted towards audiences most likely to have significant stormwater impacts.

c. The updated program shall be designed to:

(1) Identify, at a minimum, three high-priority water quality issues, that contribute to the discharge of stormwater (e.g., Chesapeake Bay nutrients, pet wastes and local bacteria TMDLs, high-quality receiving waters, and illicit discharges from commercial sites) and a rationale for the selection of the three high-priority water quality issues;

(2) Identify and estimate the population size of the target audience or audiences who is most likely to have significant impacts for each high-priority water quality issue;

(3) Develop relevant message or messages and associated educational and outreach materials (e.g., various media such as printed materials, billboard and mass transit advertisements, signage at select locations, radio

advertisements, television advertisements, websites, and social media) for message distribution to the selected target audiences while considering the viewpoints and concerns of the target audiences including minorities, disadvantaged audiences, and minors;

(4) Provide for public participation during public education and outreach program development;

(5) Annually conduct sufficient education and outreach activities designed to reach an equivalent 20% of each high-priority issue target audience. It shall not be considered noncompliance for failure to reach 20% of the target audience. However, it shall be a compliance issue if insufficient effort is made to annually reach a minimum of 20% of the target audience; and

(6) Provide for the adjustment of target audiences and messages including educational materials and delivery mechanisms to reach target audiences in order to address any observed weaknesses or shortcomings.

d. The operator may coordinate their public education and outreach efforts with other MS4 operators; however, each operator shall be individually responsible for meeting all of its state permit requirements.

e. Prior to application for continued state permit coverage required in Section III M, the operator shall evaluate the education and outreach program for:

(1) Appropriateness of the high-priority stormwater issues;

(2) Appropriateness of the selected target audiences for each high-priority stormwater issue;

(3) Effectiveness of the message or messages being delivered; and

(4) Effectiveness of the mechanism or mechanisms of delivery employed in reaching the target audiences.

f. The MS4 Program Plan shall describe how the conditions of this permit shall be updated in accordance with Table 1.

g. The operator shall include the following information in each annual report submitted to the department during this permit term:

(1) A list of the education and outreach activities conducted during the reporting period for each high-priority water quality issue, the estimated number of people reached, and an estimated percentage of the target audience or audiences that will be reached; and

(2) A list of the education and outreach activities that will be conducted during the next reporting period for each high-priority water quality issue, the estimated number of people that will be reached, and an estimated percentage of the target audience or audiences that will be reached.

2. Public involvement/participation.

a. Public involvement.

(1) The operator shall comply with any applicable federal, state, and local public notice requirements.

(2) The operator shall:

(a) Maintain an updated MS4 Program Plan. Any required updates to the MS4 Program Plan shall be completed at a minimum of once a year and shall be updated in conjunction with the annual report. The operator shall post

copies of each MS4 program plan on its webpage at a minimum of once a year and within 30 days of submittal of the annual report to the department.

(b) Post copies of each annual report on the operator's web page within 30 days of submittal to the department and retain copies of annual reports online for the duration of this state permit; and

(c) Prior to applying for coverage as required by Section III M, notify the public and provide for receipt of comment of the proposed MS4 Program Plan that will be submitted with the registration statement. As part of the reapplication, the operator shall address how it considered the comments received in the development of its MS4 Program Plan. The operator shall give public notice by a method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to solicit public participation.

b. Public participation. The operator shall participate, through promotion, sponsorship, or other involvement, in a minimum of four local activities annually (e.g., stream cleanups; hazardous waste cleanup days; and meetings with watershed associations, environmental advisory committees, and other environmental organizations that operate within proximity to the operator's small MS4). The activities shall be aimed at increasing public participation to reduce stormwater pollutant loads; improve water quality; and support local restoration and clean-up projects, programs, groups, meetings, or other opportunities for public involvement.

c. The MS4 Program Plan shall include written procedures for implementing this program.

d. Each annual report shall include:

(1) A web link to the MS4 Program Plan and annual report; and

(2) Documentation of compliance with the public participation requirements of this section.

3. Illicit discharge detection and elimination.

a. The operator shall maintain an accurate storm sewer system map and information table and shall update it in accordance with the schedule set out in Table 1.

(1) The storm sewer system map must show the following, at a minimum:

(a) The location of all MS4 outfalls. In cases where the outfall is located outside of the MS4 operator's legal responsibility, the operator may elect to map the known point of discharge location closest to the actual outfall. Each mapped outfall must be given a unique identifier, which must be noted on the map; and

(b) The name and location of all waters receiving discharges from the MS4 outfalls and the associated HUC.

(2) The associated information table shall include for each outfall the following:

(a) The unique identifier;

(b) The estimated MS4 acreage served;

(c) The name of the receiving surface water and indication as to whether the receiving water is listed as impaired in the Virginia 2010 303(d)/305(b) Water Quality Assessment Integrated Report; and

(d) The name of any applicable TMDL or TMDLs.

(3) Within 48 months of coverage under this state permit, the operator shall have a complete and updated storm sewer system map and information table that includes all MS4 outfalls located within the boundaries identified as "urbanized" areas in the 2010 Decennial Census and shall submit the updated information table as an appendix to the annual report.

(4) The operator shall maintain a copy of the current storm sewer system map and outfall information table for review upon request by the public or by the department.

(5) The operator shall continue to identify other points of discharge. The operator shall notify in writing the downstream MS4 of any known physical interconnection.

b. The operator shall effectively prohibit, through ordinance or other legal mechanism, nonstormwater discharges into the storm sewer system to the extent allowable under federal, state, or local law, regulation, or ordinance. Categories of nonstormwater discharges or flows (i.e., illicit discharges) identified in 9VAC25-870-400 D 2 c (3) must be addressed only if they are identified by the operator as significant contributors of pollutants to the small MS4. Flows that have been identified in writing by the department as de minimis discharges are not significant sources of pollutants to surface water and do not require a VPDES permit.

c. The operator shall develop, implement, and update, when appropriate, written procedures to detect, identify, and address unauthorized nonstormwater discharges, including illegal dumping, to the small MS4. These procedures shall include:

(1) Written dry weather field screening methodologies to detect and eliminate illicit discharges to the MS4 that include field observations and field screening monitoring and that provide:

(a) A prioritized schedule of field screening activities determined by the operator based on such criteria as age of the infrastructure, land use, historical illegal discharges, dumping or cross connections.

(b) The minimum number of field screening activities the operator shall complete annually to be determined as follows: (i) if the total number of outfalls in the small MS4 is less than 50, all outfalls shall be screened annually or (ii) if the small MS4 has 50 or more total outfalls, a minimum of 50 outfalls shall be screened annually.

(c) Methodologies to collect the general information such as time since the last rain, the quantity of the last rain, site descriptions (e.g., conveyance type and dominant watershed land uses), estimated discharge rate (e.g., width of water surface, approximate depth of water, approximate flow velocity, and flow rate), and visual observations (e.g., order, color, clarity, floatables, deposits or stains, vegetation condition, structural condition, and biology).

(d) A time frame upon which to conduct an investigation or investigations to identify and locate the source of any observed continuous or intermittent nonstormwater discharge prioritized as follows: (i) illicit discharges suspected of being sanitary sewage or significantly contaminated must be investigated first and (ii) investigations of illicit discharges suspected of being less hazardous to human health and safety such as noncontact cooling water or wash water may be delayed until after all suspected sanitary sewage or significantly contaminated discharges have been investigated, eliminated, or identified. Discharges authorized under a separate VPDES or state permit require no further action under this permit.

(e) Methodologies to determine the source of all illicit discharges shall be conducted. If an illicit discharge is found, but within six months of the beginning of the investigation neither the source nor the same nonstormwater discharge has been identified, then the operator shall document such in accordance with Section II B 3 f. If the observed discharge is intermittent, the operator must document that a minimum of three separate investigations were made in an attempt to observe the discharge when it was flowing. If these attempts are unsuccessful, the operator shall document such in accordance with Section II B 3 f.

(f) Mechanisms to eliminate identified sources of illicit discharges including a description of the policies and procedures for when and how to use legal authorities.

(g) Methods for conducting a follow-up investigation in order to verify that the discharge has been eliminated.

(h) A mechanism to track all investigations to document: (i) the date or dates that the illicit discharge was observed and reported; (ii) the results of the investigation; (iii) any follow-up to the investigation; (iv) resolution of the investigation; and (v) the date that the investigation was closed.

d. The operator shall promote, publicize, and facilitate public reporting of illicit discharges into or from MS4s. The operator shall conduct inspections in response to complaints and follow-up inspections as needed to ensure that corrective measures have been implemented by the responsible party.

e. The MS4 Program Plan shall include all procedures developed by the operator to detect, identify, and address nonstormwater discharges to the MS4 in accordance with the schedule in Table 1. In the interim, the operator shall continue to implement the program as included as part of the registration statement until the program is updated to meet the conditions of this permit. Operators, who have not previously held MS4 permit coverage, shall implement this program in accordance with the schedule provided with the completed registration statement.

f. Annual reporting requirements. Each annual report shall include:

(1) A list of any written notifications of physical interconnection given by the operator to other MS4s;

(2) The total number of outfalls screened during the reporting period, the screening results, and detail of any follow-up actions necessitated by the screening results; and

(3) A summary of each investigation conducted by the operator of any suspected illicit discharge. The summary must include: (i) the date that the suspected discharge was observed, reported, or both; (ii) how the investigation was resolved, including any follow-up, and (iii) resolution of the investigation and the date the investigation was closed.

4. Construction site stormwater runoff control.

a. Applicable oversight requirements. The operator shall utilize its legal authority, such as ordinances, permits, orders, specific contract language, and interjurisdictional agreements, to address discharges entering the MS4 from the following land-disturbing activities:

(1) Land-disturbing activities as defined in § 62.1-44.15:51 of the Code of Virginia that result in the disturbance of 10,000 square feet or greater;

(2) Land-disturbing activities in jurisdictions in Tidewater Virginia, as defined in § 62.1-44.15:68 of the Code of

Virginia, that disturb 2,500 square feet or greater and are located in areas designated as Resource Protection Areas (RPA), Resource Management Areas (RMA) or Intensely Developed Acres (IDA), pursuant to the Chesapeake Bay Preservation Area Designation and Management Regulations adopted pursuant to the Chesapeake Bay Preservation Act;

(3) Land-disturbing activities disturbing less than the minimum land disturbance identified in subdivision (1) or (2) above for which a local ordinance requires that an erosion and sediment control plan be developed; and

(4) Land-disturbing activities on individual residential lots or sections of residential developments being developed by different property owners and where the total land disturbance of the residential development is 10,000 square feet or greater. The operator may utilize an agreement in lieu of a plan as provided in § 62.1-44.15:55 of the Code of Virginia for this category of land disturbances.

b. Required plan approval prior to commencement of the land disturbing activity. The operator shall require that land disturbance not begin until an erosion and sediment control plan or an agreement in lieu of a plan as provided in § 62.1-44.15:55 is approved by a VESCP authority in accordance with the Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq. of the Code of Virginia). The plan shall be:

(1) Compliant with the minimum standards identified in 9VAC25-840-40 of the Erosion and Sediment Control Regulations; or

(2) Compliant with department-approved annual standards and specifications. Where applicable, the plan shall be consistent with any additional or more stringent, or both, erosion and sediment control requirements established by state regulation or local ordinance.

c. Compliance and enforcement.

(1) The operator shall inspect land-disturbing activities for compliance with an approved erosion and sediment control plan or agreement in lieu of a plan in accordance with the minimum standards identified in 9VAC25-840-40 or with department-approved annual standards and specifications.

(2) The operator shall implement an inspection schedule for land-disturbing activities identified in Section II B 4 a as follows:

(a) Upon initial installation of erosion and sediment controls;

(b) At least once during every two-week period;

(c) Within 48 hours of any runoff-producing storm event; and

(d) Upon completion of the project and prior to the release of any applicable performance bonds.

Where an operator establishes an alternative inspection program as provided for in 9VAC25-840-60 B 2, the written schedule shall be implemented in lieu of Section II B 4 c (2) and the written plan shall be included in the MS4 Program Plan.

(3) Operator inspections shall be conducted by personnel who hold a certificate of competence in accordance with 9VAC25-850-40. Documentation of certification shall be made available upon request by the VESCP authority

or other regulatory agency.

(4) The operator shall promote to the public a mechanism for receipt of complaints regarding regulated land-disturbing activities and shall follow up on any complaints regarding potential water quality and compliance issues.

(5) The operator shall utilize its legal authority to require compliance with the approved plan where an inspection finds that the approved plan is not being properly implemented.

(6) The operator shall utilize, as appropriate, its legal authority to require changes to an approved plan when an inspection finds that the approved plan is inadequate to effectively control soil erosion, sediment deposition, and runoff to prevent the unreasonable degradation of properties, stream channels, waters, and other natural resources.

(7) The operator shall require implementation of appropriate controls to prevent nonstormwater discharges to the MS4, such as wastewater, concrete washout, fuels and oils, and other illicit discharges identified during land-disturbing activity inspections of the MS4. The discharge of nonstormwater discharges other than those identified in 9VAC25-890-20 through the MS4 is not authorized by this state permit.

(8) The operator may develop and implement a progressive compliance and enforcement strategy provided that such strategy is included in the MS4 Program Plan and is consistent with 9VAC25-840.

d. Regulatory coordination. The operator shall implement enforceable procedures to require that large construction activities as defined in 9VAC25-870-10 and small construction activities as defined in 9VAC25-870-10, including municipal construction activities, secure necessary state permit authorizations from the department to discharge stormwater.

e. MS4 Program requirements. The operator's MS4 Program Plan shall include:

(1) A description of the legal authorities utilized to ensure compliance with the minimum control measure in Section II related to construction site stormwater runoff control such as ordinances, permits, orders, specific contract language, and interjurisdictional agreements;

(2) Written plan review procedures and all associated documents utilized in plan review;

(3) For the MS4 operators who obtain department-approved standards and specifications, a copy of the current standards and specifications;

(4) Written inspection procedures and all associated documents utilized during inspection including the inspection schedule;

(5) Written procedures for compliance and enforcement, including a progressive compliance and enforcement strategy, where appropriate; and

(6) The roles and responsibilities of each of the operator's departments, divisions, or subdivisions in implementing the minimum control measure in Section II related to construction site stormwater runoff control. If the operator utilizes another entity to implement portions of the MS4 Program Plan, a copy of the written agreement must be retained in the MS4 Program Plan. The description of each party's roles and responsibilities, including any written

agreements with third parties, shall be updated as necessary.

Reference may be made to any listed requirements in this subdivision provided the location of where the reference material can be found is included and the reference material is made available to the public upon request.

f. Reporting requirements. The operator shall track regulated land-disturbing activities and submit the following information in all annual reports:

(1) Total number of regulated land-disturbing activities;

(2) Total number of acres disturbed;

(3) Total number of inspections conducted; and

(4) A summary of the enforcement actions taken, including the total number and type of enforcement actions taken during the reporting period.

5. Post-construction stormwater management in new development and development on prior developed lands.

a. Applicable oversight requirements. The operator shall address post-construction stormwater runoff that enters the MS4 from the following land-disturbing activities:

(1) New development and development on prior developed lands that are defined as large construction activities or small construction activities in 9VAC25-870-10;

(2) New development and development on prior developed lands that disturb greater than or equal to 2,500 square feet, but less than one acre, located in a Chesapeake Bay Preservation Area designated by a local government located in Tidewater, Virginia, as defined in § 62.1-44.15:68 of the Code of Virginia; and

(3) New development and development on prior developed lands where an applicable state regulation or local ordinance has designated a more stringent regulatory size threshold than that identified in subdivision (1) or (2) above.

b. Required design criteria for stormwater runoff controls. The operator shall utilize legal authority, such as ordinances, permits, orders, specific contract language, and interjurisdictional agreements, to require that activities identified in Section II B 5 a address stormwater runoff in such a manner that stormwater runoff controls are designed and installed:

(1) In accordance with the appropriate water quality and water quantity design criteria as required in Part II (9VAC25-870-40 et seq.) of 9VAC25-870;

(2) In accordance with any additional applicable state or local design criteria required at project initiation; and

(3) Where applicable, in accordance with any department-approved annual standards and specifications.

Upon board approval of a Virginia Stormwater Management Program authority (VSMP Authority) as defined in § 62.1-44.15:24 of the Code of Virginia and reissuance of the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Construction Activities, the operator shall require that stormwater management plans are approved by the appropriate VSMP Authority prior to land disturbance. In

accordance with § 62.1-44.15:27 M of the Code of Virginia, VSMPs shall become effective July 1, 2014, unless otherwise specified by state law or by the board.

c. Inspection, operation, and maintenance verification of stormwater management facilities.

(1) For stormwater management facilities not owned by the MS4 operator, the following conditions apply:

(a) The operator shall require adequate long-term operation and maintenance by the owner of the stormwater management facility by requiring the owner to develop a recorded inspection schedule and maintenance agreement to the extent allowable under state or local law or other legal mechanism;

(b) The operator or his designee shall implement a schedule designed to inspect all privately owned stormwater management facilities that discharge into the MS4 at least once every five years to document that maintenance is being conducted in such a manner to ensure long-term operation in accordance with the approved designs.

(c) The operator shall utilize its legal authority for enforcement of maintenance responsibilities if maintenance is neglected by the owner. The operator may develop and implement a progressive compliance and enforcement strategy provided that the strategy is included in the MS4 Program Plan.

(d) Beginning with the issuance of this state permit, the operator may utilize strategies other than maintenance agreements such as periodic inspections, homeowner outreach and education, and other methods targeted at promoting the long-term maintenance of stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot. Within 12 months of coverage under this permit, the operator shall develop and implement these alternative strategies and include them in the MS4 Program Plan.

(2) For stormwater management facilities owned by the MS4 operator, the following conditions apply:

(a) The operator shall provide for adequate long-term operation and maintenance of its stormwater management facilities in accordance with written inspection and maintenance procedures included in the MS4 Program Plan.

(b) The operator shall inspect these stormwater management facilities annually. The operator may choose to implement an alternative schedule to inspect these stormwater management facilities based on facility type and expected maintenance needs provided that the alternative schedule is included in the MS4 Program Plan.

(c) The operator shall conduct maintenance on its stormwater management facilities as necessary.

d. MS4 Program Plan requirements. The operator's MS4 Program Plan shall be updated in accordance with Table 1 to include:

(1) A list of the applicable legal authorities such as ordinance, state and other permits, orders, specific contract language, and interjurisdictional agreements to ensure compliance with the minimum control measure in Section II related to post-construction stormwater management in new development and development on prior developed lands;

(2) Written policies and procedures utilized to ensure that stormwater management facilities are designed and installed in accordance with Section II B 5 b;

(3) Written inspection policies and procedures utilized in conducting inspections;

(4) Written procedures for inspection, compliance and enforcement to ensure maintenance is conducted on

private stormwater facilities to ensure long-term operation in accordance with approved design;

(5) Written procedures for inspection and maintenance of operator-owned stormwater management facilities;

(6) The roles and responsibilities of each of the operator's departments, divisions, or subdivisions in implementing the minimum control measure in Section II related to post-construction stormwater management in new development and development on prior developed lands. If the operator utilizes another entity to implement portions of the MS4 Program Plan, a copy of the written agreement must be retained in the MS4 Program Plan. Roles and responsibilities shall be updated as necessary.

e. Stormwater management facility tracking and reporting requirements. The operator shall maintain an updated electronic database of all known operator-owned and privately-owned stormwater management facilities that discharge into the MS4. The database shall include the following:

(1) The stormwater management facility type;

(2) A general description of the facility's location, including the address or latitude and longitude;

(3) The acres treated by the facility, including total acres, as well as the breakdown of pervious and impervious acres;

(4) The date the facility was brought online (MM/YYYY). If the date is not known, the operator shall use June 30, 2005, as the date brought online for all previously existing stormwater management facilities;

(5) The sixth order hydrologic unit code (HUC) in which the stormwater management facility is located;

(6) The name of any impaired water segments within each HUC listed in the 2010 § 305(b)/303(d) Water Quality Assessment Integrated Report to which the stormwater management facility discharges;

(7) Whether the stormwater management facility is operator-owned or privately-owned;

(8) Whether a maintenance agreement exists if the stormwater management facility is privately owned; and

(9) The date of the operator's most recent inspection of the stormwater management facility.

In addition, the operator shall annually track and report the total number of inspections completed and, when applicable, the number of enforcement actions taken to ensure long-term maintenance.

The operator shall submit an electronic database or spreadsheet of all stormwater management facilities brought online during each reporting year with the appropriate annual report. Upon such time as the department provides the operators access to a statewide web-based reporting electronic database or spreadsheet, the operator shall utilize such database to complete the pertinent reporting requirements of this state permit.

6. Pollution prevention/good housekeeping for municipal operations.

a. Operations and maintenance activities. The MS4 Program Plan submitted with the registration statement shall be implemented by the operator until updated in accordance with this state permit. In accordance with Table 1, the operator shall develop and implement written procedures designed to minimize or prevent pollutant discharge from: (i) daily operations such as road, street, and parking lot maintenance; (ii) equipment maintenance; and (iii) the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. The written procedures

shall be utilized as part of the employee training. At a minimum, the written procedures shall be designed to:

(1) Prevent illicit discharges;

(2) Ensure the proper disposal of waste materials, including landscape wastes;

(3) Prevent the discharge of municipal vehicle wash water into the MS4 without authorization under a separate VPDES permit;

(4) Prevent the discharge of wastewater into the MS4 without authorization under a separate VPDES permit;

(5) Require implementation of best management practices when discharging water pumped from utility construction and maintenance activities;

(6) Minimize the pollutants in stormwater runoff from bulk storage areas (e.g., salt storage, topsoil stockpiles) through the use of best management practices;

(7) Prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and

(8) Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.

b. Municipal facility pollution prevention and good housekeeping.

(1) Within 12 months of state permit coverage, the operator shall identify all municipal high-priority facilities. These high-priority facilities shall include: (i) composting facilities, (ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities, (v) public works yards, (vi) recycling facilities, (vii) salt storage facilities, (viii) solid waste handling and transfer facilities, and (ix) vehicle storage and maintenance yards.

(2) Within 12 months of state permit coverage, the operator shall identify which of the municipal high-priority facilities have a high potential of discharging pollutants. Municipal high-priority facilities that have a high potential for discharging pollutants are those facilities identified in subsection (1) above that are not covered under a separate VPDES permit and which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff:

(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;

(b) Materials or residuals on the ground or in stormwater inlets from spills or leaks;

(c) Material handling equipment (except adequately maintained vehicles);

(d) Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt);

(e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);

(f) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;

(g) Waste material except waste in covered, non-leaking containers (e.g., dumpsters);

(h) Application or disposal of process wastewater (unless otherwise permitted); or

(i) Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.

(3) The operator shall develop and implement specific stormwater pollution prevention plans for all high-priority facilities identified in subdivision 2 of this subsection. The operator shall complete SWPPP development and implementation shall be completed within 48 months of coverage under this state permit. Facilities covered under a separate VPDES permit shall adhere to the conditions established in that permit and are excluded from this requirement.

(4) Each SWPPP shall include:

(a) A site description that includes a site map identifying all outfalls, direction of flows, existing source controls, and receiving water bodies;

(b) A discussion and checklist of potential pollutants and pollutant sources;

(c) A discussion of all potential nonstormwater discharges;

(d) Written procedures designed to reduce and prevent pollutant discharge;

(e) A description of the applicable training as required in Section II B 6 d;

(f) Procedures to conduct an annual comprehensive site compliance evaluation;

(g) An inspection and maintenance schedule for site specific source controls. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP;

(h) The contents of each SWPPP shall be evaluated and modified as necessary to accurately reflect any discharge, release, or spill from the high priority facility reported in accordance with Section III G. For each such discharge, release, or spill, the SWPPP must include the following information: date of incident; material discharged, released, or spilled; and quantity discharged, released or spilled; and

(i) A copy of each SWPPP shall be kept at each facility and shall be kept updated and utilized as part of staff training required in Section II B 6 d.

c. Turf and landscape management.

(1) The operator shall implement turf and landscape nutrient management plans that have been developed by a certified turf and landscape nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia on all lands owned or operated by the MS4 operator where nutrients are applied to a contiguous area greater than one acre. Implementation shall be in accordance with the following schedule:

(a) Within 12 months of state permit coverage, the operator shall identify all applicable lands where nutrients are applied to a contiguous area of more than one acre. A latitude and longitude shall be provided for each such piece of land and reported in the annual report.

(b) Within 60 months of state permit coverage, the operator shall implement turf and landscape nutrient

management plans on all lands where nutrients are applied to a contiguous area of more than one acre. The following measurable outcomes are established for the implementation of turf and landscape nutrient management plans: (i) within 24 months of permit coverage, not less than 15% of all identified acres will be covered by turf and landscape nutrient management plans; (ii) within 36 months of permit coverage, not less than 40% of all identified acres will be covered by turf and landscape nutrient management plans; and (iii) within 48 months of permit coverage, not less than 75% of all identified acres will be covered by turf and landscape nutrient management plans. The operator shall not fail to meet the measurable goals for two consecutive years.

(c) MS4 operators with lands regulated under § 10.1-104.4 of the Code of Virginia shall continue to implement turf and landscape nutrient management plans in accordance with this statutory requirement.

(2) Operators shall annually track the following:

(a) The total acreage of lands where turf and landscape nutrient management plans are required; and

(b) The acreage of lands upon which turf and landscape nutrient management plans have been implemented.

(3) The operator shall not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.

d. Training. The operator shall conduct training for employees. The training requirements may be fulfilled, in total or in part, through regional training programs involving two or more MS4 localities provided; however, that each operator shall remain individually liable for its failure to comply with the training requirements in this permit. Training is not required if the topic is not applicable to the operator's operations and therefore does not have applicable personnel provided the lack of applicability is documented in the MS4 Program Plan. The operator shall determine and document the applicable employees or positions to receive each type of training. The operator shall develop an annual written training plan including a schedule of training events that ensures implementation of the training requirements as follows:

(1) The operator shall provide biennial training to applicable field personnel in the recognition and reporting of illicit discharges.

(2) The operator shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed during road, street, and parking lot maintenance.

(3) The operator shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around maintenance and public works facilities.

(4) The operator shall ensure that employees, and require that contractors, who apply pesticides and herbicides are properly trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia).

(5) The operator shall ensure that employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations.

(6) The operator shall ensure that applicable employees obtain the appropriate certifications as required under the

Virginia Erosion and Sediment Control Law and its attendant regulations.

(7) The operators shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around recreational facilities.

(8) The appropriate emergency response employees shall have training in spill responses. A summary of the training or certification program provided to emergency response employees shall be included in the first annual report.

(9) The operator shall keep documentation on each training event including the training date, the number of employees attending the training, and the objective of the training event for a period of three years after each training event.

e. The operator shall require that municipal contractors use appropriate control measures and procedures for stormwater discharges to the MS4 system. Oversight procedures shall be described in the MS4 Program Plan.

f. At a minimum, the MS4 Program Plan shall contain:

(1) The written protocols being used to satisfy the daily operations and maintenance requirements;

(2) A list of all municipal high-priority facilities that identifies those facilities that have a high potential for chemicals or other materials to be discharged in stormwater and a schedule that identifies the year in which an individual SWPPP will be developed for those facilities required to have a SWPPP. Upon completion of a SWPPP, the SWPPP shall be part of the MS4 Program Plan. The MS4 Program Plan shall include the location in which the individual SWPPP is located;

(3) A list of lands where nutrients are applied to a contiguous area of more than one acre. Upon completion of a turf and landscape nutrient management plan, the turf and landscape nutrient management plan shall be part of the MS4 Program Plan. The MS4 Program Plan shall include the location in which the individual turf and landscape nutrient management plan is located; and

(4) The annual written training plan for the next reporting cycle.

g. Annual reporting requirements.

(1) A summary report on the development and implementation of the daily operational procedures;

(2) A summary report on the development and implementation of the required SWPPPs;

(3) A summary report on the development and implementation of the turf and landscape nutrient management plans that includes:

(a) The total acreage of lands where turf and landscape nutrient management plans are required; and

(b) The acreage of lands upon which turf and landscape nutrient management plans have been implemented; and

(4) A summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training.

C. If an existing program requires the implementation of one or more of the minimum control measures of Section II B, the operator, with the approval of the board, may follow that program's requirements rather than the requirements of Section

II B. A program that may be considered includes, but is not limited to, a local, state or tribal program that imposes, at a minimum, the relevant requirements of Section II B.

The operator's MS4 Program Plan shall identify and fully describe any program that will be used to satisfy one or more of the minimum control measures of Section II B.

If the program the operator is using requires the approval of a third party, the program must be fully approved by the third party, or the operator must be working towards getting full approval. Documentation of the program's approval status, or the progress towards achieving full approval, must be included in the annual report required by Section II E 3. The operator remains responsible for compliance with the permit requirements if the other entity fails to implement the control measures (or component thereof).

D. The operator may rely on another entity to satisfy the state permit requirements to implement a minimum control measure if: (i) the other entity, in fact, implements the control measure; (ii) the particular control measure, or component thereof, is at least as stringent as the corresponding state permit requirement; and (iii) the other entity agrees to implement the control measure on behalf of the operator. The agreement between the parties must be documented in writing and retained by the operator with the MS4 Program Plan for the duration of this state permit.

In the annual reports that must be submitted under Section II E 3, the operator must specify that another entity is being relied on to satisfy some of the state permit requirements.

If the operator is relying on another governmental entity regulated under 9VAC25-870-380 to satisfy all of the state permit obligations, including the obligation to file periodic reports required by Section II E 3, the operator must note that fact in the registration statement, but is not required to file the periodic reports.

The operator remains responsible for compliance with the state permit requirements if the other entity fails to implement the control measure (or component thereof).

E. Evaluation and assessment.

1. MS4 Program Evaluation. The operator must annually evaluate:

a. Program compliance;

b. The appropriateness of the identified BMPs (as part of this evaluation, the operator shall evaluate the effectiveness of BMPs in addressing discharges into waters that are identified as impaired in the 2010 § 305(b)/303(d) Water Quality Assessment Integrated Report); and

c. Progress towards achieving the identified measurable goals.

2. Recordkeeping. The operator must keep records required by the state permit for at least three years. These records must be submitted to the department only upon specific request. The operator must make the records, including a description of the stormwater management program, available to the public at reasonable times during regular business hours.

3. Annual reports. The operator must submit an annual report for the reporting period of July 1 through June 30 to the department by the following October 1 of that year. The reports shall include:

a. Background Information.

(1) The name and state permit number of the program submitting the annual report;

(2) The annual report permit year;

(3) Modifications to any operator's department's roles and responsibilities;

(4) Number of new MS4 outfalls and associated acreage by HUC added during the permit year; and

(5) Signed certification;

b. The status of compliance with state permit conditions, an assessment of the appropriateness of the identified best management practices and progress towards achieving the identified measurable goals for each of the minimum control measures;

c. Results of information collected and analyzed, including monitoring data, if any, during the reporting period;

d. A summary of the stormwater activities the operator plans to undertake during the next reporting cycle;

e. A change in any identified best management practices or measurable goals for any of the minimum control measures including steps to be taken to address any deficiencies;

f. Notice that the operator is relying on another government entity to satisfy some of the state permit obligations (if applicable);

g. The approval status of any programs pursuant to Section II C (if appropriate), or the progress towards achieving full approval of these programs; and

h. Information required for any applicable TMDL special condition contained in Section I.

F. Program Plan modifications.

1. Program modifications requested by the operator. Modifications to the MS4 Program are expected throughout the life of this state permit as part of the iterative process to reduce the pollutant loadings and to protect water quality. As such, modifications made in accordance with this state permit as a result of the iterative process do not require modification of this permit unless the department determines that the changes meet the criteria referenced in 9VAC25-870-630 or 9VAC25-870-650. Updates and modifications to the MS4 Program may be made during the life of this state permit in accordance with the following procedures:

a. Adding (but not eliminating or replacing) components, controls, or requirements to the MS4 Program may be made by the operator at any time. Additions shall be reported as part of the annual report.

b. Updates and modifications to specific standards and specifications, schedules, operating procedures, ordinances, manuals, checklists, and other documents routinely evaluated and modified are permitted under this state permit provided that the updates and modifications are done in a manner that (i) is consistent with the conditions of this state permit, (ii) follow any public notice and participation requirements established in this state permit, and (iii) are documented in the annual report.

c. Replacing, or eliminating without replacement, any ineffective or infeasible strategies, policies, and BMPs specifically identified in this permit with alternate strategies, policies, and BMPs may be requested at any time. Such requests must be made in writing to the department and signed in accordance with 9VAC25-870-370, and

include the following:

(1) An analysis of how or why the BMPs, strategies, or policies are ineffective or infeasible, including information on whether the BMPs, strategies, or policies are cost prohibitive;

(2) Expectations regarding the effectiveness of the replacement BMPs, strategies, or policies;

(3) An analysis of how the replacement BMPs are expected to achieve the goals of the BMPs to be replaced;

(4) A schedule for implementing the replacement BMPs, strategies, and policies; and

(5) An analysis of how the replacement strategies and policies are expected to improve the operator's ability to meet the goals of the strategies and policies being replaced.

d. The operator follows the public involvement requirements identified in Section II B 2 (a).

2. MS4 Program updates requested by the department. In a manner and following procedures in accordance with the Virginia Administrative Process Act, the Virginia Stormwater Management regulations, and other applicable state law and regulations, the department may request changes to the MS4 Program to assure compliance with the statutory requirements of the Virginia Stormwater Management Act and its attendant regulations to:

a. Address impacts on receiving water quality caused by discharges from the MS4;

b. Include more stringent requirements necessary to comply with new state or federal laws or regulations; or

c. Include such other conditions necessary to comply with state or federal law or regulation.

Proposed changes requested by the department shall be made in writing and set forth the basis for and objective of the modification as well as the proposed time schedule for the operator to develop and implement the modification. The operator may propose alternative program modifications or time schedules to meet the objective of the requested modification, but any such modifications are at the discretion of the department.

SECTION III

CONDITIONS APPLICABLE TO ALL STATE PERMITS

A. Monitoring.

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. Monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this state permit.

3. The operator shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will insure accuracy of measurements.

B. Records.

1. Monitoring records/reports shall include:

a. The date, exact place, and time of sampling or measurements;

b. The individual(s) who performed the sampling or measurements;

c. The date(s) and time(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of such analyses.

2. The operator shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this state permit, and records of all data used to complete the registration statement for this state permit, for a period of at least three years from the date of the sample, measurement, report or request for coverage. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the operator, or as requested by the board.

C. Reporting monitoring results.

1. The operator shall submit the results of the monitoring required by this state permit with the annual report unless another reporting schedule is specified elsewhere in this state permit.

2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR); on forms provided, approved or specified by the department; or in any format provided the date, location, parameter, method, and result of the monitoring activity are included.

3. If the operator monitors any pollutant specifically addressed by this state permit more frequently than required by this state permit using test procedures approved under 40 CFR Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using procedures specified in this state permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the department.

4. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this state permit.

D. Duty to provide information. The operator shall furnish to the department, within a reasonable time, any information that the board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this state permit or to determine compliance with this state permit. The board may require the operator to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of surface waters, or such other information as may be necessary to accomplish the purposes of the CWA and Virginia Stormwater Management Act. The operator shall also furnish to the department upon request, copies of records required to be kept by this permit.

E. Compliance schedule reports. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this state permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized stormwater discharges. Pursuant to § 62.1-44.15:26 of the Code of Virginia, except in compliance with a state permit issued by the board, it shall be unlawful to cause a stormwater discharge from a MS4.

G. Reports of unauthorized discharges. Any operator of a small MS4 who discharges or causes or allows a discharge of

sewage, industrial waste, other wastes or any noxious or deleterious substance or a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302 that occurs during a 24-hour period into or upon surface waters; or who discharges or causes or allows a discharge that may reasonably be expected to enter surface waters, shall notify the department of the discharge immediately upon discovery of the discharge, but in no case later than within 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the department within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;

2. The cause of the discharge;

3. The date on which the discharge occurred;

4. The length of time that the discharge continued;

5. The volume of the discharge;

6. If the discharge is continuing, how long it is expected to continue;

7. If the discharge is continuing, what the expected total volume of the discharge will be; and

8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this state permit.

Discharges reportable to the department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of unusual or extraordinary discharges. If any unusual or extraordinary discharge including a "bypass" or "upset," as defined herein, should occur from a facility and the discharge enters or could be expected to enter surface waters, the operator shall promptly notify, in no case later than within 24 hours, the department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse effects on aquatic life and the known number of fish killed. The operator shall reduce the report to writing and shall submit it to the department within five days of discovery of the discharge in accordance with Section III I 2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;

2. Breakdown of processing or accessory equipment;

3. Failure or taking out of service some or all of the facilities; and

4. Flooding or other acts of nature.

I. Reports of noncompliance. The operator shall report any noncompliance which may adversely affect surface waters or may endanger public health.

1. An oral report shall be provided within 24 hours to the department from the time the operator becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:

a. Any unanticipated bypass; and

b. Any upset which causes a discharge to surface waters.

2. A written report shall be submitted within five days and shall contain:

a. A description of the noncompliance and its cause;

b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and

c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The board or its designee may waive the written report on a case-by-case basis for reports of noncompliance under Section III I if the oral report has been received within 24 hours and no adverse impact on surface waters has been reported.

3. The operator shall report all instances of noncompliance not reported under Sections III I 1 or 2, in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Section III I 2.

NOTE: The immediate (within 24 hours) reports required to be provided to the department in Sections III G, H and I may be made to the appropriate Regional Office Pollution Response Program as found at http://deq.virginia.gov/Programs/PollutionResponsePreparedness.aspx. Reports may be made by telephone or by fax. For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

4. Where the operator becomes aware of a failure to submit any relevant facts, or submittal of incorrect information in any report to the department, it shall promptly submit such facts or correct information.

J. Notice of planned changes.

1. The operator shall give notice to the department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The operator plans an alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

(1) After promulgation of standards of performance under § 306 of the Clean Water Act that are applicable to such source; or

(2) After proposal of standards of performance in accordance with § 306 of the Clean Water Act that are applicable to such source, but only if the standards are promulgated in accordance with § 306 within 120 days of their proposal;

b. The operator plans alteration or addition that would significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this state permit; or

2. The operator shall give advance notice to the department of any planned changes in the permitted facility or

activity; which may result in noncompliance with state permit requirements.

K. Signatory requirements.

1. Registration statement. All registration statements shall be signed as follows:

a. For a corporation: by a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for state permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

c. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a public agency includes:

(1) The chief executive officer of the agency, or

(2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

2. Reports, etc. All reports required by state permits, and other information requested by the board shall be signed by a person described in Section III K 1, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Section III K 1;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the operator. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

c. The written authorization is submitted to the department.

3. Changes to authorization. If an authorization under Section III K 2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Section III K 2 shall be submitted to the department prior to or together with any reports, or information to be signed by an authorized representative.

4. Certification. Any person signing a document under Sections III K 1 or 2 shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or

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

L. Duty to comply. The operator shall comply with all conditions of this state permit. Any state permit noncompliance constitutes a violation of the Virginia Stormwater Management Act and the Clean Water Act, except that noncompliance with certain provisions of this state permit may constitute a violation of the Virginia Stormwater Management Act but not the Clean Water Act. State permit noncompliance is grounds for enforcement action; for state permit termination, revocation and reissuance, or modification; or denial of a state permit renewal application.

The operator shall comply with effluent standards or prohibitions established under § 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this state permit has not yet been modified to incorporate the requirement.

M. Duty to reapply. If the operator wishes to continue an activity regulated by this state permit after the expiration date of this state permit, the operator shall submit a new registration statement at least 90 days before the expiration date of the existing state permit, unless permission for a later date has been granted by the board. The board shall not grant permission for registration statements to be submitted later than the expiration date of the existing state permit.

N. Effect of a state permit. This state permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State law. Nothing in this state permit shall be construed to preclude the institution of any legal action under, or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by § 510 of the Clean Water Act. Except as provided in state permit conditions on "bypassing" (Section III U), and "upset" (Section III V) nothing in this state permit shall be construed to relieve the operator from civil and criminal penalties for noncompliance.

P. Oil and hazardous substance liability. Nothing in this state permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties to which the operator is or may be subject under §§ 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law or § 311 of the Clean Water Act.

Q. Proper operation and maintenance. The operator shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), which are installed or used by the operator to achieve compliance with the conditions of this state permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by the operator only when the operation is necessary to achieve compliance with the conditions of this state permit.

R. Disposal of solids or sludges. Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering surface waters.

S. Duty to mitigate. The operator shall take all reasonable steps to minimize or prevent any discharge in violation of this state permit that has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to halt or reduce activity not a defense. It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this state permit.

U. Bypass.

1. "Bypass," as defined in 9VAC25-870-10, means the intentional diversion of waste streams from any portion of a treatment facility. The operator may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Sections III U 2 and U 3.

2. Notice.

a. Anticipated bypass. If the operator knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least 10 days before the date of the bypass.

b. Unanticipated bypass. The operator shall submit notice of an unanticipated bypass as required in Section III I.

3. Prohibition of bypass.

a. Bypass is prohibited, and the board or its designee may take enforcement action against an operator for bypass, unless:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The operator submitted notices as required under Section III U 2.

b. The board or its designee may approve an anticipated bypass, after considering its adverse effects, if the board or its designee determines that it will meet the three conditions listed above in Section III U 3 a.

V. Upset.

1. An "upset", as defined in 9VAC25-870-10, constitutes an affirmative defense to an action brought for noncompliance with technology based state permit effluent limitations if the requirements of Section III V 2 are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.

2. An upset does not include noncompliance to the extent caused by operational error, improperly designed

treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

3. An operator who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An upset occurred and that the operator can identify the cause(s) of the upset;

b. The permitted facility was at the time being properly operated;

c. The operator submitted notice of the upset as required in Section III I; and

d. The operator complied with any remedial measures required under Section III S.

4. In any enforcement proceeding the operator seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and entry. The operator shall allow the department as the board's designee, or an authorized representative (including an authorized contractor acting as a representative of the administrator), upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the operator's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this state permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this state permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this state permit; and

4. Sample or monitor at reasonable times, for the purposes of assuring state permit compliance or as otherwise authorized by the Clean Water Act and the Virginia Stormwater Management Act, any substances or parameters at any location.

For purposes of this subsection, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. State permit actions. State permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the operator for a state permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any state permit condition.

Y. Transfer of state permits.

1. State permits are not transferable to any person except after notice to the department. Except as provided in Section III Y 2, a state permit may be transferred by the operator to a new operator only if the state permit has been modified or revoked and reissued, or a minor modification made, to identify the new operator and incorporate such other requirements as may be necessary under the Virginia Stormwater Management Act and the Clean Water Act.

2. As an alternative to transfers under Section III Y 1, this state permit may be automatically transferred to a new

operator if:

a. The current operator notifies the department at least two days in advance of the proposed transfer of the title to the facility or property;

b. The notice includes a written agreement between the existing and new operators containing a specific date for transfer of state permit responsibility, coverage, and liability between them; and

c. The board does not notify the existing operator and the proposed new operator of its intent to modify or revoke and reissue the state permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Section III Y 2 b.

Z. Severability. The provisions of this state permit are severable, and if any provision of this state permit or the application of any provision of this state permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this state permit, shall not be affected thereby.

Statutory Authority

§ 62.1-44.15:28 of the Code of Virginia.

Historical Notes

Former 4VAC50-60-1240, derived from Virginia Register Volume 21, Issue 3, eff. January 29, 2005; amended, Virginia Register Volume 24, Issue 20, eff. July 9, 2008; Volume 29, Issue 4, eff. November 21, 2012; Volume 29, Issue 17, eff. July 1, 2013; amended and renumbered, Virginia Register Volume 30, Issue 2, eff. October 23, 2013.

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Phase II MS4 General Permit
Program Plan Update

City of Petersburg
Local TMDL Action Plan

I AM PETERSBURG VIRGINIA

OCTOBER 2015

TIMMONS GROUP
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IN ACCORDANCE WITH GUIDANCE MEMO No. XXX ISSUED BY THE COMMONWEALTH OF VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY WATER DIVISION

The following demonstrates the City of Petersburg's compliance with their assigned WLA for the Appomattox River TMDL.

1.) Name of TMDL Final Report: **Total Maximum Daily Load Development for the Appomattox River Basin**

2.) Pollutant causing the impairment: ***E. coli***

3.) WLAs assigned to the MS4 as individual WLAs: **Appomattox River (2): 1.31E+11 cfu/yr**

Appomattox River (3)-tidal: 1.76E+12 cfu/yr

4.) Significant sources of POC from facilities of concern owned or operated by the MS4 operator that are not covered under a separate VPDES permit (A significant source of pollutant from a facility of concern means a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL):

The City of Petersburg has not identified any significant sources of POC from facilities of concern owned or operated by the City of Petersburg that are not covered under a separate VPDES permit.

5.) Existing or new management practices, control techniques, and system design and engineering methods, that have or will be implemented as part of the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA:

The City plans to continue to enforce the ordinances discussed below in order to ensure that the WLA continues to be achieved. The City also plans to conduct employee training on an annual basis that includes education on sources of bacteria and best management practices to reduce the amount of bacteria making it into the City's waters.

6.) Legal authorities such as ordinances, state and other permits, orders, specific contract language, and interjurisdictional agreements applicable to reducing the POCs identified in the TMDL:

The following is a list of current ordinances and legal authorities from the Petersburg, Virginia Code of Ordinances that are applicable to reducing the major sources of pollutant identified in the WLA:

- **Chapter 18 – Animals, prohibits animals from running loose in the City, including livestock, fowl, and dogs;**
- **Chapter 50 – Environment, includes the erosion and sediment control ordinance;**
- **Chapter 58 – Floods, includes provisions for floodplain management;**
- **Chapter 78 – Parks and Recreation, includes provisions to protect managed turf and prohibits pollution of springs or lakes in any City park;**
- **Chapter 94 – Solid waste, addresses littering and mandates removal of garbage/rubbish;**
- **Chapter 114 – Utilities, mandates connection to public sewer if in proximity to such, and mandates standard practices of design/construction of new sewer; and**
- **Chapter 122 – Waterways, includes performance standards for development and redevelopment, including septic pump-out requirements, and prohibits illicit discharges to the storm sewer system.**

7.) Enhancements to public education, outreach, and employee training programs to also promote methods to eliminate and reduce discharges of the POC for which the WLA has been assigned:

The City plans to conduct employee training on an annual basis and education to the public that includes education on sources of bacteria and best management practices to eliminate and reduce discharges of the POC (bacteria). Refer to the Public Education & Outreach Plan and the Municipal Employee Training Plan and Schedule.

8.) A schedule of interim milestones and implementation of the items in 5, 6, and 7:

According to the City's calculations, the WLA for the City for the Appomattox River Bacteria TMDL has already been achieved. The following loading rates were calculated utilizing the City's land cover data and the most recent loading rates for *E. coli*:

- **Appomattox River (2): 6.49E+09 cfu/yr**
- **Appomattox River (3)-tidal: 1.12E+10 cfu/yr**

9.) Methods to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs:

The City will assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs by calculating the loading rate for the City's MS4 regulated area. A loading rate below the WLA will be the metric used to determine the effectiveness of the TMDL Action Plans. The City will also track the number of employees present at annual training sessions to determine the number of employees being trained on elimination and reduction of the discharge of the POC (bacteria).

10.) Measureable goals and the metrics that the City of Petersburg and Department of Environmental Quality will use to track goals (and the milestones required by the permit) (Evaluation metrics other than monitoring may be used to determine compliance with the TMDL):

The City will continue to monitor the loading rate for *E. coli* for the regulated MS4 area. The City will assure that the loading remains in compliance with the WLAs assigned. Should the loading for *E. coli* exceed the WLAs, the City will develop and implement a program to eliminate and reduce the discharges of the POC (bacteria).

Phase II MS4 General Permit
Program Plan Update

Chesapeake Bay TMDL Action Plan

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OCTOBER 2015

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Contents

Appendices:

Introduction

Discharges from municipal separate storm sewer systems (MS-4) are regulated under the Virginia Stormwater Management Act, the Virginia Stormwater Management Program (VSMP) Permit regulations, and the Clean Water Act as point source discharges. As a Phase II MS-4, the City of Petersburg (Petersburg) developed this Chesapeake Bay TMDL Action Plan (Action Plan) pursuant to the Special Condition for the Chesapeake Bay TMDL (Section I.C) of the City's Municipal Separate Storm Sewer System (MS-4) Permit. To assist with the development of the Action Plan, the City utilized both the Department of Environmental Quality's (DEQ) Chesapeake Bay TMDL Special Condition Guidance Document (Guidance Memo No. 14-2012, and subsequent draft revisions dated 3/19/2015, herein referred to as TMDL Guidance Document), and the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (General Permit), which became effective July 1, 2013.

Development of the Action Plan is driven by the Chesapeake Bay TMDL which was approved by the US Environmental Protection Agency (EPA) in December of 2010. Nitrogen, Total Phosphorous, and Sediment are the Pollutants of Concern (POC) driving the need for required pollutant reductions in the Chesapeake Bay Basin, which includes portions of Petersburg. It is anticipated, according to Virginia's Watershed Implementation Plan (WIP) that the TMDL will be achieved within three permit cycles with the following targets: 5% by June 30, 2018, followed by 35% and 60% in the subsequent permitting cycles. For the purposes of this Action Plan, the primary focus will be on Permit Cycle 1 and the associated 5% reduction requirements. The loadings and reductions have been provided for the anticipated 35% and 60% targets for reference.

This Action Plan details the methodology and results used to develop the required plan components. Detailed sections are provided within the report for the following tasks:

- ***Review of Current MS4 Program and Existing Legal Authority*** - Addresses Section I.C.2a(1) and I.C.2.a(2) of the General Permit
- ***Data Sources Utilized & Estimate of MS4 Regulated Acreages*** – Addresses Section I.C.2.a(4) and Section I.C.2.a(5) of the General Permit
- ***Estimated POC Loads and Required Reductions from Existing Sources*** – Addresses Section 1.C.2.a(4) and Section I.C.2.a(5) of the General Permit
- ***Estimated POC Loads and Required Reductions from New and Grandfathered Sources*** – Addresses Section 1.C.2.a(7) and Section I.C.2.a(8) of the General Permit
- ***Estimated POC Load Reductions from Existing BMPs*** – Addresses Section I.C.2.a(6) of the General Permit
- ***Means & Methods Strategy, Schedule, & Estimated Costs*** – Addresses I.C.2.a(6) and I.C.2.a(11) of the General Permit
- **List of Future Grandfathered Projects** – Addresses I.C.2.a(10) of the General Permit
- **Public Comment Process** – Addresses I.C.2.a(12) of the General Permit

Current Program and Existing Legal Authority

Petersburg has reviewed its MS4 Program to evaluate its ability to comply with the Special Condition for the Chesapeake Bay TMDL (Section I.C) of the General Permit. The following is a list of the Petersburg's relevant existing legal authorities and policies applicable to reducing the pollutants identified the Chesapeake Bay TMDL:

- MS4 Program Plan
- Illicit Discharge Ordinance (Section 122-106, 122-107, 122-108, & 122-109)
- Stormwater Management Ordinance (Section 50, Article IV)
- Stormwater Management Guidelines document
- Declaration of Covenants for Storm and Surface Water Facility and System Maintenance agreement.

In addition, Petersburg has recently (2013) implemented a stormwater utility. The newly dedicated funding source has provided Petersburg with the ability to address long-overdue repairs and upgrades to existing drainage infrastructure, continue to meet existing regulatory requirements, and plan for new regulatory requirements including local water quality protection and Chesapeake Bay TMDL target load reductions.

Petersburg has reviewed its current MS4 Program and determined that the authorities as stated above is sufficient for compliance with this special condition, see Appendix A.

New or Modified Legal Authority

The existing authority, as stated above, is sufficient for compliance with this special condition. Therefore, Petersburg does not require any new or modified legal authorities or policies in order to meet the requirements of this special condition. However, Petersburg may choose to coordinate with other adjacent MS4s and explore the idea of establishing memorandums of understanding (MOU) to clarify MS4 service boundary line(s) and inter-jurisdictional responsibilities for POC loads and subsequent required POC load reductions in the future.

Means and Methods to Address Discharges from New Sources

The City of Petersburg adhered to the technology based criteria under 9VAC25-870-96.C. Because the technology based criteria assumes an average land cover condition of 16% for the design of post-development stormwater management facilities, no additional reductions beyond the reduction requirements for existing conditions as of June 30, 2009, are required under Special Condition 7 or 8.

To address discharges into the MS-4 from new sources (defined as pervious and impervious urban land uses served by the MS-4 developed or redeveloped on or after July 1, 2009), Petersburg will adhere with current VSMP regulations for the implementation of post-development stormwater management facilities.

Estimated Existing Source Loads and Calculated Total Pollutant of Concern Required Reductions

To facilitate the requirements of this section, the City of Petersburg has developed a methodology for determining the size and extent of regulated area as of June 30, 2009 and a methodology for determining the total regulated acres of urban pervious and urban impervious surface served by the MS4 as of June 30, 2009. The methodology used in these calculations was informed by the requirements of the General Permit, the TMDL Guidance Document, referenced previously in this document, and training documents from the DEQ training session "Chesapeake Bay TMDL Action Plan Informational Session" (December 2014).

Regulated Area Determination

It is understood that the Phase II permittee boundary for the first permit cycle can be determined from the 2000 Census Designated Urbanized Area, but that with subsequent permit cycles the regulated area will expand to the 2010 Census Designated Urbanized Area. Petersburg determined that it was in their best interest to move forward in the first permit cycle using the 2010 Census Designated Urbanized Area as this will be the defining area in future permit terms.

The determination of regulated area was largely performed using available GIS data and was informed by the General Permit and the TMDL Guidance Document issued by Virginia Department of Environmental Quality.

Petersburg's jurisdictional boundary comprises approximately 14,663 acres. The following is a breakdown of how the regulated area was defined.

Description	Acres	
City of Petersburg, City Limits	14,663.5	
Total Urbanized Area (within City Limits)	10,907.8	
Total Urbanized Area, Chesapeake Bay Watershed	7,685.6	
Excluded Properties		
Federal Properties (National Battlefield, Fort Lee)	933.8	
VDOT R/W (I-95, I-85, US 460)	286.5	
VPDES (General and Individual Permit Properties)	162.2	
Wetlands (Based on the National Wetland Inventory)	151.2	
Open Water	43.6	
Total Regulated Area, Chesapeake Bay Watershed Urbanized Area	**6,108.3**	

Illustrated below in Figure 1 is a graphical representation of the total regulated area presented above.

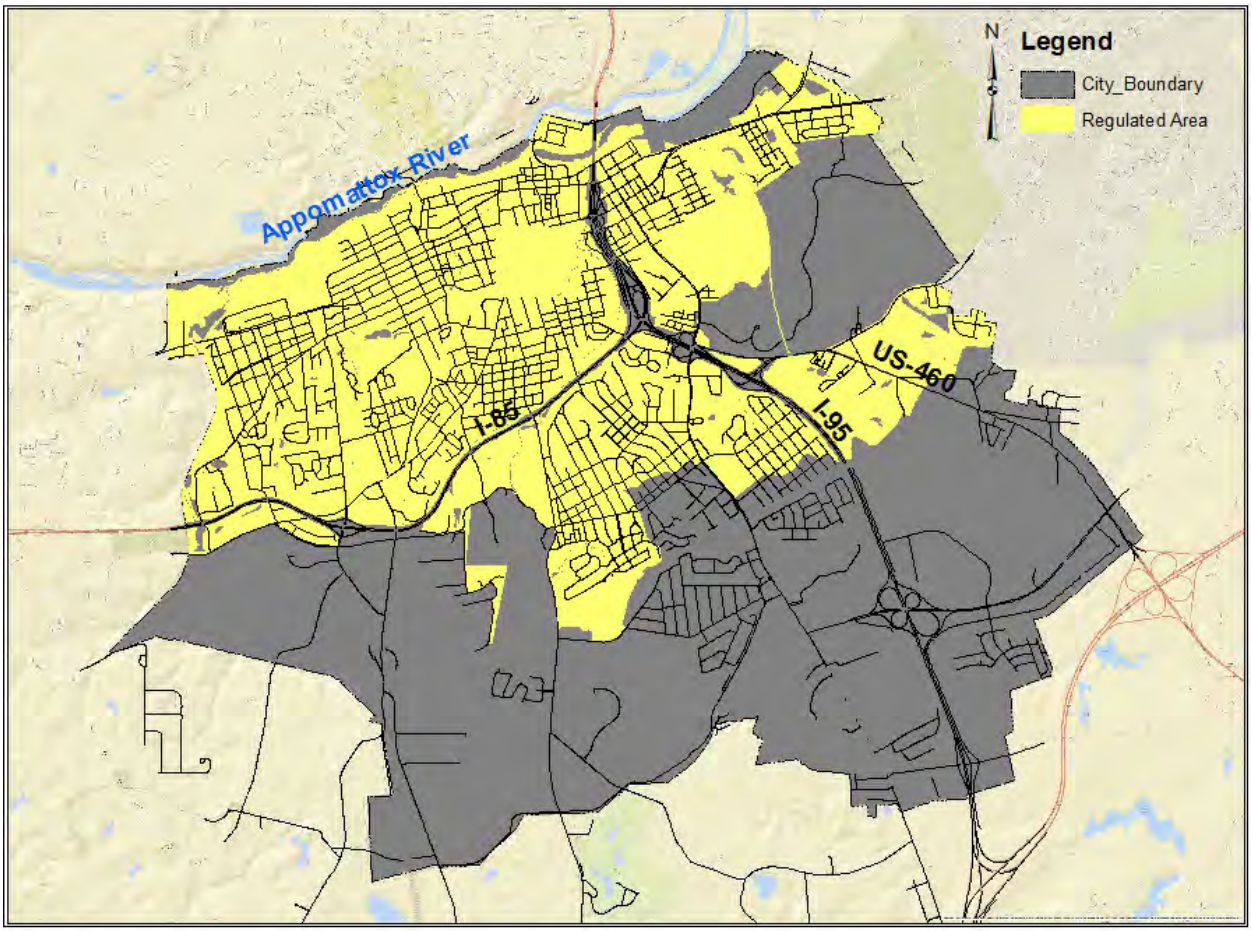

Figure 1. Map of the Regulated Area

Excluded Lands

Based on the TMDL Guidance Document, Petersburg is able to exclude from their regulated urban impervious and regulated urban pervious cover calculations the following:

- Land regulated under any General VPDES permit that addresses industrial stormwater including the General VPDES Permit for Stormwater Associated with Industrial Activity (VAR05), the General Permit for Concrete Products Facilities (VAG11) and the Nonmetallic Mineral Processing General Permit (VAR84).
- Lands regulated under an individual VPDES permit for industrial stormwater discharges
- Forested Lands
- Agricultural Lands
- Wetlands
- Open Waters

VPDES Permit Holders

VPDES permit holders were identified from a listing of permit holders that was downloaded from the DEQ website. The parcels data was used to identify the property of these permit holders and exclude this area from the regulated area. The following table lists each of the permit holders excluded from the Petersburg Regulated Area.

Table 1. VPDES Permit Holders within the City of Petersburg Excluded from Regulated Area

Permit No	Facility Name	Address	Permit Type
VAR050686	Norfolk and Southern Petersburg Auto Ramp	999 Wagner Rd	VPDES General Permit for SW Associated w / Industrial Activity
VAR050693	UniTao Pharmaceuticals Limited Liability Company	2820 N Normandy Dr	VPDES General Permit for SW Associated w / Industrial Activity
VAR050698	Amsted Rail Company Incorporated	2580 Frontage Rd	VPDES General Permit for SW Associated w / Industrial Activity
VAR050702	Dominion Chemical Company - Puddledock Road	2050 Puddledock Rd	VPDES General Permit for SW Associated w / Industrial Activity
VAR051776	Boars Head Provisions Company Inc - Petersburg	1950 Industry Pl	VPDES General Permit for SW Associated w / Industrial Activity
VAR051793	Tri City Regional Disposal and Recycling Services	390 Industrial Dr	VPDES General Permit for SW Associated w / Industrial Activity
VAR051893	Atlantic Iron and Metal	30 Mill Rd	VPDES General Permit for SW Associated w / Industrial Activity
VAR051963	BleachTech LLC - Petersburg	2020 Bessemer Rd	VPDES General Permit for SW Associated w / Industrial Activity
VAR052160	Norfolk Southern Thoroughbred Bulk Terminal	1301 E Washington St	VPDES General Permit for SW Associated w / Industrial Activity
VAR052163	Valmont Virginia Galvanizing Incorporated	3535 Halifax Rd	VPDES General Permit for SW Associated w / Industrial Activity
VAR051101	Barksdale Oils Incorporated	1041 E Bank St	VPDES General Permit for SW Associated w / Industrial Activity
VAR051780	Progress Rail Services - QBS Bearing Plant	2745 Frontage Rd	VPDES General Permit for SW Associated w / Industrial Activity
VAR052097	D and M Auto Parts	1001 E Bank St	VPDES General Permit for SW Associated w / Industrial Activity
VAR052250	Barksdale Oils Incorporated	1041 E Bank St	VPDES General Permit for SW Associated w / Industrial Activity
VA0025437	South Central Wastewater Authority WWTF	900 Magazine Rd	VPDES Individual Permit

Wetlands

Wetland areas were excluded from the regulated area using the National Wetland Inventory data layer.

Open Water

Petersburg maintains an open water GIS layer mapped as part of the land cover analysis performed in 2013. This layer was used to identify and exclude open waters from the regulated area.

Agricultural Lands

No agricultural lands are located within the urban area.

Other Governmentally Owned & Operated Lands

There are several sizeable properties located within the City of Petersburg that are owned and operated by other governmental agencies. These properties have been identified using the parcels layer and removed from the regulated area. The Petersburg National Battlefield is located within the City Limits and within the 2010 US Census Urbanized Area. Fort Lee also owns and operates a parcel located near the National Battlefield

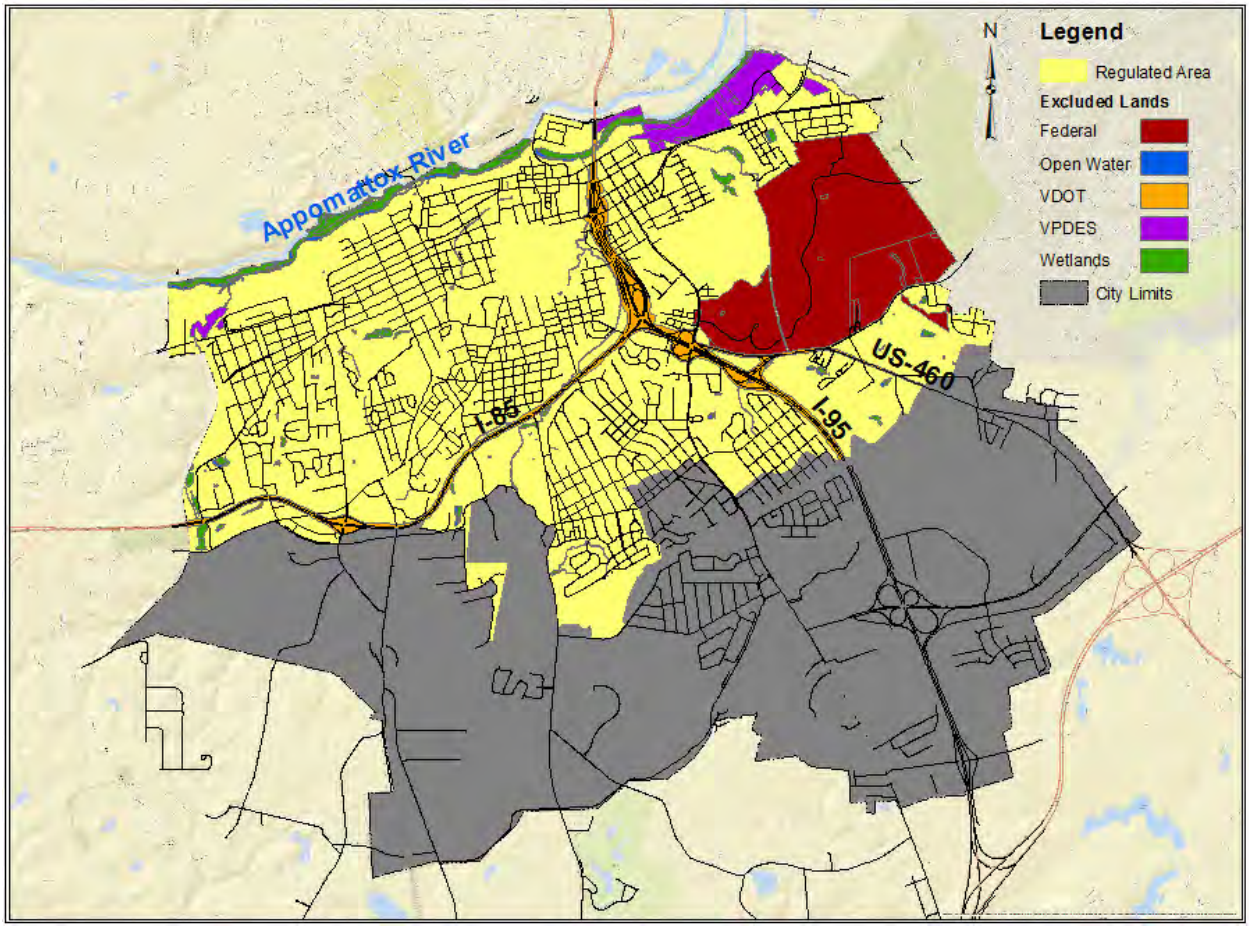

Figure 2. Map of Excluded Properties from the Regulated Urbanized Area

Land Cover Analysis

Determining the land cover as of June 30, 2009 can be a difficult task. As part of Petersburg's recent adoption of a Stormwater Utility in 2013, significant effort was taken to provide an accurate depiction of impervious and other land cover as of 2013 by which to base the billings. As such, GIS layers were developed depicting the following land cover classifications (2013): pervious, impervious and forested. According to recent MS4 Annual Reports, only approximately 190 acres of the City's 14,668 acres have been developed since June 30, 2009, most of which was redevelopment. In recognizing this, it was decided that the City of Petersburg's pollutant loads and subsequent load reductions are based on the previously developed 2013 land cover data. An analysis of the regulated area land cover was performed using GIS. A summary of the land cover within the regulated area is presented in Table 1.

Table 2. Summary of Land Use Acreage in Regulated Area.

Forest	1,061	17%
Impervious	1,598	26%
Pervious	3,449	57%
Total	**6,108**	**100%**

Forested Lands

Forested lands remain within the regulated area and in the TMDL compliance calculations tables presented in this Action Plan. The definition provided in the draft comments of the TMDL Guidance Document provides a tree density criterion to determine forested lands. Petersburg does not have a tree inventory of forested areas within the City and, as such, cannot demonstrate compliance with this criterion. Due to the evolving definition of forested land and application of forested land in the compliance calculations, it was decided that forested land would remain in the TMDL compliance calculations as pervious cover. However, Petersburg reserves the right to revise calculations should the definition and/or application of forested lands be revised in the future. Table 2 provides a breakdown of the land cover analysis performed within the regulated area.

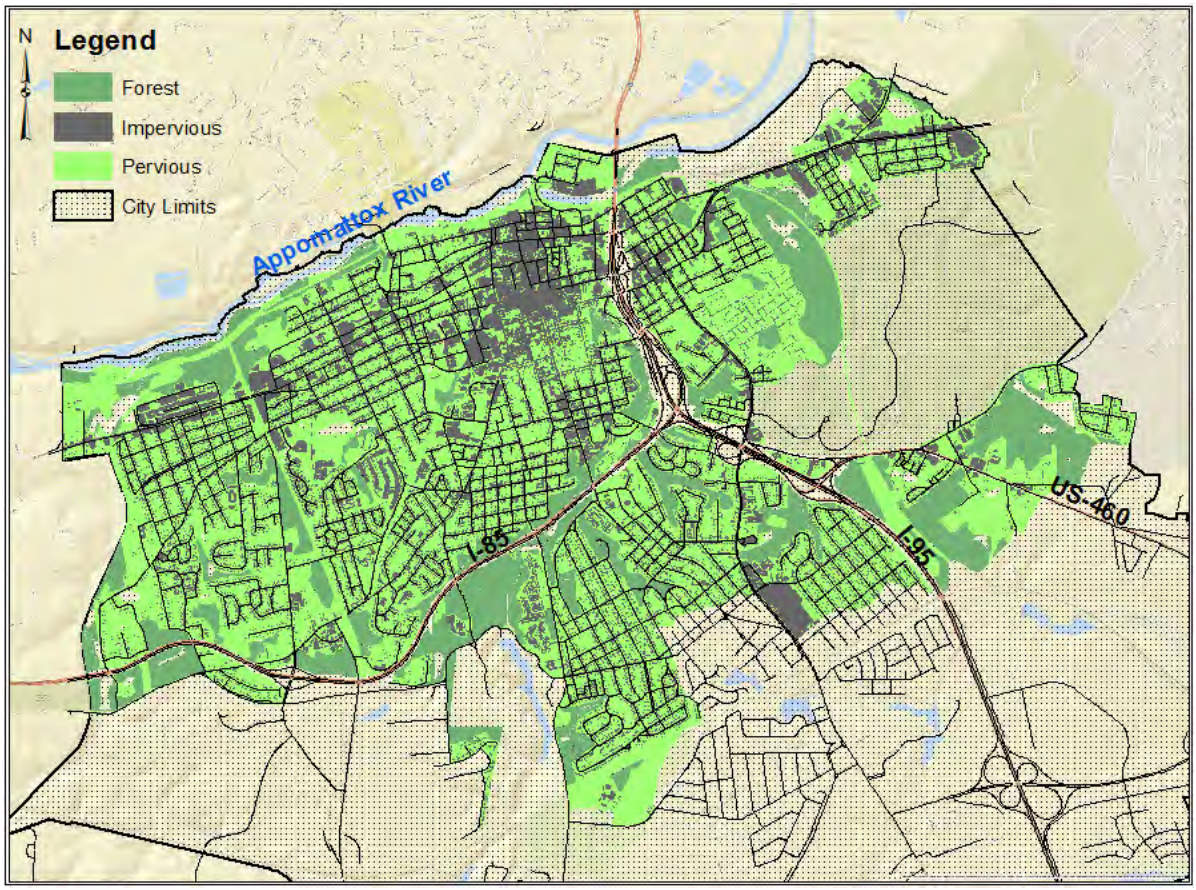

Figure 3. Regulated Area Land-use Map

Determination of Estimated Existing Source Loads & Required Reductions

Table 2a and Table 3a of the General Permit have been completed using the land cover breakdown presented in Table 2. The pervious land use acreage used in Table 2a and Table 3a is the Pervious and Forest land use acreage added together from Table 2. The estimated total Pollutant of Concern (POC) loadings (Table 2a) and required reductions (Table 3a) for Nitrogen, Phosphorous, and Total Suspended Solids (TSS) were calculated by multiplying the acreages for each land cover (Subsource), by the 2009 Edge of Stream (EOS) loading rate for the corresponding pollutant.

Table 2 a: Calculation Sheet for Estimating Existing Source Loads from the James River Basin *Based on Chesapeake Bay Program Watershed Model Phase 5.3.2				
Subsource	**Pollutant**	**Total Existing Acres Served by MS4 (6/30/09)**	**2009 EOS Loading Rate (lbs/acres)**	**Estimated Total POC Load Based on 2009 Progress Run**
Regulated Urban Impervious	Nitrogen	1,597.88	9.39	15,004.09
Regulated Urban Pervious		4,510.40	6.99	31,527.69
Regulated Urban Impervious	Phosphorus	1,597.88	1.76	2,812.27
Regulated Urban Pervious		4,510.40	0.5	2,255.20
Regulated Urban Impervious	Total Suspended solids	1,597.88	676.94	1,081,668.89
Regulated Urban Pervious		4,510.40	101.08	455,911.15

Table 3 a: Calculation Sheet for Determining Total POC Reductions Required During this Permit Cycle for the James River Basin *Based on Chesapeake Bay Program Watershed Model Phase 5.3.2				
Subsource	**Pollutant**	**Total Existing Acres Served by MS4 (6/30/09)**	**2009 EOS Loading Rate (lbs/acres)**	**Estimated Total POC Load Based on 2009 Progress Run**
Regulated Urban Impervious	Nitrogen	1,597.88	0.04	63.92
Regulated Urban Pervious		4,510.40	0.02	90.21
Regulated Urban Impervious	Phosphorus	1,597.88	0.01	15.98
Regulated Urban Pervious		4,510.40	0.002	9.02
Regulated Urban Impervious	Total Suspended solids	1,597.88	6.67	10,657.86
Regulated Urban Pervious		4510.40	0.44	1,984.58

The calculations presented in Table 4 illustrate the required 5% reduction in pounds per year for Nitrogen, Phosphorous, and TSS are 274.21 lbs., 26.44 lbs., and 29,820.06 lbs. respectively. Along with the required 5% reductions, the total POC loads and the extrapolated values for the 35% and 60% reductions for the 2nd and 3rd permit cycles are shown in Table 3.

Table 3. Summary of Extrapolated Reductions Anticipated for Future Permit Cycles

Subsource	Pollutant	Estimated Total POC 2009	Total Reduction Required First Permit Cycle	Total Reduction Required Second Permit Cycle (40%)	Total Reduction Required Third Permit Cycle (100%)
Regulated Urban Impervious	Nitrogen	15,004.09	63.92	540.15	1,350.37
Regulated Urban Pervious		31,527.69	90.21	756.66	1,891.66
Regulated Urban Impervious	Phosphorus	2,812.27	15.98	179.99	449.96
Regulated Urban Pervious		2,255.20	9.02	65.40	163.50
Regulated Urban Impervious	TSS	1,081,668.89	10,657.86	86,533.51	216,333.78
Regulated Urban Pervious		455,911.15	1,984.58	15,956.89	39,892.23

	N	P	TSS
2018 Total Reduction	154.12	25.00	12,642.44
Anticipated 2023 Total Reduction	1,296.81	245.39	102,490.40
Anticipated 2028 Total Reduction	3,242.03	613.46	256,226.00

†Note: Loads are based on the 2013 land cover data. Refer to text for justification.

Means and Methods to Meet the Required Reductions and Schedule

Progress in achieving substantial pollutant load reductions requires a significant amount of planning, strategy development, and funding. The following section outlines the means (financial resources and planning) and methods (stormwater BMPs) to achieve the required reductions.

Financial Planning

As a small MS4 in the tidewater region of Virginia, regulatory mandates such as the General Permit for Discharges from Small Municipal Separate Storm Sewer Systems, the Virginia Stormwater Management Regulations, the Chesapeake Bay Preservation Act, and the Erosion and Sediment Control Law mandate Petersburg's water quality control program. Each of these programs assign a variety of compliance tasks for the permit holders. Petersburg has developed a plan for funding the regulatory compliance tasks.

Petersburg has recently (2013) implemented a stormwater utility. The newly dedicated funding source has provided Petersburg with the ability to address long-overdue repairs and upgrades to existing drainage infrastructure, continue to meet existing regulatory requirements, and plan for new regulatory requirements including local water quality protection and Chesapeake Bay TMDL target load reductions. The revenues generated by the fee will be used to fund all stormwater-related services, which include enforcement of Petersburg's stormwater ordinances, planning for future impacts, stormwater infrastructure maintenance and repairs, construction of necessary capital improvement projects and

associated property acquisitions. The fee will also pay for annual compliance requirements of Petersburg's General Permit.

Petersburg has been successfully pursuing grant opportunities that enable the City to align these alternative funding sources with their initiative to comply with regulatory permit requirements. The City of Petersburg received technical assistance support from the National Fish and Wildlife Foundation's (NFWF) Chesapeake Bay Stewardship Fund to develop and implement a Geographic Information System (GIS) and Water Quality Master Plan to identify opportunities and implementation strategies to protect local streams and the Chesapeake Bay. In addition, the City of Petersburg received an award from the Virginia DEQ 2015 Historical Data Cleanup (funded by the EPA Chesapeake Bay Regulatory and Accountability Program Grant) for the collection of historical developed/urban Best Management Practice data (1985- present). It is anticipated that Petersburg will continue to seek grant opportunities that align with their goal of regulatory compliance.

Compliance Planning

Petersburg has proactively developed a plan to achieve water quality compliance with the permit requirements. The Water Quality Master Plan developed a finite list of strategically located implementation projects throughout Petersburg's watersheds resulting in the maximum positive impacts to the water quality of receiving streams and to prioritize projects for implementation so that funding can identified in subsequent fiscal years (FY) for design and construction. The Water Quality Master Plan will guide Petersburg towards short-term and long-term compliance goals.

1st Permit Cycle Compliance Strategy

Petersburg has developed a plan for completing the POC reduction requirements for the 1st permit schedule. Several projects have been identified as part of Petersburg's Water Quality Master Plan and are in various stages of implementation. Implementation of the identified projects will enable Petersburg to significantly exceed the required POC reductions for the 1st permit cycle, see Table 4. The projects listed in Table 4 are planned to be implemented by the end of the 1st permit cycle to achieve the 5.0% reductions required for existing development.

Table 4. 1st Year POC Reduction Compliance Schedule

				Pollutant of Concern Removal (lbs)		
Project Description	**Project Type**	**Quantity**	**Unit**	**TN**	**TP**	**TSS**
Street Sweeping (Lane Miles Method)	Street Sweeping	657,429	dry weight collected/yr	1643.57	657.43	197,228.65
Lieutenant Run at Johnson Road, Phase I	Stream Restoration	800	linear feet	41.63	37.74	24,908.98
Lieutenant Run at Animal Shelter, Phase II	Stream Restoration	1200	linear feet	57.02	51.70	39,391.86
Brickhouse Run at Hinton Street	Stream Restoration	250	linear feet	18.75	17.00	11,220.00
Canal Street*	Bioretention		n/a	1.29	0.16	45.20
Totals				**1,762.26**	**764.03**	**272,794.69**
		Required for 1st Permit Cycle		154	25	12,642
		% Achieved of 1st Permit Cycle Reductions		1143%	3056%	2158%
		Total Reduction Required (3 permit cycles)		3,242.03	613.46	256,226.00
		% Achieved of Total Required Reductions (3 permit cycles)		54%	125%	106%

Stream Restoration removal rates use the revised "Urban Stream Restoration Interim Approved Removal Rates"

*TSS Removal determined from Chesapeake Bay Program Retrofit Curves/Equations

Detailed calculations for the crediting approach for the methods presented in Table 4 and provided in Appendix B. The stream restoration POC removal calculations shown in Table 4 were completed using the revised Interim Rates provided as Appendix V. I of the Revised Draft TMDL Guidance Document. Removal rates for TSS were calculated using the non-coastal plain removal rate. For the Canal Street bioretention, pollutant reductions for TN and TP area were calculated using the Runoff Reduction Method spreadsheet. Determination of TSS removal for the bioretention area was completed using the Chesapeake Bay Program retrofit curves/equations as provided in Appendix V.B of the Revised Draft TMDL Guidance Document.

A schedule for implementation has been developed for the projects identified in Table 4 that will be used to meet the 1st permit cycle POC removal requirements. As demonstrated in Table 5 all projects required to meet 1st permit cycle POC reduction will be completed by March 2018.

Table 5. Implementation Schedule to Meet 1st Permit Cycle Reduction Requirements.

Implementation Schedule and Budget				
Project Description	**Engineering Design Complete**	**Construction Initiation**	**Construction Completion**	**Budget**
Street Sweeping (est. cost for 20 yr period)	N/A	N/A	N/A	$ 291,250
Lieutenant Run, Phase I	Aug-15	Sep-15	Mar-18	$ 138,500
Lieutenant Run, Phase II	Nov-16	Sep-17	Mar-18	$ 734,000
Brickhouse Run at Hinton Street	Aug-15	Sep-15	Mar-18	$ 118,315
Canal Street	Aug-15	Sep-15	Sep-17	$ 88,000

Reductions Achieved thru Redevelopment

Redevelopment projects have been a significant part of the recent development that has occurred in Petersburg. According to recent MS4 Annual Reports, only approximately 190 acres of the City's 14,668 acres have been developed since June 30, 2009, most of which was redevelopment. The Chesapeake TMDL Guidance Document Appendix V.K indicates that permittees may receive credit for redevelopment projects if the pre-development pollutant load is reduced regardless of the initial land use condition. The guidance indicates that, for projects that have been developed under the VSMP regulations using the Technical Criteria Part IIB, Petersburg can take credit for the required TP reduction of 10% for land-disturbances greater than or equal to one acre; and for the required TP reduction of 20% for land-disturbing activities greater than one acre. The guidance also indicates redevelopment projects that were developed using the Technical Criteria IIC of the VSMP regulations that the permittee may use either the 1) performance-based criteria or the 2) technology-based criteria. When performance-based criteria is applied, as done in Petersburg, reductions may be credited to the permittee if the TP load is reduced through development of prior developed lands when the redevelopment activity decreases, in accordance with Situation 3.

The City of Petersburg is building and analyzing a database of redevelopment projects that will be used to determine which, if any, of the redevelopment activities can be credited towards POC reductions. Petersburg reserves the right to be able to account for any potential reductions associated with redevelopment at a later date.

Means and Methods to Offset Increased Loads from New Sources Initiating Construction Between July 1, 2009 and June 30, 2014

Special Condition Requirement 7 "New Sources of Construction" (Section I.C.2.a (7)) of the General Permit applies to permittees that have:

i. Adopted an average impervious land cover condition greater than 16% for the design of post-development stormwater management facilities under the Chesapeake Bay Preservation Act, or
ii. Have allowed projects to be built with an impervious land cover condition greater than 16% for the design of post-development stormwater management facilities through a "fee-in-lieu of" or similar program.

If a permittee has met either of the criteria listed in (i) or (ii) above, then the permittee has to address the requirements set forth in the corresponding Special Condition. This would ultimately require further POC reductions in addition to those required for existing conditions as of June 30, 2009 (GP Section I.C.2.a (6)).

The City of Petersburg adhered to the technology-based criteria under 9VAC25-870-96.C. Under this regulation it is stipulated that beyond the reduction requirements for existing conditions as of June 30, 2009, it is not required to compensate for any additional reductions required under Special Condition 7 of the General Permit because the technology-based criteria assumes an average land cover condition of 16% for the design of post-development stormwater management facilities. Therefore, no reduction requirement for this Special Condition is applicable.

Means and Methods to Offset Increased Loads from Grandfathered Projects that Begin Construction after July 1, 2014

Special Condition Requirement 8 "Grandfathered Projects" (Section I.C.2.a (8)) of the General Permit apply to permittees that have:

i. Adopted an average impervious land cover condition greater than 16% for the design of post-development stormwater management facilities under the Chesapeake Bay Preservation Act, or
ii. Have allowed projects to be built with an impervious land cover condition greater than 16% for the design of post-development stormwater management facilities through a "fee-in-lieu of" or similar program.

If a permittee has met either of the criteria listed in (i) or (ii) above, then the permittee has to address the requirements set forth in the corresponding Special Condition. This would ultimately require further POC reductions in addition to those required for existing conditions as of June 30, 2009 (GP Section I.C.2.a (6)).

The City of Petersburg adhered to the technology-based criteria under 9VAC25-870-96.C. Under this regulation it is stipulated that beyond the reduction requirements for existing conditions as of June 30, 2009, it is not required to compensate for any additional reductions required under Special Condition 8 of the General Permit because the technology-based criteria assumes an average land cover condition of

16% for the design of post-development stormwater management facilities. Therefore, no reduction requirement for this Special Condition is applicable.

List of Future Projects, and Associated Acreage that Qualify as Grandfathered

There are no future projects that are anticipated to qualify as grandfathered.

Estimate of Expected Cost to Implement the Necessary Reductions

Petersburg is well underway with implementing the projects listed in Table 4 required to meet the 1st permit cycle POC reduction requirements. Budgetary requirements for each of these projects (including design and estimated construction costs) are provided in Table 5. Design of three of the four projects is currently already underway. Financial allocation of the remaining project is currently planned.

T able 6. 1st Permit Cycle Budgetary Requirements.

Project Description	Design Cost	Estimated Construction Cost	Total Budget (including contingency)
Street Sweeping (est. cost for 20 yr period)	N/A	N/A	$ 291,250
Lieutenant Run, Phase I	$ 83,000.00	$ 125,000.00	$ 138,500
Lieutenant Run, Phase II	$ 120,000.00	$ 614,000.00	$ 734,000
Brickhouse Run at Hinton Street	$ 28,000.00	$ 90,315.00	$ 118,315
Canal Street	$ 13,000.00	$ 75,000.00	$ 88,000
Totals	**$ 244,000**	**$ 904,315**	**$ 1,370,065**

Public Comments on Draft Action Plan

Petersburg encourages the public's involvement and participation in the development and implementation of its MS4 Program. In keeping with this objective, Petersburg has posted a copy of its Draft Chesapeake Bay TMDL Action Plan on its Stormwater Management website (http://www.petersburgva.gov/index.aspx?NID=295) to solicit public comment on the draft plan. All comments received from the public were taken into consideration when developing the final version of the Action Plan that was submitted to DEQ with its MS4 Annual Report in October of 2015.

Appendix A
Current Program & Existing Legal Authority

Appendix A1.
Illicit Discharge Ordinance

Appendix A2.
Stormwater Management Guidelines & Maintenance Agreement

Appendix A3.
VSMP SWM Ordinance

Appendix A4.
Stormwater Utility Ordinance & Rate Resolution

Appendix B
Means & Methods

B1. Stream Restoration

The City is claiming credit for three (3) stream restoration projects: Brickhouse Run, Lieutenant Run at Animal Shelter (Phase 1), and Lieutenant Run at Johnson Road, Phase 2, see Figure 4. Pollutant of Concern reductions were calculated using the interim rates as provided in the Chesapeake Bay TMDL Special Condition Guidance Memo 15-2005 issued by the Virginia DEQ on 5/18/2015.

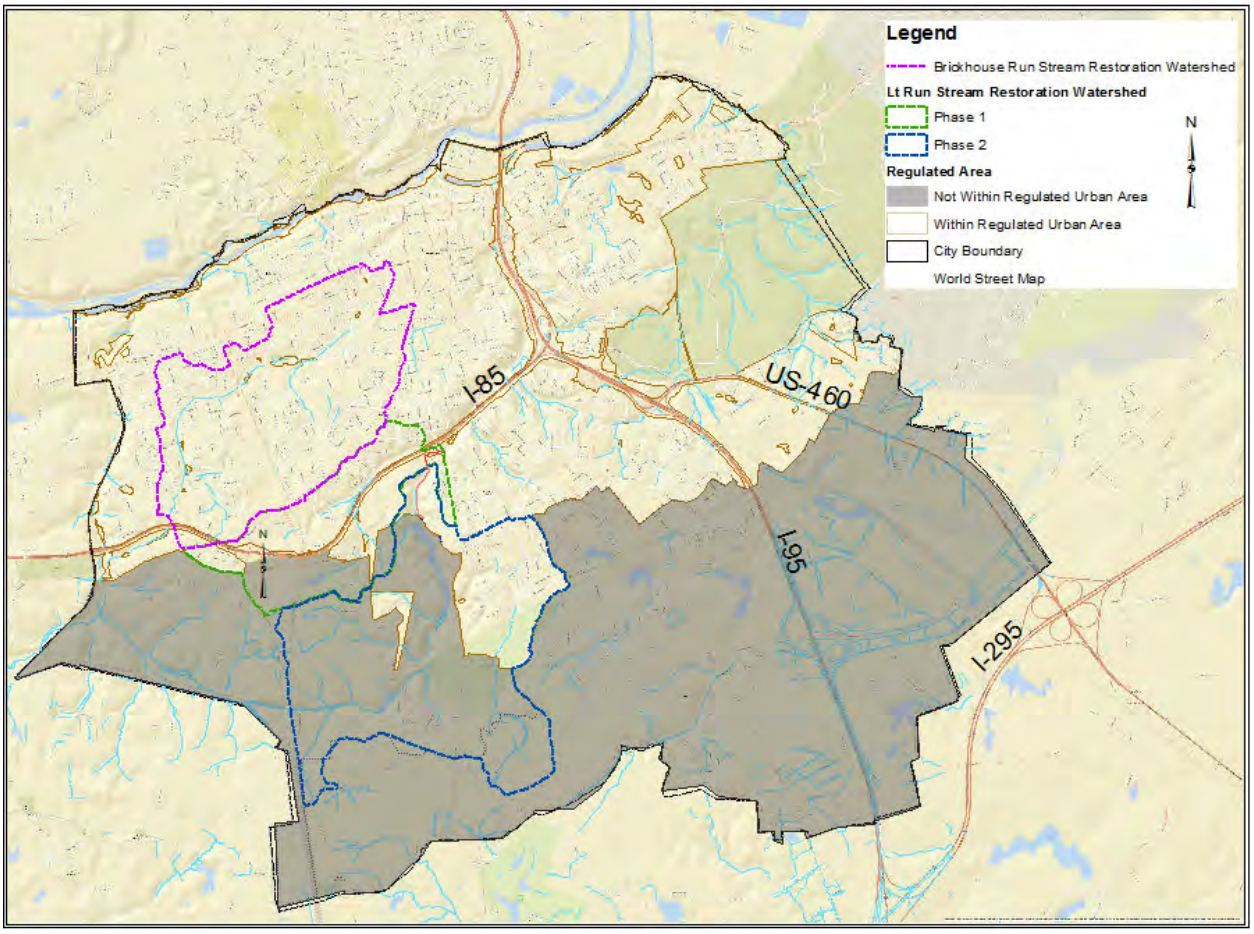

Figure 4. Stream Restoration Projects Watershed Map

Brickhouse Run

As depicted in Figure 4, the Brickhouse Run Stream Restoration project watershed (purple) is located entirely within the City's regulated urban area. The project will restore 250 linear feet of stream. The interim approved removal rates developed by the Bay Program have been used to calculated credits. Because there is no unregulated land that drains to the restored stream section, no adjustment to the interim approved removal rates is required. The following table depicts the calculation of pollutant removal credits for the Brickhouse Run Stream Restoration project

				Pollutant of Concern Removal (lbs)		
Project Description	**Project Type**	**Quantity**	**Unit**	**TN**	**TP**	**TSS**
Brickhouse Run at Hinton Street	Stream Restoration	250	linear feet	18.75	17.00	11,220.00

Figure 5. Picture depicting degraded nature of Brickhouse Run prior to restoration.

Lieutenant Run Phase 1

The Lieutenant Run Phase 1 stream restoration project will restore 800 linear of stream. The Phase 1 Lieutenant Run stream restoration project is located downstream of the Phase 2 Lieutenant Run project. Therefore, the drainage area that drains to the restored stream section is the sum of the drainage area for Phase 1 and Phase 2. The interim approved removal rates, developed by the Bay Program and provided in Table V.J.1 of the Chesapeake Bay TMDL Action Plan Guidance Document, were used to calculate pollutant removal credits for the project.

As shown in Figure 4, the entire drainage area for the project is located within the City's limit, however a significant portion of the contributing drainage area to this project is located in outside of the regulated urban area that was delineated and used to populate Table 2A of the MS4 permit. The method used to adjust the credit received for the stream restoration to account for the baseline required for the proportion of unregulated land that drains to the restored stream section follows the methodology presented in Example V.J.1 of the Chesapeake Bay TMDL Action Plan Guidance Document.

Step 1: Calculate the POC Reductions from the Proposed Stream Restoration Project.

The interim approved removal rates, developed by the Bay Program and provided in Table V.J.1 of the Chesapeake Bay TMDL Action Plan Guidance Document, were used to calculate pollutant removal credits for the project.

Step 1: Calculate POC Reductions from the Proposed Stream Restoration Project

Proposed BMP DA 8 Urban Stream Restoration Interim Approved Removal Rates			
POC	**(lbs/linear ft)**	**Linear Feet (ft)**	**Total POC Reduction (lbs/yr)**
TN	0.075	800	**60**
TP	0.068	800	**54.4**
TSS	44.88	800	**35904**

Step 2: Characterize the Acres Draining to the Proposed Stream Restoration Project.

Land cover conditions within the drainage area were determined using the City's Land Cover GIS layer depicting land cover in 2013. This layer was intersected with the regulated urban area layer to determine the land cover breakdown within the regulated urban and unregulated urban areas.

Step 2: Characterize Acres Draining to Proposed Stream Restoration Project

	Urban Impervious (Ac)	Urban Pervious (Ac)	Total Urban Acres	Forested (Ac)	
Regulated Land	178.98	466.44	645.42	221.31	
Unregulated Land	87.43	565.99	653.42	613.59	**Total**
		Total	1,298.84	834.90	2,133.74

Using this information, ratios of regulated, unregulated, and forested acres to total acres were calculated.

Determine Ratios	
0.3025	Regulated Acres
0.3062	Unregulated Acres
0.3913	Forested Acres

Step 3: Calculate the Total Reductions for Regulated and Unregulated Urban Lands.

To calculate the pollutant removal credits that may be received for the project, the total reduction pollutant reduction calculated in Step 1 is multiplied by the ratios developed in Step 2.

Step 3: Calculate the Total Reductions for Regulated and Unregulated Urban Lands

		Load (Step 1)	Ratio (Step 2)	Total Reductions (Step 3)
Regulated	**Nitrogen**	60.00	0.3025	18.1489
Unregulated		60.00	0.3062	18.3740
Forested		60.00	0.3913	23.4771
Regulated	**Phosphorous**	54.40	0.3025	16.4550
Unregulated		54.40	0.3062	16.6591
Forested		54.40	0.3913	21.2859
Regulated	**TSS**	35904.00	0.3025	10,860.2951
Unregulated		35904.00	0.3062	10,995.0242
Forested		35904.00	0.3913	14,048.6807

Step 4: Account for the Total Baseline Reductions on Unregulated Land.

The load reduction calculated for unregulated acres must be adjusted to account for the baseline reduction required on unregulated land. This calculation is based on the loading rates found in Table 3a

of the permit. The impervious and pervious load reductions that must be achieved in the first permit cycle (5% of the total required reductions) are multiplied by 20 to estimate the entire baseline reductions needed to comply with the Chesapeake Bay TMDL by the end of the third MS4 permit cycle. The total required baseline reduction can be calculated by multiplying these loading rates by the unregulated urban acres draining to the stream restoration project. These values are then added together to determine the total reduction for which the City cannot take credit.

Step 4: Calculate the Total Reductions for Regulated and Unregulated Urban Lands

		Table 3.a Req Reduction in Loading Rate	Baseline loading rates x 20 per guidance	Unregulated Acres	Total Baseline Reduction	Total permittee cannot take credit for
Reg Urban Imp	Nitrogen	0.04	0.80	87.43	69.94	
Reg Urban Pervious		0.02	0.40	565.99	226.40	296.34
Reg Urban Imp	Phosphorous	0.01	0.20	87.43	17.49	
Reg Urban Pervious		0.002	0.04	565.99	22.64	40.13
Reg Urban Imp	TSS	6.67	133.40	87.43	11,663.06	
Reg Urban Pervious		0.44	8.80	565.99	4,980.75	16,643.81

Step 5: Calculate the Adjusted Reductions for Regulated, Unregulated, and Forested Areas.

The calculation from step 5 was then subtracted from the unregulated area reductions that were calculated in step 3. However, this calculation resulted in a negative value for each of the pollutants of concern. Therefore, the total credit for the project will be limited to the credit calculated for regulated urban acres and forested acres.

		Load (Step 1)	Ratio (Step 2)	Total Reductions (Step 3)	Total Permittee cannont take credit for (from Step 4)	Adjusted Reductions (Step 5)
Regulated	**Nitrogen**	60.00	0.3025	18.1489		18.149
Unregulated		60.00	0.3062	18.3740	296.34	-277.967
Forested		60.00	0.3913	23.4771		23.477
Regulated	**Phosphorous**	54.40	0.3025	16.4550		16.455
Unregulated		54.40	0.3062	16.6591	40.13	-23.466
Forested		54.40	0.3913	21.2859		21.286
Regulated	**TSS**	35904.00	0.3025	10,860.2951		10860.295
Unregulated		35904.00	0.3062	10,995.0242	16643.81	-5648.782
Forested		35904.00	0.3913	14,048.6807		14048.681

Step 6: Calculate Total Reductions from Regulated and Unregulated (Non-Forested Acres, Accounting for Required Baseline Reductions.

The total credit for the project will be limited to the credit calculated for regulated urban acres and forested acres

Step 6: Calculate the Total Reductions from Regulated and Unregulated Acres, Accounting for Required Baseline Reductions

Proposed BMP DA 8 - Stream Restoration POC Reductions			
POC	**(Total POC reduction lbs/yr)**	**Unregulated Land credit reduction**	**Total POC Reduction (lbs/yr)**
TN	60	**Step 4 > Step 1**	**41.63**
TP	54.4	**Step 4 > Step 1**	**37.74**
TSS	35,904.00	**Step 4 > Step 1**	**24,908.98**

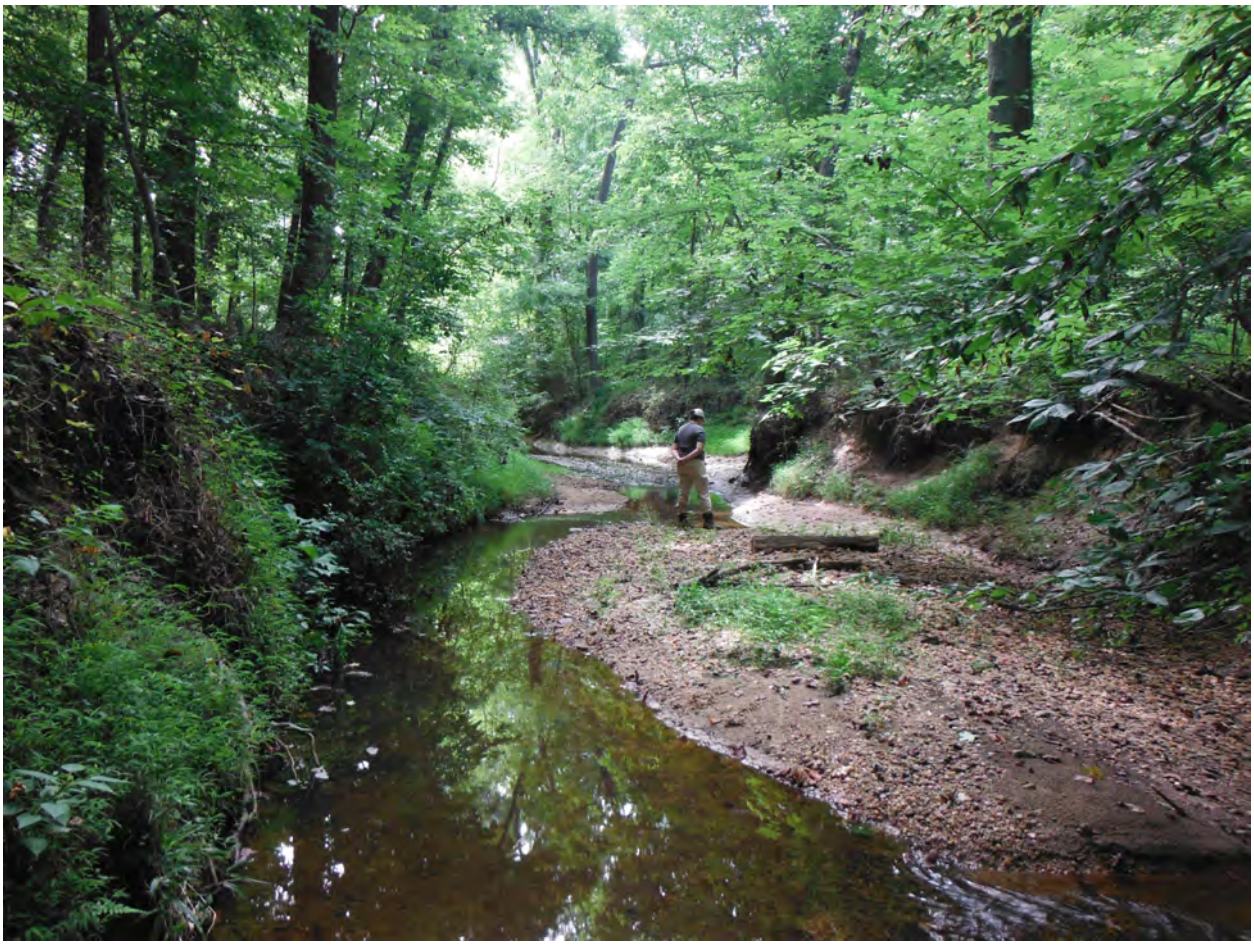

Figure 6. Picture demonstrating degraded nature of Lieutenant Run Phase 1 prior to restoration.

Lieutenant Run Phase 2

The Lieutenant Run Phase 2 stream restoration project will restore 1,200 linear of stream. The Phase 2 Lieutenant Run stream restoration project is located upstream of the Phase 1 Lieutenant Run project. The interim approved removal rates, developed by the Bay Program and provided in Table V.J.1 of the Chesapeake Bay TMDL Action Plan Guidance Document, were used to calculate pollutant removal credits for the project.

As shown in Figure 4, the entire drainage area for the project is located within the City's limit, however a significant portion of the contributing drainage area to this project is located in outside of the regulated urban area that was delineated and used to populate Table 2A of the MS4 permit. The method used to adjust the credit received for the stream restoration to account for the baseline required for the proportion of unregulated land that drains to the restored stream section follows the methodology presented in Example V.J.1 of the Chesapeake Bay TMDL Action Plan Guidance Document.

Step 1: Calculate the POC Reductions from the Proposed Stream Restoration Project.

The interim approved removal rates, developed by the Bay Program and provided in Table V.J.1 of the Chesapeake Bay TMDL Action Plan Guidance Document, were used to calculate pollutant removal credits for the project.

Step 1: Calculate POC Reductions from the Proposed Stream Restoration Project

Proposed BMP DA 8 Urban Stream Restoration Interim Approved Removal Rates			
POC	**(lbs/linear ft)**	**Linear Feet (ft)**	**Total POC Reduction (lbs/yr)**
TN	0.075	1200	**90**
TP	0.068	1200	**81.6**
TSS	44.88	1200	**53,856**

Step 2: Characterize the Acres Draining to the Proposed Stream Restoration Project

Land cover conditions within the drainage area were determined using the City's Land Cover GIS layer depicting land cover in 2013. This layer was intersected with the regulated urban area layer to determine the land cover breakdown within the regulated urban and unregulated urban areas.

Step 2: Characterize Acres Draining to Proposed Stream Restoration Project

	Urban Impervious (Ac)	Urban Pervious (Ac)	Total Urban Acres	Forested (Ac)	
Regulated Land	87.32	268.93	356.26	75.35	
Unregulated Land	76.71	480.78	557.49	532.15	**Total**
		Total	913.74	607.49	1,521.24

Using this information, ratios of regulated, unregulated, and forested acres to total acres were calculated.

Determine Ratios	
0.2342	Regulated Acres
0.3665	Unregulated Acres
0.3993	Forested Acres

Step 3: Calculate the Total Reductions for Regulated and Unregulated Urban Lands.

To calculate the pollutant removal credits that may be received for the project, the total reduction pollutant reduction calculated in Step 1 is multiplied by the ratios developed in Step 2.

Step 3: Calculate the Total Reductions for Regulated and Unregulated Urban Lands

		Load (Step 1)	Ratio (Step 2)	Total Reductions (Step 3)
Regulated	**Nitrogen**	90.00	0.2342	21.0769
Unregulated		90.00	0.3665	32.9823
Forested		90.00	0.3993	35.9408
Regulated	**Phosphorous**	81.60	0.2342	19.1097
Unregulated		81.60	0.3665	29.9039
Forested		81.60	0.3993	32.5863
Regulated	**TSS**	53856.00	0.2342	12,612.4339
Unregulated		53856.00	0.3665	19,736.6014
Forested		53856.00	0.3993	21,506.9646

Step 4: Account for the Total Baseline Reductions on Unregulated Land

The load reduction calculated for unregulated acres must be adjusted to account for the baseline reduction required on unregulated land. This calculation is based on the loading rates found in Table 3a of the permit. The impervious and pervious load reductions that must be achieved in the first permit cycle (5% of the total required reductions) are multiplied by 20 to estimate the entire baseline reductions needed to comply with the Chesapeake Bay TMDL by the end of the third MS4 permit cycle. The total required baseline reduction can be calculated by multiplying these loading rates by the unregulated urban acres draining to the stream restoration project. These values are then added together to determine the total reduction for which the City cannot take credit.

Step 4: Calculate the Total Reductions for Regulated and Unregulated Urban Lands

		Table 3.a req reduction in loading rate	Baseline loading rates x 20 per guidance	Unregulated Acres	Total Baseline Reduction	Total permittee cannot take credit for
Reg Urban Imp	Nitrogen	0.04	0.80	76.71	61.37	
Reg Urban Pervious		0.02	0.40	480.78	192.31	253.68
Reg Urban Imp	Phosphorous	0.01	0.20	76.71	15.34	
Reg Urban Pervious		0.002	0.04	480.78	19.23	34.57
Reg Urban Imp	TSS	6.67	133.40	76.71	10,233.30	
Reg Urban Pervious		0.44	8.80	480.78	4,230.84	14,464.14

Step 5: Calculate the Adjusted Reductions for Regulated, Unregulated, and Forested Areas

The calculation from step 5 was then subtracted from the unregulated area reductions that were calculated in step 3. However, this calculation resulted in a negative value for Nitrogen and Phosphorous. For these pollutants, the total credit for the project will be limited to the credit calculated for regulated urban acres and forested acres.

		Load (Step 1)	Ratio (Step 2)	Total Reductions (Step 3)	Total Permittee cannont take credit for (from Step 4)	Adjusted Reductions (Step 5)
Regulated	**Nitrogen**	90.00	0.2342	21.0769		21.077
Unregulated		90.00	0.3665	32.9823	253.68	-220.698
Forested		90.00	0.3993	35.9408		35.941
Regulated	**Phosphorous**	81.60	0.2342	19.1097		19.110
Unregulated		81.60	0.3665	29.9039	34.57	-4.669
Forested		81.60	0.3993	32.5863		32.586
Regulated	**TSS**	53856.00	0.2342	12,612.4339		12612.434
Unregulated		53856.00	0.3665	19,736.6014	14464.14	5272.464
Forested		53856.00	0.3993	21,506.9646		21506.965

Step 6: Calculate Total Reductions from Regulated and Unregulated (Non-Forested Acres, Accounting for Required Baseline Reductions:

The total credit for the project will be limited to the credit calculated for regulated urban acres and forested acres

Step 6: Calculate the Total Reductions from Regulated and Unregulated Acres, Accounting for Required Baseline Reductions

Proposed BMP DA 8 - Stream Restoration POC Reductions			
POC	**(Total POC reduction lbs/yr)**	**Unregulated Land credit reduction**	**Total POC Reduction (lbs/yr)**
TN	90	**Step 4 > Step 1**	**57.02**
TP	81.6	**Step 4 > Step 1**	**51.70**
TSS	53,856.00	14,464.14	39,391.86

Figure 7. Picture demonstrating degraded nature of Lieutenant Run Phase 2 prior to restoration.

B2. Street Sweeping

The City promotes its street sweeping practices on their website (http://www.petersburgva.gov/index.aspx?nid=758) and currently practices street sweeping daily on main thoroughfares within the City. These streets include and include Washington St., Wythe St., Crater Rd., Medical Park Blvd., County Dr., and South Blvd. between Crater Rd. and Sycamore St. The streets that are part of the daily routine street sweeping program were mapped in GIS. Using GIS processes, it was identified that approximately 66% of these roads routinely swept are located within the regulated urbanized area. In addition to the main thorough fares, the City also sweeps other selected streets on an as needed basis.

The City utilizes vacuum and mechanical street sweeping trucks to perform their operations. The trucks dispose of the collected waste at the landfill. Tickets are provided by the landfill each time trucks dispose of collected material that indicate the tonnage of waste disposed when street sweeping. Street sweeping operations are performed daily except when it rains and when there is snow accumulation on the streets.

Because the street sweeping operations are able to track tonnage of material collected and disposed of at the landfill from their operations using landfill tickets, the City used the Mass Loading Approach to calculate the Nitrogen, Phosphorous, and TSS Removal achieved through their ongoing Street Sweeping Program. For the purposes of this Action Plan, the City will take credit for the routine, daily street sweeping practices on the main thoroughfares within the City (no credit is currently being sought for the sweeping that occurs on an as-needed basis).

City staff was contacted to determine a representative daily load of material collected and disposed of at the landfill from the street sweeping operations. This daily load was converted to a weekly load of material collected. The City will take credit for street sweeping for 48 weeks of the year, accounting for downtime associated with rain/snow events and holiday schedules. The calculated weekly load was then multiplied by 48 weeks to determine the annual pounds of material collected per year. The annual poundage of material collected was then multiplied by 66% to correct determine the amount of waste collected within the regulated urban area. The amount of waste collected within the urbanized regulated area was then converted to dry weight using a factor of 0.7 lb dry weight per lbs material. See the table below for the calculation of dry weight collected by street sweeping operations annually.

Determination of Annual Dry Weight Collected by Street Sweeping Operations		
Average Daily Material Collected (1 truck w/ multiple runs per day)	2.96	tons
	5,920	lbs/day
Collection of Material per week	29,600	lbs/week
Avg Number of Weeks/Year Collected	48	weeks
Collection of Material per Year	1,420,800	lbs/year
Amount Material Collected/yr in regulated urban area	939,184	lbs/yr
Dry Weight Collected	657,429	lbs dry weight/lbs material

Using the factors presented in Appendix V.G of the Chesapeake Bay TMDL Action Plan Guidance Document, the pollutant reductions from street sweeping were determined.

Street Sweeping POC Reductions		
TN (lb/yr)	**TP (lb/yr)**	**TSS (lb/yr)**
1,643.57	657.43	197,228.65

B3. Bioretention

For the Canal Street Bioretention project, Nitrogen and Phosphorous reduction credits were calculated using the VRRM spreadsheet. The land cover of the drainage area was determined in GIS and entered

into the VRRM spreadsheet for new development.

Land Cover (acres)					
	A soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested land	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed	0.00	0.00	0.00	0.07	0.07
Impervious Cover (acres)	0.00	0.00	0.00	0.07	0.07
				Total	0.14

The treated area for pervious and impervious surfaces was then entered into the spreadsheet for a Level 2 Bioretention.

Practice	Unit	Description of Credit	Credit	Credit Area (acres)
6.b. Bioretention #2 (Spec #9)	impervious acres draining to bioretention	80% runoff volume reduction	0.80	0.07
	turf acres draining to bioretention	80% runoff volume reduction	0.80	0.07

The spreadsheet reported the following nutrient reduction totals:

TOTAL PHOSPHORUS LOAD REDUCTION REQUIRED (LB/YEAR)	0.13
NITROGEN LOAD REDUCTION ACHIEVED (LB/YR)	1.29

The TSS reduction credit was calculated using the retrofit curves developed by the Bay Program following the procedure provided in Appendix V.B. of the Chesapeake Bay TMDL Action Plan Guidance Document. A TSS load was calculated using the loading rates for impervious and pervious surfaces draining to the project.

		Loading Rate (lb/ac/yr)	Total Load (lb/yr)
TSS Loading	Impervious	676.94	44.75
	Pervious	101.08	6.76
			51.5

The runoff depth, RD was calculated to be 2.78 inches which calculates a TSS removal efficiency of 88%. The removal efficiency was then multiplied by the total load calculated. The TSS removed (lb/yr) from the practice is 45.2.

Phase II MS4 General Permit
Program Plan Update

Public Education and Outreach Plan

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Section 1 Public Education and Outreach Plan

1. 1 Program Description

A. As of June 30, 2015, the City of Petersburg has identified three high-priority water quality issues. The following table summarizes the rationale, target audience, and population size relevant to each water quality issue:

High-Priority Water Quality Issue	Rationale	Target Audience	Population Size
Litter	Improper trash disposal is evident throughout the MS4; litter causes maintenance issues (clogged storm drains) and pollution of surface waters	5th Grade Elementary Students	329
Bacteria	Pet waste is a significant contributor of E. coli into the surface waters; a local bacteria TMDL already exists for the Appomattox River	Social Media Followers	16,615
Maintenance of private stormwater management facilities	A very few number of maintenance agreements exist for private SWM facilities within the City and a number of private SWM facilities are not routinely maintained	Private SWM Facility owners	76

B. As of June 2015, the City has developed a formal public education & outreach plan.

1. The relevant message, materials, and distribution methods for each priority water quality issue are outlined in the following table:

High-Priority Water Quality Issue	Relevant Message	Materials Used	Distribution Methods
Litter	Improper waste disposal leads to pollution of the City's water	Fact sheet; storm drain stencils	Visits to 5th Grade classrooms; fact sheet handed out to students
Bacteria	Properly dispose of pet waste	Fact sheet; Pet waste disposal stations	Public signage; social media
Maintenance of private stormwater management facilities	Maintenance of private stormwater management facilities is important to ensure proper function	Printed material developed by the Center for Watershed Protection (CWP) and the James River Association (JRA)	Annual mailing

2. The Public Education and Outreach plan will be implemented and facilitated by the City of Petersburg Department of Public Works. Target Audience education on the three high-priority water quality issues will be conducted on an annual basis at a minimum, as described in the table above. Public Education and Outreach will be quantified by determining the number of materials distributed to the target audience, as described above. The distribution of these messages are designed to reach a minimum of 20% of each respective target audience.
3. Public Education and Outreach will be evaluated for each issue based on the completion of the specified distribution method for that issue annually. Adjustments to target audiences and distribution methods will be performed as deemed necessary by the City. The City will annually evaluate the public education and outreach program for appropriateness of the high-priority stormwater issues, appropriateness of the selected target audiences for each high-priority stormwater issue, effectiveness of the message or messages being delivered, and the effectiveness of the mechanism or mechanisms of delivery employed in reaching the target audiences.
4. The City will include the following information in each Annual Report: 1. A list of the education and outreach activities conducted throughout the reporting period for each high-priority water quality issue, the estimated number of people reached, and an estimated percentage of the target audience or audiences that was reached; and 2. A list of education and outreach activities that will be conducted during the next reporting period for each high-priority water quality issue, the estimated number of people that will be reached, and an estimated percentage of the target audience or audiences that will be reached.

Please contact Darryl Walker at dwalker@petersburg-va.org with any comments or questions about the Municipal Separate Storm Sewer System (MS4) Public Education and Outreach Plan.

Phase II MS4 General Permit
Program Plan Update

Illicit Discharge Detection and Elimination (IDDE) Procedures

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Section 1 Introduction

The following *Illicit Discharge Detection & Elimination (IDDE) Procedures* document is intended to provide staff and contractors of the City of Petersburg with guidance for conducting detection, investigation, and elimination regarding illicit discharges in compliance with the City of Petersburg's Virginia Pollutant Discharge Elimination System (VPDES) permit, VAR040013. The General Permit (VAR04, effective July 1, 2013 - June 30, 2018) mandates that the operator (City of Petersburg) effectively prohibit non-stormwater discharges into the storm sewer system and develops, implements, and updates procedures to detect, identify, and address unauthorized non-stormwater discharges into the MS4. This document will also serve to provide guidance for conducting outfall reconnaissance.

Section 2 Permit Requirments

The City is required to "*effectively prohibit, through ordinance or other legal mechanism, non-stormwater discharges into the storm sewer system to the extent allowable under federal, state, or local law, regulation, or ordinance. Categories of non-stormwater discharges or flows identified in 9VAC25-870-400 D 2 c (3) must be addressed only if they are identified by the operator as significant contributors of pollutants to the small MS4. Flows that have been identified by DEQ as de minimis discharges are not significant sources of pollutants to surface water and do not require a VPDES permit.*"

The City is required to "*develop, implement, and update, when appropriate, written procedures to detect, identify, and address unauthorized non-stormwater discharges, including illegal dumping to the small MS4.*"

The City's procedures must include "*written dry-weather field screening methodologies to detect and eliminate illicit discharges to the small MS4*." The procedures will detail field observations and field screening monitoring and provide:

- A prioritized schedule of field screening activities determined by the operator that is based on criteria such as age of the infrastructure, land use, historical illegal discharges, dumping, or cross connections.
- Field screenings for a minimum of 50 outfalls each year.
- Methodologies to collect the general information, such as: time since the last rain, the quantity of the last rain, site descriptions (e.g., conveyance type and dominant watershed land uses), estimated discharge rate (e.g., width of water surface, approximate depth of water, approximate flow velocity, and flow rate), and visual observations (e.g., odor, color, clarity, floatables, deposits or stains, vegetation condition, structural condition, and biology).
- A time frame upon which to conduct an investigation or investigations to identify and locate the source of any observed, continuous, or intermittent non-stormwater discharge prioritized as follows:
    - Illicit discharges suspected of being sanitary sewage or significantly contaminated,
    - Illicit discharges suspected of being less hazardous to human health and safety such as noncontact cooling water or wash water may be delayed until after all suspected

sanitary sewage or significantly contaminated discharges have been investigated, eliminated, or identified. Discharges authorized under a separate VPDES or state permit require no further action under the General Permit.

- Methodologies to determine the source of all illicit discharges are required to be conducted by the City. If an illicit discharge is found, but within six months of the beginning of the investigation neither the source nor the same non-stormwater discharge has been identified, then the City must document such in accordance with Section II B 3 f of the General Permit. If the observed discharge is intermittent, the City must document that a minimum of three separate investigations were made in an attempt to observe the discharge when it was flowing. If these attempts are unsuccessful, the City must document in accordance with Section II B 3 f of the General Permit.
- Mechanisms to eliminate identified sources of illicit discharges including a description of the policies and procedures for when and how to use legal authorities.
- Methods for conducting follow-up investigation in order to verify that the discharge has been eliminated.
- A mechanism to track all investigations to document:
    - The date or dates that the illicit discharge was observed and reported;
    - The results of the investigation;
    - Any follow-up to the investigation;
    - Resolution of the investigation; and
    - The date that the investigation was closed.

"*The City must promote, publicize, and facilitate public reporting of illicit discharges into or from the MS4. The City must conduct all investigations in response to complaints and follow-up inspections as needed to ensure that corrective measures have been implemented by the responsible party*."

The City's MS4 Program Plan shall include all procedures developed by the City to detect, identify, and address non-stormwater discharges to the MS4 in accordance with the schedule in Table 1 of the General Permit. In the interim, the City must continue to implement the program as included as part of the registration statement until the program is updated to meet the conditions of the General Permit.

Section 3 Illicit Discharge Definition

The City of Petersburg Stormwater Ordinance defines an illicit discharge as any discharge to the storm sewer that is not composed entirely of stormwater except (i) discharges pursuant to a VPDES or NPDES permit, (ii) discharges resulting from firefighting activities and (iii) discharges listed in section 122-107(b) of the City's Stormwater Ordinances unless such discharges are identified by the City of Petersburg as sources of pollutants of waters of the United States pursuant to section 122-107(c) of the City's Stormwater Ordinances.

Section 4 Illicit Discharge Contaminates and Sources

City field staff should be aware of contaminates and sources of illicit discharges. Potential contaminates include but are not limited to the following:

- Trash or debris
- Construction materials
- Petroleum products (oil, gasoline, grease, fuel oil, heating oil, etc.)
- Antifreeze or other vehicle products
- Metals (particulate or dissolved)
- Flammable or explosive materials
- Radioactive material
- Batteries
- Acids, alkalis, or bases
- Paints, stains, resins, lacquers, or varnishes
- Degreasers and/or solvents
- Drain cleaners
- Pesticides, herbicides, or fertilizers
- Steam cleaning wastes
- Soaps, detergents, or ammonia
- Swimming pool filter backwash
- Chlorine, bromine, or other disinfectants
- Heated water
- Domestic animal waste
- Sewage
- Recreational vehicle waste
- Animal carcasses
- Food wastes
- Bark or other fibrous materials
- Lawn clippings, leaves, or branches
- Silt, sediment, concrete, cement, or gravel
- Dyes
- Chemicals, including suspected metals, not normally found in uncontaminated water
- Any other process-associated discharge
- Any hazardous material or waste not listed above

Section 5 Roles and Responsiblities

The City of Petersburg's IDDE Program responsibilities are shared among a number of City Departments and Divisions, as follows:

Department	Role	Responsibility
DPW – Stormwater Program Manager	Overall program coordination	Manage data collection required for annual reporting, including citizen requests
	Dry weather screening	Manage dry weather screening activities in accordance with the City's Outfall Reconnaissance Procedures
	Outfall map	Develop and maintain the City's Storm Sewer Map and Outfall map
DPU – General Manager	Spill response	Respond to spills, identify/clean/contain/eliminate source, follow up reporting to appropriate agencies (DPW, DEQ, *etc.*) Manage investigative screenings for suspected illicit discharges
Fire Marshal	Spill response	Initial contact for suspected illicit discharge
	Citizen first line of communication	Responds to all spills and issues regarding code compliance Respond to citizen concerns and engage appropriate City Departments as the situation deems necessary Report spills to the DPW, Utilities Division General Manager
	Government Outreach Request Tracker	Manage online citizen requests

Section 6 First Response/Legal Procedures

Reports of suspected illicit discharges can come from a variety of sources, including: the City staff, colleagues of City staff, and the general public via telephone or the online "Report a Concern" link on the City website. The Fire Marshal responds to all spills and issues regarding code compliance and may be the initial contact when a suspected illicit discharge is identified. The Fire Marshal will contact the Department of Public Works – Utilities Division for investigation into a suspected illicit discharge. If the discharge is identified as dangerous or hazardous, the Fire Marshal will be notified immediately. If the nature and the source of the discharge can be immediately identified, the party responsible for causing the illicit discharge should be immediately notified to cease the operations of activities at fault. The

penalties and legal procedures regarding illicit discharge are found in the City of Petersburg's Illicit Discharge Detection and Elimination Ordinance.

Section 7 Spills & Public Safety

The Department of Public Works – Utilities Division is responsible for all illicit discharge spill investigations, clean-up, and reporting to DEQ. If the nature of the discharge is not immediately obvious, the Utilities Division will use investigative strategies to identify the discharge and locate the source. Reports shall be responded to with an investigation as soon as practicable, as follows:

- If the illicit discharge is active, an investigation shall be conducted as soon as practicable.
- If the illicit discharge is intermittent or historic, an investigation shall be conducted as soon as practicable, but within five days of receiving the report.
- If the illicit discharge is suspected of being sanitary sewage or significantly contaminated, it shall be prioritized for investigation first.
- If the illicit discharge is suspected of being less hazardous to human health and safety, the investigation may be delayed until after all suspected sanitary sewage or significantly contaminated discharges have been investigated and addressed.

The Utilities Division will use the following procedure in the event of a spill:

- The appropriate supervisor will be contacted and informed of the discharge.
- A utility ticket will be issued for locating the source of the spill.
- The source of the spill will be tracked and the spill will be eliminated.
- A response form will be filled out appropriately documenting the event.
- The form will be sent to DEQ, and copied to the City's Stormwater Program Manager.

Section 8 Dry Weather Screening

8.1 Storm Sewer Inventory Plan/Schedule of Activities

The City plans to complete a comprehensive inventory of the storm sewer system with 48 months of July 1, 2013, as well as identification and dry weather screening of the City's regulated outfalls, per the City's ***Storm Sewer Inventory and Outfall Map Update Plan*** (June 2015). The identification activities are planned to initiate October of 2015 and conclude in April of 2016. After location and identification, the City will follow up with delineation of drainage areas, etc., and follow-up investigations to track illicit discharges that were identified during the inventory.

8.2 Dry Weather Screening Methodologies

The City anticipates the final inventory of outfalls to exceed 50. Beginning in fiscal year 2017, the City will begin implementing standard IDDE outfall reconnaissance (dry weather screening) on the outfall identified during the inventory. The following methodology will be employed.

A separate Outfall Reconnaissance Form (attached) should be completed for each outfall. Biological indicators of the presence of bacteria should be used whenever possible and recorded when observed. The following additional observations shall be recorded, when applicable: pet stations, septic systems, uncontrolled discharges, and wildlife activity present in the contributing drainage area.

In addition to visual observation and documentation on the Outfall Reconnaissance Forms, photo-documentation of each outfall shall also be recorded, including: the outfall; the receiving channel (looking upstream and downstream); and a broad perspective site photograph. Further, when applicable and feasible, the following additional parameters should also be photographed, particularly during the initial reconnaissance visit: representative land use/ land cover of the contributing drainage area; any outfalls observed, but not yet inventoried; and any notable evidence of bacteria sources in the contributing drainage area.

Section 9 IDDE Tracking, Elimination, and Documentation

9.1 Investigations

Investigations should be conducted in one of the following manners:

- Storm drain network investigations: This isolates the discharge to a specific section of the drainage network through strategic manhole inspections.
    - Manhole inspections – Moving through the storm sewer system upstream from the outfall point or point in the system where an illicit discharge has been identified. Manholes closest to the outfall or discharge point should be investigated first, with staff progressively moving up the storm sewer system and inspecting manholes until it can be determined either where the source is coming in or between which two manholes the source is coming in. Visual observations should be used to look for presence of flow, colors, odors, floatable materials, or deposits or stains. **DO NOT ENTER THE PIPE FOR ANY REASON.** Photographs should be taken whenever possible.
- Drainage area investigations: Conducting surveys and analyses of the drainage area where the discharge has been located. This method is useful when the discharge has distinct or unique characteristics that can be linked to a specific business or operation.
    - Can include drive-by surveys of the drainage area to locate possible generating sites; and/or
    - GIS analysis to identify industrial and other potential generating sites.
- On-site investigations: Once the segment of the storm sewer system has been identified, one of the following on-site investigative strategies should be used:
    - Video inspection (CCTV)
    - Dye and/or smoke testing

A separate Illicit Discharge Investigation Form (attached) should be completed for each suspected illicit discharge. Biological indicators of the presence of bacteria should be noted whenever possible and recorded when observed. The following observations shall be recorded, when applicable: location;

time; date; name of observer; presence of flow; odors; color and presence of sheen; presence of floatables; stains/algae; and vegetative conditions.

In addition to visual observation and documentation on the Illicit Discharge Investigation Forms, photo-documentation of each suspected discharge shall also be recorded, whenever possible.

9.2 Source Tracking and Follow-up Procedures

The City of Petersburg will continually identify priority areas that are considered to be likely sources of illicit discharges. Priority areas include, but are not limited to:

- Commercial/industrial areas
- Older areas of the City
- Areas where repeated complaints have been reported
- Areas identified from water quality sampling data

It is essential that investigative field crews be comprised of individuals who have received training on illicit discharge detection and elimination in accordance with the City's Municipal Employee Training Plan and Schedule. With this training, these individuals will be able to identify suspected illicit discharges and begin investigative screenings. The field crews will be knowledgeable about the investigative techniques for tracking down sources of illicit discharges, and will follow the chain of command, as indicated in this manual, for eliminating the sources of illicit discharges and proper reporting. The field crews will be equipped and with the Illicit Discharge Detection & Elimination Procedures and follow the written procedures for investigation and reporting of suspected illicit discharges. The best personnel for staffing the field crew will be individuals with analytical and investigative skills and have knowledge of basic hydrology, biology, and chemistry. It is advantageous if members of the crew are familiar with the drainage area to identify potential sources of the illicit discharge.

If an illicit discharge is found, but within six months of the beginning of the investigation neither the source has been identified nor the same discharge has been observed again, it shall be documented and the investigation can be closed. If the observed/reported discharge is intermittent, a minimum of three separate attempts shall be made to observe the discharge while it is active. If these attempts are not successful, it shall be documented and the investigation can be closed. If the source of the discharge is determined to be the result of an operational activity, the activity shall be immediately stopped. Any remedial actions that can be taken to mitigate the discharge are assessed and implemented as appropriate.

If the source of the discharge is a spill or release of hazardous material, the City of Petersburg Fire Marshall shall be called to respond to the situation and employ appropriate spill response measures. If the source of the discharge is the result of an illegal or illicit connection to the storm sewer system, measures to eliminate or disconnect the connection shall be employed.

9.3 Documentation

The City of Petersburg Department of Public Works will track all illicit discharge investigations. Hard copies of each investigation form and subsequent report will be kept in hard copy for the length of the MS4 Permit term at minimum. Each form and report will also be scanned and maintained in electronic format.

Upon return from illicit discharge investigation and/or any related action, data recorded on the Illicit Discharge Investigation Forms and any associated reports shall be entered into the City of Petersburg's tracking database, including download of any photographs. The forms shall then be stored for the duration of the permit term by the Stormwater Program Manager. All illicit discharge investigation forms and reports shall be scanned to maintain an electronic file of records. Completed hard copies of all illicit discharge investigation forms and reports and police reports shall be maintained within the MS4 Program binder for annual reporting and audit purposes.

Upon return from outfall reconnaissance, data recorded on the Outfall Reconnaissance Forms shall be entered into the City of Petersburg's SWM tracking database, including download of photographs. The forms shall then be stored for the duration of the permit term by the Stormwater Program Manager. In addition to maintaining a current SWM tracking database with all Outfall reconnaissance inventory data, the location of all identified outfalls shall be recorded or verified using GIS following outfall reconnaissance & field inventory activities.

N

LEGEND

- OUTFALL
- SWM FACILITY
- CATCH BASIN
- CULVERT
- HEADWALL
- LARGE INLET
- STORM INLET
- STORM PIPE
- STREAM
- WATERSHED BOUNDARY
- WATERBODY

0 0.25 0.5 1 1.5 2 Miles

STORM SEWER SYSTEM MAP

CITY OF PETERSBURG, VIRGINIA

I AM PETERSBURG VIRGINIA

Phase II MS4 General Permit
Program Plan Update

Stormwater Management
Facility Inspection Procedures

I AM PETERSBURG VIRGINIA

OCTOBER 2015

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

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Appendix

Section 1 Introduction

The following *Stormwater Management (SWM) Facility Inspection Procedures* document is intended to provide staff and contractors of the City of Petersburg with guidance for conducting detailed inspections of the City's stormwater management facilities. The General Permit (VAR04, effective July 9, 2013- July 8, 2018) mandates that the operator (City of Petersburg) inspect City-owned stormwater management facilities a minimum of once per year and inspect private stormwater management facilities a minimum of once every 5 years.

1.1 General Permit Requirements

Section II B 5. "c. Inspection, operation, and maintenance verification of stormwater management facilities.

(1) For stormwater management facilities not owned by the MS4 operator, the following conditions apply:

(a) The operator shall require adequate long-term operation and maintenance by the owner of the stormwater management facility by requiring the owner to develop a recorded inspection schedule and maintenance agreement to the extent allowable under state or local law or other legal mechanism;

(b) The operator or his designee shall implement a schedule designed to inspect all privately owned stormwater management facilities that discharge into the MS4 at least once every five years to document that maintenance is being conducted in such a manner to ensure long-term operation in accordance with the approved designs.

(c) The operator shall utilize its legal authority for enforcement of maintenance responsibilities if maintenance is neglected by the owner. The operator may develop and implement a progressive compliance and enforcement strategy provided that the strategy is included in the MS4 Program Plan.

(d) Beginning with the issuance of this state permit, the operator may utilize strategies other than maintenance agreements such as periodic inspections, homeowner outreach and education, and other methods targeted at promoting the long-term maintenance of stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot. Within 12 months of coverage under this permit, the operator shall develop and implement these alternative strategies and include them in the MS4 Program Plan.

(2) For stormwater management facilities owned by the MS4 operator, the following conditions apply:

(a) The operator shall provide for adequate long-term operation and maintenance of its stormwater management facilities in accordance with written inspection and maintenance procedures included in the MS4 Program Plan.

(b) The operator shall inspect these stormwater management facilities annually. The operator may choose to implement an alternative schedule to inspect these stormwater

management facilities based on facility type and expected maintenance needs provided that the alternative schedule is included in the MS4 Program Plan.

(c) The operator shall conduct maintenance on its stormwater management facilities as necessary."

1.2 Stormwater Management Facility Definition

A Stormwater Management Facility means a device that controls stormwater runoff and changes the characteristics of that runoff including, but not limited to, the quantity and quality, the period of release or the velocity of flow. Stormwater management facilities include filtration devices (such as bioretention and sand filters), wet or dry ponds, constructed wetlands, infiltration facilities, and other structural storm sewer devices (including proprietary devices). Stormwater management facilities do not include conveyance systems that are meant only for conveying the stormwater from one place to another and do not affect the quality or quantity of the stormwater.

Section 2 Procedures

2.1 City-owned Facilities

The City of Petersburg (or designee) provides for the adequate long-term operation of City-owned stormwater management (SWM) facilities. The City's Department of Public Works (DPW) is responsible for all ongoing operation and maintenance tasks associated with the City's SWM facilities. As such, the DPW is responsible for any maintenance of structural components (such as berms, outfalls, rip rap, grading, etc.), in addition to, maintaining the functional capacity and condition of each SWM facility owned and operated by the City. The DPW (or designee) is responsible for conducting annual inspections of the City's SWM facilities. The following procedures shall be followed as part of the SWM Facility inspection process for City Owned facilities:

1. The DPW staff (or designee) will utilize the inspection checklist, contained within this document, for conducting inspections of BMPs and documenting the findings.
2. The hardcopy of the inspection form and any pictures taken during the inspection shall be submitted to the City's Stormwater Program Manager. The form will indicate whether the SWM facility passed the inspection or if corrective action and re-inspection is required. The form will provide a list of corrective actions, if any, noted during the inspection.
3. The City's Stormwater Program Manager will review the form. If no corrective action is required, the SWM Program Manager will update the SWM Facility tracking geodatabase with the current inspection date. A hardcopy of the inspection form and any hardcopy pictures will be filed in a binder and kept in a designated location at the office of the SWM Program Manager. A digital copy of the form and any digital photographs will be placed in the appropriate directory on the City's server. If corrective action is required, the SWM Program Manager will coordinate with DPW to schedule remedial actions to correct the identified deficiencies with the SWM facility within a designated timeframe.
4. DPW will then implement the corrective actions identified from the SWM Inspection and as approved by the Stormwater Program Manager. When corrective actions are complete, DPW will notify the SWM Program Manager.
5. The SWM Program Manager will coordinate with DPW staff (or designee) to conduct a re-

inspection of the facility.

6. When a satisfactory inspection has been received, the SWM Program Manager will update the SWM Facility tracking database with the current inspection date. A hardcopy of the inspection form and any accompanying hardcopy pictures will be filed in a binder and kept in a designated location at the office of the SWM Program Manager. A digital copy of the inspection form and any accompanying digital photos will be placed in the appropriate directory on the City's server.

2.2 Privately-owned Facilities

The City of Petersburg requires the owner of the SWM facility to develop a maintenance agreement in accordance with the Virginia Stormwater Management Regulations. City DPW staff (or designee) will inspect each new SWM facility at the completion of their construction or installation and prior to final acceptance and release of any associated stormwater management bonds. An as-built drawing is required to be submitted to the City's DPW upon completion or installation of any permanent SWM facilities. The as-built drawing is required to be signed and sealed by a registered Virginia Professional Engineer and be accompanied with certification of such professional that the SWM facility has been constructed in accordance with the approved stormwater management plan.

DPW staff (or designee) conducts periodic inspections (a minimum of once every five years) of privately owned SWM facilities to determine whether they are being maintained as provided in the approved plan and/or maintenance agreement. DPW staff (or designee) will perform the following actions for privately–owned SWM facilities:

1. Conduct an inspection of the SWM Facility using the inspection checklist, as provided in this document, a minimum of once every 5 years. When possible, photographs will be taken to document the SWM facility inspection findings, to the maximum extent practicable.
2. Upon completion of the SWM facility inspection, the SWM facility owner is notified of a satisfactory or unsatisfactory inspection. If the inspection reported that the SWM facility was in unsatisfactory condition, a copy of the unsatisfactory inspection form and a list of required corrective actions, and pictures of the inspection (if any) will be provided to the owner. If the SWM facility is found to be in satisfactory condition and no corrective action is required, the owner will receive a copy of the satisfactory inspection with pictures (if any). The SWM Program Manager will update the SWM Facility tracking geodatabase with the current inspection date. A hardcopy of the inspection form and any pictures documenting the inspection will be filed in a binder and kept in a designated location at the office of the SWM Program Manager. A digital copy of the inspection form and pictures (if any) will be placed in the appropriate directory on the City's server.
3. In the case of an unsatisfactory inspection, the owner will have *30 days to plan* any necessary remedial action. Owners are given *60 days to complete* the necessary remedial actions to bring the facility into compliance. The owners may request a time frame extension if they are unable to have the corrective actions completed within the given timeframe. The SWM Program Manager will consider time-frame extensions on an individual basis.
4. A warning letter will be issued to the SWM facility owner if no response is received within *one month* of the notice of unsatisfactory inspection that corrective action to bring the

SWM facility into compliance is required within 60 days of the unsatisfactory inspection. A final warning letter will be issued to the SWM facility owner if no response is received from the SWM facility owner within *60 days* of the unsatisfactory inspection. If no response is received from the SWM owner within 10 days of the final warning letter, the City is authorized, according to the maintenance agreements, to enter the property to make all repairs, and to perform all maintenance, construction and reconstruction the City deems necessary. The City will then assess the SWM facility owner for the cost of such placed on the property tax bills of the said properties and collected as ordinary taxes by the City. Refer to the City of Petersburg's Stormwater Ordinances for more information concerning non-compliance.

5. Responsive SWM facility owners will contact the City when corrective actions are completed within 60 days of the unsatisfactory inspection. The City SWM Program Manager will coordinate with DPW staff to schedule a re-inspection of the SWM Facility. DPW staff (or designee) will perform the re-inspection of the SWM facility.
6. If the SWM facility is found to be in satisfactory condition, the owner will receive a copy of the satisfactory inspection and the DPW staff will update the SWM tracking database of the satisfactory inspection and appropriately file a hardcopy and digital copy of the inspection form. If the SWM facility is found to remain in unsatisfactory condition, the process of notification and warning letters will continue until a satisfactory inspection result is achieved.

2.3 Field Crews

Field crews will consist of 2-3 person teams. Individuals on the field crew(s) will be trained and certified, as appropriate, in accordance with the Staff Training Plan provided within the City of Petersburg's MS4 Program Plan. In addition, the field crew personnel will be trained on the hazards of confined space entry and will avoid confined spaces (unless properly equipped and certified to perform confined space entry). Field crews will be properly equipped to safely perform the rigors of SWM facility inspection and its surrounding terrain. Inspections will follow the SWM facility checklist as provided in this document. Crew members should have appropriate physical ability to conduct walks along the surrounding terrain. It is advantageous if members of the crew are familiar with the drainage area of the site to identify any potential sources of pollutants and to navigate the site.

2.4 Site Maps

Site maps should be thoroughly reviewed and organized prior to conducting site visits to plan and prepare for the most efficient means to access each identified SWM facility. If possible, the inspectors should be given a copy of the design/construction/as-built plans for the facilities to review prior to inspection. This will help the inspector be able to 1) identify the type/function of facility, 2) provide a level of understanding of how the facility works to achieve its designated function, and 3) identify and plan for any site constraints that may impact accessibility.

2.5 Documentation

The stormwater management facility inspection form will be completed for each facility inspected. All required and/or appropriate questions/fields will be populated for each facility during the field inspection. The inspector should remark on general observations of each site. A list of required

corrective actions, if any, will be made on the inspection form.

2.6 Photographs

In addition to visual observation and documentation provided on the SWM facility inspection forms, photo-documentation of each SWM facility will also be recorded including a broad perspective site photograph, when possible. Photographs of each identified deficiency should also be provided, when possible.

Section 3 Schedule

As of September 30, 2015, the City of Petersburg currently has 84 SWM facilities inventoried within its GIS-based database: 8 on City-owned property, and the remaining 76 on privately-owned property. It is important to note that the required inspection schedule, in accordance with the General Permit, for privately-owned SWM facilities differs from that of publicly owned facilities. The City, or designee, will inspect city-owned facilities, at a minimum, once per permit term year (annually) and once per permit term (once every 5 years) for privately-owned facilities.

Section 4 Tracking

The City will maintain an updated electronic database of all known owner-operated and privately-owned SWM facilities that discharge into the MS4 with the following information, to the maximum extent practical:

- SWM facility type;
- Description of the facility's location, including latitude and longitude;
- Acreage treated by the facility, including total acreage, pervious acreage, and impervious acreage;
- The date the facility was brought online (if unknown, a date of June 30, 2005 will be used);
- The sixth order HUC;
- The name of any impaired waters within the HUC that the facility discharges to;
- Ownership of the facility;
- Whether a maintenance agreement exists if SWM facility is privately-owned; and
- The date of the most recent inspection.

The City will also track the total number of inspections and when applicable, the number of enforcement actions, annually. The City will include an electronic database with the appropriate information, as listed above, for each facility brought online during each reporting year in the corresponding Annual Report.

Section 5 Document and Data Management

5.1 Document Management

Upon return from a SWM facility inspection, the following actions will be taken to manage documents:

1. The SWM facility tracking database will be updated with the current inspection date
2. A hardcopy of the inspection form will be filed in a binder and kept in a designated location at the office of the SWM Program Manager. A digital image of the inspection form will be placed in a designated directory on the City of Petersburg's server.

3. Photographs, if any, taken during the inspection will be printed and bound with the hardcopy inspection form documenting the inspection. Digital copies of the photographs, if available, will be stored in the designated directory on the City of Petersburg's server.

The forms will be stored for the duration of the permit term by the Stormwater Program Manager.

5.2 Data Management

All SWM facility inspection forms, reports, and photographs (as available) will be scanned to maintain an electronic file of records and will be stored in a designated directory on the City of Petersburg server.

Appendix

SWM Facility Inspection Report Template

Appendix 5b. Stormwater Management Facility Tracking Database Export

	BMP ID	Development Description	Field Verified	Inspection Date	Maintenance Agreement	Address #	Address Street	2013 BMP Type	1999 BMP Type	CBP BMP Type	Proprietary Device	Online Date	Ownership	Parcel ID	Watershed	Impaired Waters	Total Acres Treated	Pervious Acres Treated	Impervious Acres Treated	HUC 12	Regulated Area	Ches. Bay Area	Urbanized Area	VPDES Holder	VPDES #	Latitude	Longitude
1	94B - B	Boars Head Brand	No		No	2090	INDUSTRY PL	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	11/20/2012	Private	096010800	Second Swamp	Second Swamp	21.44	15.34	6.10	030102020101	no	no	no	NA	NA	-77.4174	37.1762352
2	1 - B	City of Petersburg	Inaccessible		NA	3645	HALIFAX RD	NA	Constructed Wetlands (2*WQ)	Constructed Wetland	NA	3/27/1979	Public	096010001	Second Swamp	Second Swamp	21.11	20.01	1.10	020802071001	no	no	no	NA	NA	-77.4197	37.17890549
3	2 - B	Petersburg Interstate Industrial Park	Inaccessible		NA	3645	HALIFAX RD	NA	Retention Basin I (3*WQ)	Wet Pond	NA	3/27/1979	Public	096010001	Second Swamp	Second Swamp	121.19	104.62	16.57	030102020101	no	no	no	NA	NA	-77.4078	37.1787796
4	3 - B	Bleachtech LLC	Inaccessible		no	2020	BESSEMER RD	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	4/6/2007	Private	096010806	Second Swamp	Second Swamp	13.10	13.10	0.00	030102020101	no	no	no	GP	VAR051963	-77.4163	37.17977524
5	4 - UB	Pinehill Plaza Shopping Center	Yes	6/3/2015	no	3333	CRATER RD S	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	6/3/1996	Private	087030802	Blackwater	Blackwater Swamp	3.05	1.23	1.82	030102020102	no	no	yes	NA	NA	-77.3668	37.18400192
6	4B - UB	Pinehill Plaza Shopping Center	No		No	3333	CRATER RD S	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	6/3/1996	Private	087030802	Blackwater	Blackwater Swamp	10.44	3.69	6.75	030102020102	no	no	yes	NA	NA	-77.3654	37.18500137
7	51 - UB	HealthSouth Rehabilitation Hospital	Yes	6/3/2015	Yes	200	MEDICAL PARK BLV	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	8/17/2010	Private	087030809	Blackwater	Unsegmented Rivers in K31	25.51	22.37	3.14	030102020102	no	no	yes	NA	NA	-77.3582	37.18169403
8	52 - UB	HealthSouth Rehabilitation Hospital	Yes	6/2/2015	Yes	200	MEDICAL PARK BLV	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	8/17/2010	Private	087030809	Blackwater	Unsegmented Rivers in K31	14.27	14.24	0.04	030102020102	no	no	yes	NA	NA	-77.3609	37.18379593
9	55 - UB	HealthSouth Rehabilitation Hospital	Yes	6/3/2015	Yes	200	MEDICAL PARK BLV	NA	Extended Detention (30hr DD 2*WQ)	Dry Extended Detention Ponds	NA	8/17/2010	Private	087030809	Blackwater	Unsegmented Rivers in K31	3.07	3.07	0.00	030102020102	no	no	yes	NA	NA	-77.3612	37.18236542
10	56 - UB	HealthSouth Rehabilitation Hospital	Yes	6/2/2015	Yes	200	MEDICAL PARK BLV	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	8/17/2010	Private	087030809	Blackwater	Unsegmented Rivers in K31	2.91	2.91	0.00	030102020102	no	no	yes	NA	NA	-77.3588	37.18330002
11	57 - UB	HealthSouth Rehabilitation Hospital	Yes	6/2/2015	Yes	200	MEDICAL PARK BLV	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	8/17/2010	Private	087030809	Blackwater	Unsegmented Rivers in K31	4.85	4.85	0.00	030102020102	no	no	yes	NA	NA	-77.3596	37.18370438
12	58A - UB	HealthSouth Rehabilitation Hospital	Yes	6/3/2015	Yes	200	MEDICAL PARK BLV	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	8/17/2010	Private	087030809	Blackwater	Unsegmented Rivers in K31	2.05	2.05	0.00	030102020102	no	no	yes	NA	NA	-77.3585	37.18356323
13	58B - UB	HealthSouth Rehabilitation Hospital	Yes	6/3/2015	Yes	200	MEDICAL PARK BLV	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	8/17/2010	Private	087030809	Blackwater	Unsegmented Rivers in K31	1.36	1.36	0.00	030102020102	no	no	yes	NA	NA	-77.3578	37.18358231
14	84B - UB	Medical Park Blvd	No		No	235	MEDICAL PARK BLV	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Detention Ponds	NA	6/11/2012	Private	087030811	Blackwater	Unsegmented Rivers in K31	2.11	1.69	0.43	030102020102	no	no	yes	NA	NA	-77.3622	37.18351364
15	84A - UB	Medical Park Blvd	Inaccessible	6/3/2015	Yes	230	MEDICAL PARK BLV	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	6/11/2012	Private	087030810	Blackwater	Unsegmented Rivers in K31	15.69	15.69	0.00	030102020102	no	no	yes	NA	NA	-77.361	37.18626022
16	31 - UB	Go Cart Village	Yes	6/3/2015	no	3268	CRATER RD S	NA	Retention Basin I (3*WQ)	Wet Pond	NA	9/7/2007	Private	088010808	Blackwater	Blackwater Swamp	4.17	1.63	2.54	030102020102	no	no	yes	NA	NA	-77.3693	37.18650436
17	39 - C	Vernon Johns Middle School - BMP1	Yes	6/3/2015	NA	3101	HOMESTEAD DR	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	6/30/2005	Public	079110013	Lieutenant Run	Unsegmented rivers in J15	8.46	3.67	4.79	020802071001	no	yes	no	NA	NA	-77.3964	37.18725586
18	42 - UB	People's Advantage Federal Credit Union	Inaccessible	6/2/2015	Yes	3245	CRATER RD S	NA	Constructed Wetland (2*WQ)	Constructed Wetland	NA	7/12/2007	Private	081060805	Blackwater	Blackwater Swamp	24.02	20.15	3.87	030102020102	no	no	yes	NA	NA	-77.3675	37.18806458
19	93 - UB	Poplar Springs Hospital Psychiatric Unit Addition	No		Yes	350	POPLAR DR	NA	Bioretention (0.5")	Bioretention, soils unknown	NA	6/11/2012	Private	082020005	Blackwater	Unsegmented Rivers in K31	1.21	0.93	0.28	030102020102	no	no	yes	NA	NA	-77.3577	37.18691254
20	45A - UB	Virginia South Psychiatric & Family Services	Yes	6/3/2015	no	259	MEDICAL PARK BLV	NA	Proprietary Filter Structure	Water Quality Inlet	Filterra	3/11/2011	Private	082020813	Blackwater	Unsegmented Rivers in K31	0.40	0.40	0.00	030102020102	no	no	yes	NA	NA	-77.363	37.18873215
21	45E - UB	Virginia South Psychiatric & Family Services	Yes	6/3/2015	No	259	MEDICAL PARK BLV	NA	Proprietary Filter Structure	Water Quality Inlet	Filterra	3/11/2011	Private	082020813	Blackwater	Unsegmented Rivers in K31	0.15	0.15	0.00	030102020102	no	no	yes	NA	NA	-77.3634	37.18878937
22	45F - UB	Virginia South Psychiatric & Family Services	Yes	6/3/2015	No	259	MEDICAL PARK BLV	NA	Proprietary Filter Structure	Water Quality Inlet	Filterra	3/11/2011	Private	082020813	Blackwater	Unsegmented Rivers in K31	0.15	0.15	0.00	030102020102	no	no	yes	NA	NA	-77.3635	37.18874359
23	45D - UB	Virginia South Psychiatric & Family Services	Yes	6/3/2015	No	259	MEDICAL PARK BLV	NA	Proprietary Filter Structure	Water Quality Inlet	Filterra	3/11/2011	Private	082020813	Blackwater	Unsegmented Rivers in K31	0.11	0.11	0.00	030102020102	no	no	yes	NA	NA	-77.3634	37.18865967
24	45C - UB	Virginia South Psychiatric & Family Services	Yes	6/3/2015	No	259	MEDICAL PARK BLV	NA	Proprietary Filter Structure	Water Quality Inlet	Filterra	3/11/2011	Private	082020813	Blackwater	Unsegmented Rivers in K31	0.14	0.14	0.00	030102020102	no	no	yes	NA	NA	-77.3633	37.18865204
25	45B - UB	Virginia South Psychiatric & Family Services	Yes	6/3/2015	No	259	MEDICAL PARK BLV	NA	Proprietary Filter Structure	Water Quality Inlet	Filterra	3/11/2011	Private	082020813	Blackwater	Unsegmented Rivers in K31	0.25	0.25	0.00	030102020102	no	no	yes	NA	NA	-77.3624	37.18819809
26	90 - UB	Berkeley Estates	No		No	500	OLD WAGNER RD	NA	Retention Basin II (4*WQ)	Wet Pond	NA	5/5/2008	Private	083020001	Blackwater	Unsegmented Rivers in K31	13.04	13.04	0.00	030102020102	no	no	yes	NA	NA	-77.3512	37.188591
27	44 - UB	Social Security Administration	Yes	6/3/2015	no	100	POPLAR DRIVE	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	10/18/2005	Private	082020802	Blackwater	Unsegmented Rivers in K31	1.52	1.51	0.01	030102020102	no	no	yes	NA	NA	-77.3642	37.18929672
28	76 - UB	Dollar General	Yes	6/3/2015	Yes	3105	CRATER RD S	Extended Detention Level 1	NA	Dry Extended Detention Ponds	NA	9/9/2013	Private	081050006	Blackwater	Blackwater Swamp	0.71	0.04	0.67	030102020102	no	no	yes	NA	NA	-77.3707	37.19022369
29	92 - UB	Southside Oral & Facial Surgery	Yes	6/12/2015	No	575	OLD WAGNER RD	NA	Extended Detention (30hr DD 2*WQ)	Dry Extended Detention Ponds	NA	10/21/1994	Private	083010804	Blackwater	Unsegmented Rivers in K31	1.38	0.54	0.84	030102020102	no	no	yes	NA	NA	-77.351	37.18980408
30	5 - UB	Wagner Road Office Bldg	Yes	6/2/2015	Yes		OLD WAGNER RD	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	9/21/2006	Private	083010805	Blackwater	Unsegmented Rivers in K31	1.91	1.90	0.01	030102020102	no	no	yes	NA	NA	-77.3502	37.19009018
31	6 - UB	Mitchell Wiggins	Yes	6/3/2015	no	100	FLANK RD	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	5/20/1993	Private	081040003	Blackwater	Blackwater Swamp	2.10	1.58	0.52	030102020102	no	no	yes	NA	NA	-77.3751	37.19050217
32	7 - UB	BOEHRINGER INGELHEIM CHEMICALS	Inaccessible		no	2820	NORMANDY DR N	NA	Retention Basin II (4*WQ)	Wet Pond	NA	1/19/1978	Private	063010001	Blackwater	Unsegmented Rivers in K31	4.43	4.20	0.23	030102020102	no	no	yes	GP	VAR050693	-77.3529	37.19185257
33	71 - RUC	Ridgewood Subdivision. Found in water layer.	Inaccessible		no		RIDGEWOOD DR	NA	Retention Basin I (3*WQ)	Wet Pond	NA	6/30/2005	Private	069030800	Lieutenant Run	Lieutenant Run	17.84	14.22	3.62	020802071001	yes	yes	yes	NA	NA	-77.4126	37.20043945
34	87 - RUC	South Hills Subdivision	Yes	6/2/2015	Yes	1795	WEST LANE	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	12/10/2012	Private	050110814	Brickhouse Run	Appomattox River	8.32	8.28	0.04	020802071001	yes	yes	yes	NA	NA	-77.4304	37.20172501
35	30 - RUC	Zion Apostolic Church	Yes	6/2/2015	no	1601	YOUNGS RD	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	10/15/2012	Private	051070004	Brickhouse Run	Appomattox River	4.35	1.16	3.19	020802071001	yes	yes	yes	NA	NA	-77.4251	37.20545578
36	8 - RUC	NEW FIRST BAPTIST CH TRUSTEES	Yes	6/2/2015	no	1401	GRANT AVE	NA	Bioretention (0.5")	Bioretention, soils unknown	NA	5/5/1976	Private	051120001	Brickhouse Run	Appomattox River	1.24	0.76	0.48	020802071001	yes	yes	yes	NA	NA	-77.4205	37.20604324
37	70 - RUC	Streetwiesler Dunedin	Yes	6/5/2015	no	2456	DUPUY RD	NA	Retention Basin II (4*WQ)	Wet Pond	NA	5/31/2013	Private	049020008	Rohoic Creek	Rohoic Creek	36.79	31.82	4.97	020802071001	yes	yes	yes	NA	NA	-77.4416	37.20556641
38	94A - B	Boars Head Brand	No		No	1950	INDUSTRY PL	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	11/20/2012	Private	096010801	Second Swamp	Second Swamp	13.11	11.11	1.99	030102020101	no	no	no	GP	VAR051776	-77.4152	37.17633438
39	33 - UB	Martin's Food Market	Yes	6/3/2015	no	3330	CRATER RD S	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	11/27/1985	Private	088010009	Blackwater	Blackwater Swamp	13.96	2.64	11.32	030102020102	no	no	yes	NA	NA	-77.3687	37.18386078
40	86 - UB	Scott's Apartments	Yes	6/2/2015	Yes	2773	COUNTY DR	NA	Constructed Wetlands (2*WQ)	Constructed Wetland	NA	11/18/2008	Private	039030002	Blackwater	Blackwater Swamp	1.10	0.89	0.21	030102020102	no	no	yes	NA	NA	-77.3473	37.20957184
41	73 - UB	West Park Subdivison	Yes	6/5/2015	no			NA	Retention Basin I (3*WQ)	Wet Pond	NA	6/30/2005	Private	031030013	Blackwater	Unsegmented Rivers in K31	33.11	32.14	0.97	030102020102	no	no	yes	NA	NA	-77.3867	37.18763733
42	60 - RUC	Metropolitan Baptist Church	Yes	6/1/2015	Yes	1021	HALIFAX ST	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	9/25/2008	Private	045180005	Brickhouse Run	Appomattox River	0.30	0.03	0.27	020802071001	yes	yes	yes	NA	NA	-77.4104	37.21304703
43	85 - RUC	Richwine Self Storage Facility	Yes	6/2/2015	Yes	2455	COUNTY DR	Extended Detention Level 1	NA	Dry Extended Detention Ponds	NA	12/16/2014	Private	040020004	Harrison Creek	Harrison Creek	0.60	0.41	0.19	020802071001	yes	yes	yes	NA	NA	-77.3565	37.21253967
44	11 - RUC	What-A-Burger	Yes	6/5/2015	no	2350	WASHINGTON ST W	NA	Bioretention (0.5")	Bioretention, soils unknown	NA	7/11/2000	Private	027090008	Rohoic Creek	Rohoic Creek	0.89	0.25	0.64	020802071001	yes	yes	yes	NA	NA	-77.4432	37.21678162
45	63A - RUC	Claiborne Square Apartments	Yes	6/1/2015	no	518	HALIFAX ST	NA	Proprietary Filter Structure	Water Quality Inlet	Filterra	4/17/2002	Private	031030013	Lieutenant Run	Lieutenant Run	0.53	0.48	0.05	020802071001	yes	yes	yes	NA	NA	-77.4069	37.21837997
46	63B - RUC	Claiborne Square Apartments	Yes	6/1/2015	No	518	HALIFAX ST	NA	Proprietary Filter Structure	Water Quality Inlet	Filterra	4/17/2002	Private	031030013	Lieutenant Run	Lieutenant Run	0.42	0.42	0.01	020802071001	yes	yes	yes	NA	NA	-77.4067	37.21888733
47	63C - RUC	Claiborne Square Apartments	Yes	6/1/2015	No	518	HALIFAX ST	NA	Proprietary Filter Structure	Water Quality Inlet	Filterra	4/17/2002	Private	031030013	Lieutenant Run	Lieutenant Run	0.43	0.41	0.02	020802071001	yes	yes	yes	NA	NA	-77.4067	37.21891022
48	63D - RUC	Claiborne Square Apartments	Yes	6/1/2015	No	518	HALIFAX ST	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	4/17/2002	Private	031030013	Lieutenant Run	Lieutenant Run	1.48	1.40	0.08	020802071001	yes	yes	yes	NA	NA	-77.4066	37.2189064
49	14A - RUC	Tabernacle Baptist Church	Yes	6/1/2015	Yes		HALIFAX ST	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	2/17/2005	Private	031030016	Lieutenant Run	Lieutenant Run	0.90	0.88	0.03	020802071001	yes	yes	yes	NA	NA	-77.4066	37.21924973
50	13 - RUC	OBGYN Clinic	Yes	6/1/2015	no	600	SYCAMORE ST S	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	11/14/2012	Private	031080007	Lieutenant Run	Lieutenant Run	0.48	0.21	0.28	020802071001	yes	yes	yes	NA	NA	-77.4004	37.21918488
51	79 - RUC	Henry Williams Townhomes	Yes	6/1/2015	Yes	555	SOUTH ST S	Wet Pond Level 1	NA	Wet Pond	NA	3/29/2011	Private	030020001	Brickhouse Run	Appomattox River	6.12	6.12	0.00	020802071001	yes	yes	yes	NA	NA	-77.4119	37.22025681
52	14B - RUC	Little Angels Childcare	Yes	6/1/2015	No	418	HALIFAX ST	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	6/30/2005	Private	031020022	Lieutenant Run	Lieutenant Run	1.30	0.35	0.95	020802071001	yes	yes	yes	NA	NA	-77.4067	37.22027588
53	15 - RUC	UNITY BAPTIST CHURCH:	Yes	6/1/2015	no	330	SOUTH ST S	NA	Retention Basin I (3*WQ)	Wet Pond	NA	6/30/1978	Private	023390016	Brickhouse Run	Appomattox River	1.00	0.56	0.45	020802071001	yes	yes	yes	NA	NA	-77.414	37.22137833
54	50 - UB	Harrison Creek Apartments	Yes	6/2/2015	Yes	1200	HARRISON CREEK B	NA	Retention Basin III (4*WQ + Aquatic Bench)	Wet Pond	NA	9/22/2008	Private	040030801	Blackwater	Blackwater Swamp	10.61	10.61	0.00	030102020102	no	no	yes	NA	NA	-77.3569	37.20756912
55	91 - RUC	Third Baptist New Worship Facility	Yes	6/1/2015	Yes	550	FARMER ST	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	4/5/2006	Private	023370800	Brickhouse Run	Appomattox River	2.32	2.20	0.11	020802071001	yes	yes	yes	NA	NA	-77.4124	37.22219849
56	89A - RUC	Star Tobacco Factory	Yes	6/1/2015	Yes	201	WASHINGTON ST W	Urban Bioretention	NA	Bioretention, soils unknown	NA	1/18/2012	Private	022010001	Brickhouse Run	Appomattox River	1.53	0.15	1.38	020802071001	yes	yes	yes	NA	NA	-77.4076	37.22764587
57	89B - RUC	Star Tobacco Factory	Yes	6/1/2015	Yes	201	WASHINGTON ST W	Grass Channel	NA	Vegetated Open Channels	NA	1/18/2012	Private	022010001	Brickhouse Run	Appomattox River	0.35	0.29	0.07	020802071001	yes	yes	yes	NA	NA	-77.4079	37.22835159
58	89C - RUC	Star Tobacco Factory	Yes	6/1/2015	Yes	201	WASHINGTON ST W	Urban Bioretention	NA	Bioretention, soils unknown	NA	1/18/2012	Private	022010001	Brickhouse Run	Appomattox River	0.62	0.55	0.07	020802071001	yes	yes	yes	NA	NA	-77.4076	37.22801208
59	25C - RUC	High Street Lofts	Yes	6/1/2015	Yes	400	COMMERCE ST	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	8/1/2011	Private	010190016	Brickhouse Run	Appomattox River	1.48	1.35	0.13	020802071001	yes	yes	yes	NA	NA	-77.4097	37.22893143
60	18 - RUC	Leete Tire & Auto	Yes	6/1/2015	no	300	CRATER RD N	NA	Bioretention (0.5")	Bioretention, soils unknown	NA	6/13/2013	Private	012030002	Lieutenant Run	Lieutenant Run	2.58	0.50	2.08	020802071001	yes	yes	yes	NA	NA	-77.3949	37.23257446
61	68 - RUC	City of Petersburg @ Robert E. Lee Elem.	Yes	6/2/2015	NA	1610	PRINCE GEORGE AV	NA	Retention Basin I (3*WQ)	Wet Pond	NA	6/30/2005	Public	004190007	Poor Creek	Poor Creek	39.23	32.03	7.20	020802071001	yes	yes	yes	NA	NA	-77.3742	37.2365303
62	49 - RUC	Dollar General - East	Yes	6/2/2015	Yes		WASHINGTON ST E	Extended Detention Level 2	NA	Dry Extended Detention Ponds	NA	3/21/2012	Private	004050800	Harrison Creek	Harrison Creek	1.00	0.88	0.12	020802071001	yes	yes	yes	NA	NA	-77.3677	37.240345
63	77 - RUC	Hanson Grove Ave.	Yes	6/1/2015	Yes	712	GROVE AVE	NA	Infiltration (0.5")	Infiltration Basin	NA	11/7/2011	Private	010140001	Fleet Street East	Appomattox River	0.13	0.09	0.05	020802071001	yes	yes	yes	NA	NA	-77.416	37.23093796
64	25A - RUC	High Street Lofts	Yes	6/1/2015	Yes		COMMERCE ST	NA	Infiltration (0.5")	Infiltration Basin	NA	8/1/2011	Private	010190017	Brickhouse Run	Appomattox River	1.59	0.44	1.15	020802071001	yes	yes	yes	NA	NA	-77.4112	37.22831726
65	67 - UC	CFS GROUP DISPOSAL &	Yes	6/2/2015	no		INDUSTRIAL DRIVE	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	9/8/2009	Private	004010802	Harrison Creek	Harrison Creek	2.86	2.69	0.17	020802071001	no	yes	yes	GP	VAR051793	-77.3733	37.24156189
66	48 - RUC	Dollar General - West	Yes	6/5/2015	Yes	2275	WASHINGTON ST W	NA	Retention Basin I (3*WQ)	Wet Pond	NA	10/27/2009	Private	027030800	Rohoic Creek	Rohoic Creek	0.86	0.86	0.00	020802071001	yes	yes	yes	NA	NA	-77.4416	37.21807861
67	19 - UB	Bong's Auto Repair Center	Yes	6/2/2015	no	2587	COUNTY DR	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	6/7/2002	Private	039010022	Blackwater	Blackwater Swamp	0.85	0.85	0.00	030102020102	no	no	yes	NA	NA	-77.3513	37.21094513
68	27 - RUC	Robert E Lee Elementary School	Yes	6/5/2015	NA	51	GIBBONS AVE	NA	Bioretention (0.5")	Bioretention, soils unknown	NA	6/1/2014	Public	004190005	Poor Creek	Harrison Creek	0.74	0.33	0.41	020802071001	yes	yes	yes	NA	NA	-77.3711	37.2346344
69	36 - B	Petersburg Sports Complex BMP1	Yes	6/5/2015	NA	100	BALLPARK RD	NA	Retention Basin I (3*WQ)	Wet Pond	NA	6/30/2005	Public	098010001	Lieutenant Run	Blackwater Swamp	49.92	37.76	12.16	030102020102	no	no	no	NA	NA	-77.3974	37.17905807
70	37 - B	Petersburg Sports Complex BMP2	Yes	6/5/2015	NA	100	BALLPARK RD	NA	Retention Basin I (3*WQ)	Wet Pond	NA	6/30/2005	Public	098010001	Lieutenant Run	Blackwater Swamp	69.59	60.87	8.72	030102020102	no	no	no	NA	NA	-77.3943	37.17757797
71	28A - UB	WalMart - SWM Pond 2	Yes	6/3/2015	no	3500	CRATER RD S	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	6/2/1993	Private	087030806	Blackwater	Unsegmented Rivers in K31	9.55	3.14	6.41	030102020102	no	no	yes	NA	NA	-77.3652	37.17934799
72	29 - UB	WalMart - SWM Pond 3	Yes	6/3/2015	no	3500	CRATER RD S	NA	Retention Basin I (3*WQ)	Wet Pond	NA	6/2/1993	Private	087030806	Blackwater	Blackwater Swamp	6.33	1.66	4.66	030102020102	no	no	yes	NA	NA	-77.3683	37.17918396
73	28B - B	Walmart Shopping Center Outparcel	Yes	6/5/2015	No	3500	CRATER RD S	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	6/2/1993	Private	087030806	Blackwater	Unsegmented Rivers in K31	2.76	2.23	0.53	030102020102	no	no	no	NA	NA	-77.365	37.17870331
74	9 - B	Triad Metals International	Inaccessible		no	1951	BESSEMER RD	NA	Retention Basin II (4*WQ)	Wet Pond	NA	12/2/1999	Private	096010804	Second Swamp	Second Swamp	19.22	14.32	4.89	030102020101	no	no	no	NA	NA	-77.4135	37.17683411
75	21 - UB	Fas Mart	Yes	6/3/2015	no	3140	CRATER RD S	Extended Detention Level 1	NA	Dry Extended Detention Ponds	NA	8/15/2013	Private	081040011	Blackwater	Blackwater Swamp	2.57	0.43	2.14	030102020102	no	no	yes	NA	NA	-77.3713	37.18858719
76	22 - UB	Pinetree Apartments 2	Yes	6/2/2015	Yes	3100	PINETREE DR	NA	Enhanced Extended Detetention (wShallowMarsh)	Dry Extended Detention Ponds	NA	12/22/2011	Private	059010801	Blackwater	Blackwater Swamp	1.04	0.40	0.64	030102020102	no	no	yes	NA	NA	-77.3395	37.20169449
77	25B - RUC	High Street Lofts	Yes	6/1/2015	Yes			NA	Infiltration (0.5")	Infiltration Basin	NA	8/1/2011	Private		Brickhouse Run	Appomattox River	2.17	1.58	0.58	020802071001	yes	yes	yes	NA	NA	-77.4104	37.22881317
78	66 - UC	CFS GROUP DISPOSAL &	Inaccessible		no	390	INDUSTRIAL DR	NA	Retention Basin II (4*WQ)	Wet Pond	NA	9/8/2009	Private	002010001	Riverfront	Appomattox River	17.16	15.99	1.18	020802071001	no	yes	yes	GP	VAR051793	-77.3803	37.24034119
79	38 - UC	Petersburg Landfill	Yes	6/2/2015	no	390	INDUSTRIAL DR	NA	Retention Basin I (3*WQ)	Wet Pond	NA	7/12/2004	Private	002010001	Harrison Creek	Harrison Creek	11.36	10.56	0.80	020802071001	no	yes	yes	GP	VAR051793	-77.3738	37.24194336
80	74 - UB	Woodmere Subdivision	Yes	6/5/2015	no	300	WALNUT BLVD	NA	Retention Basin I (3*WQ)	Wet Pond	NA	4/30/1986	Private	066050800	Blackwater	Unsegmented Rivers in K31	191.21	100.53	90.68	030102020102	no	no	yes	NA	NA	-77.3847	37.19895172
81	35 - UB	Visa Park (Eden Pines Convalescent Center)	Yes	6/3/2015	no	590	FLANK RD	NA	Retention Basin I (3*WQ)	Wet Pond	NA	12/3/2012	Private	089050001	Blackwater	Blackwater Swamp	2.67	1.10	1.57	030102020102	no	no	yes	NA	NA	-77.3787	37.18396759
82	45G - UB	Virginia South Psychiatric & Family Services	Yes	6/3/2015	No	269	MEDICAL PARK BLV	NA	Proprietary Filter Structure	Water Quality Inlet	Filterra	3/11/2011	Private	082020803	Blackwater	Unsegmented Rivers in K31	0.18	0.18	0.00	030102020102	no	no	yes	NA	NA	-77.364	37.18875504
83	61 - RUC	Petersburg Area Transit	Yes	6/1/2015	Yes	100	WASHINGTON ST W	NA	Bioretention (0.5")	Bioretention, soils unknown	NA	9/5/1991	Public	022050802	Brickhouse Run	Appomattox River	0.08	0.00	0.08	020802071001	yes	yes	yes	NA	NA	-77.4049	37.22735977
84	26 - UB	O'Reilly Auto Parts	No		No	25	WAGNER RD	NA	Extended Detention (30hr DD 2*WQ)	Dry Detention Ponds	NA	10/8/2010	Private	081050801	Blackwater	Blackwater	0.36	0.30	0.06	030102020102	no	no	yes			-77.3689	37.18939972

Phase II MS4 General Permit
Program Plan Update

Stormwater Pollution Prevention Plan (SWPPP) Implementation

I AM PETERSBURG VIRGINIA

OCTOBER 2015

CITY OF PETERSBURG E PLURIBUS UNUM VIRGINIA

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Section 1 Introduction

Per the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 Permit) requirements, the City of Petersburg is required to update their MS4 Program Plan in accordance with the schedule outlined in Table 1. Updates are required for each of the six (6) minimum control measures including Minimum Control Measure (MCM) 6 – Pollution Prevention/Good House Keeping for Municipal Operations. MCM 6 requires the City to identify City-owned lands requiring stormwater pollution prevention plans and/or nutrient management plans based on the MS4 Permit requirements and implement a schedule for both. MCM 6 also requires the City to write procedures designed to reduce or prevent pollutant discharges, and to develop a training schedule and program for employees.

The scope of this analysis included a review of all City owned property using the City's GIS system, assessor data, and aerial photography to identify all potential high priority facilities with a high potential for pollutant discharge that will require a stormwater pollution prevention plan (SWPPP), as prescribed by the MS4 Permit. An implementation schedule was then developed for each property requiring a SWPPP based on the MS4 Permit requirements.

Section 2 Resources

The majority of the analysis was completed by desktop using resources provided by the City of Petersburg and other publically available data. Below is a compilation of resources used to complete the SWPPP analysis.

1. Data from the City of Petersburg
    a. "Parcels" Shapefile
    b. "VPDES_Parcels" Shapefile
    c. List of facilities (City owned and private) maintaining their own VPDES General Permit
    d. GIS website, including: property owner information, parcel boundaries, aerial photography, *etc*.
    e. GIS data layers, including: City VPDES facilities, City owned parcels, outfalls, RPA limits, storm structures, pipes, manholes, and contours.
2. Other data
    a. Publically available current aerial photography (Bing, Google)
    b. The General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (VAR04), effective 2013-2018.

Section 3 Methodology

In order to identify properties that will need a SWPPP, high priority facilities with a high potential for pollutant discharge had to be identified. High priority facilities are defined in Section II B 6 b (1), as follows:

i. composting facilities,
ii. equipment storage and maintenance facilities,
iii. materials storage yards,
iv. pesticide storage facilities,
v. public works yards,
vi. recycling facilities,
vii. salt storage facilities,
viii. solid waste handling and transfer facilities, and
ix. vehicle storage and maintenance yards.

Likewise, the municipal facilities with a high potential for pollutant discharge are defined in Section II B 6 b (2) as, "those not covered under a separate VPDES permit and which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff:

(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;
(b) Materials or residuals on the ground or in stormwater inlets from spills or leaks;
(c) Material handling equipment (except adequately maintained vehicles);
(d) Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt);
(e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);
(f) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
(g) Waste material except waste in covered, non-leaking containers (e.g., dumpsters);
(h) Application or disposal of process wastewater (unless otherwise permitted); or
(i) Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff."

Using the resources mentioned in Section 2, the following steps were completed to identify all City properties requiring a SWPPP based on the MS4 Permit requirements.

1. A preliminary list of potential City high priority sites was used to begin the analysis. These sites included all City-owned properties.
2. The City website was reviewed to ensure all City properties were included in the analysis.
3. All properties maintaining their own VPDES Permit were extracted and preserved in a separate tab.
4. Each property was then analyzed using City of Petersburg GIS, BING maps, and Google maps. Based on the images from these three sources, high priority facilities (HPF's) were identified. The process was completed for every property with the exception of properties maintaining their own VPDES permits to compile a thorough draft list of properties requiring SWPPPs.
5. After desktop analysis and communication with the City, parcels that were determined not to be high priority facilities were eliminated from the list of properties potentially requiring SWPPPs.
6. Field visits were then conducted for the remaining properties that were identified as potentially requiring SWPPPs.
7. In depth field visits and inspections including photographs were taken for the sites.
8. Following initial stie investigation, sites that were determined not to be HPFs after field visits were eliminated from further investigation.
9. Properties that during field visits, were determined to be HPFs, were characterized and inspected thoroughly.
10. SWPPPs were then prepared for all of the HPFs identified and identified as requiring SWPPPs during field investigations.
11. The completed SWPPPs for each facility were then submitted to the City for implementation.

Section 4 Potential City Sites Requiring a SWPPP

Following the process described in Section 3, twenty nine (29) properties were identified as having potential for requiring a SWPPP based on the MS4 Permit requirements. For the majority of these identified properties, the need for a SWPPP was eliminated. **Table 4.1** lists the properties, the potential designation of high priority facility for each property, and the potential activities resulting in a high potential pollutant discharge for each property.

Table 4.1 – City Properties with Potential for Requiring a SWPPP

Priority	Tax Map Parcel #	Within Regulated MS4 Boundary (Y/N)	Site Name	High Priority Facilities (as defined in Section II B 6.b.(1))	High Potential for Discharge (as defined in Section II B 6.b.(2))	Owner
1	030-220001	Y	800 Arlington St., Street Operations Yard	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities, (v) public works yards, (vii) salt storage facilities, (ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (c) Material handling equipment (except adequately maintained vehicles), (d) Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt), (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants), (f) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers, (g) waste material except waste in covered, non-leaking containers (e.g., dumpsters)	CITY OF PETERSBURG, VIRGINIA
2	012-340006	Y	920 E. Wythe St., Public Schools Operation Command Center	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (c) Material handling equipment (except adequately maintained vehicles), (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants), (f) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers, (g) waste material except waste in covered, non-leaking containers (e.g., dumpsters)	CITY OF PETERSBURG, VIRGINIA

Priority	Tax Map Parcel #	Within Regulated MS4 Boundary (Y/N)	Site Name	High Priority Facilities (as defined in Section II B 6.b.(1))	High Potential for Discharge (as defined in Section II B 6.b.(2))	Owner
3	029-170024	Y	1320 Farmer St., Petersburg Transit Maintenance Facility	(ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (c) Material handling equipment (except adequately maintained vehicles), (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants), (g) waste material except waste in covered, non-leaking containers (e.g., dumpsters)	CITY OF PETERSBURG, VIRGINIA
4	023-180010	Y	35 Pine St., City of Petersburg Public Schools Maintenance Department	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (c) Material handling equipment (except adequately maintained vehicles), (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants), (g) waste material except waste in covered, non-leaking containers (e.g., dumpsters)	CITY OF PETERSBURG, VIRGINIA
5	079-030027	Y	3100 Homestead Dr., Dogwood Trace Golf Course	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities, (ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (d) Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt), (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants), (f) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	CITY OF PETERSBURG, VIRGINIA

Priority	Tax Map Parcel #	Within Regulated MS4 Boundary (Y/N)	Site Name	High Priority Facilities (as defined in Section II B 6.b.(1))	High Potential for Discharge (as defined in Section II B 6.b.(2))	Owner
6	029-170023	Y	1216 Farmer St., Farmer St. Municipal Pool	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (d) Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt), (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants), (f) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	CITY OF PETERSBURG, VIRGINIA
7	079-030028	N	3108 Homestead Dr., Battlefield Park Swimming Club	(iii) materials storage yards, (ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (c) Material handling equipment (except adequately maintained vehicles), (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants), (f) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	BATTLEFIELD PARK SWIMMING CLUB
8	022-050802	Y	100 W. Washington St., Petersburg Area Transit Station	(ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater	CITY OF PETERSBURG, VIRGINIA
9	098-010001	N	100 Ballpark Rd., Petersburg Sports Complex	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA

Priority	Tax Map Parcel #	Within Regulated MS4 Boundary (Y/N)	Site Name	High Priority Facilities (as defined in Section II B 6.b.(1))	High Potential for Discharge (as defined in Section II B 6.b.(2))	Owner
10	061-010001	N	1151 Fort Bross Dr., Petersburg Fire Training Center	(ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater,	CITY OF PETERSBURG, VIRGINIA
11	022-290001	Y	Central Park	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
12	032-010022	Y	Jefferson St. Park	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
13	052-130004	Y	Lee Memorial Park	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
14	009-040008	Y	McKenzie St. Park	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA

Priority	Tax Map Parcel #	Within Regulated MS4 Boundary (Y/N)	Site Name	High Priority Facilities (as defined in Section II B 6.b.(1))	High Potential for Discharge (as defined in Section II B 6.b.(2))	Owner
15	029-170013	Y	West End Park	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
16	091-050001	N	3101 Johnson Rd., Petersburg High School	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
17	079-110013	N	3101 Homestead Rd., Vernon Johns Junior High School	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
18	030-130002	Y	725 Wesley St., Peabody Middle School	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
19	055-220001	Y	300 W. South Blvd., Walnut Hill Elementary School	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA

Priority	Tax Map Parcel #	Within Regulated MS4 Boundary (Y/N)	Site Name	High Priority Facilities (as defined in Section II B 6.b.(1))	High Potential for Discharge (as defined in Section II B 6.b.(2))	Owner
20	046-080026	Y	1100 Patterson St., Westview Early Childhood Education Center	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
21	052-090002	Y	1450 Talley Ave., A.P. Hill Elementary School	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
22	047-140008	Y	100 Pleasants Ln., J.E.B. Stuart Elementary School	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
23	012-090001	Y	816 E. Bank St., Blandford Academy	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA

Priority	Tax Map Parcel #	Within Regulated MS4 Boundary (Y/N)	Site Name	High Priority Facilities (as defined in Section II B 6.b.(1))	High Potential for Discharge (as defined in Section II B 6.b.(2))	Owner
24	004-190005	Y	51 Gibbons Ave., Robert E. Lee Elementary School	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
25	068-080012	N	1937 Johnson Rd., Parks & Leisure Services Facility	(ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater, (b) Materials or residuals on the ground or in stormwater inlets from spills or leaks, (e) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)	CITY OF PETERSBURG, VIRGINIA
26	022-040004	Y	50 S. Market St., PFD Station No. 2	(ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater,	CITY OF PETERSBURG, VIRGINIA
27	029-170901	Y	1318 Farmer St., PFD Station No. 3	(ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater,	CITY OF PETERSBURG, VIRGINIA

Priority	Tax Map Parcel #	Within Regulated MS4 Boundary (Y/N)	Site Name	High Priority Facilities (as defined in Section II B 6.b.(1))	High Potential for Discharge (as defined in Section II B 6.b.(2))	Owner
28	055-190016	Y	1907 Sycamore St., PFD Station No. 4	(ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater,	CITY OF PETERSBURG, VIRGINIA
29	091-050002	N	3321 Johnson Rd., PFD Station No. 5	(ix) vehicle storage and maintenance yards	(a) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater,	CITY OF PETERSBURG, VIRGINIA

Section 5 Site Investigations

Prior to recommending development of a SWPPP for each of the twenty nine (29) potential properties identified previously in Section 4, the City's Consultant conducted desktop analysis and/or site investigations of each of the potential facilities to confirm or discount the presence of activities and associated high potential for discharge of pollutants. Twenty four (24) sites were eliminated as a result of the thorough desktop analysis and site investigation. Upon visiting City Parks and school athletic fields and speaking with City staff, it was determined that no materials and equipment are kept at these locations that would dictate the necessity for development of a SWPPP. Similar findings were observed for the Fire Department houses and schools. The result of the site investigations and desktop analysis is that the development and implementation of SWPPPs is necessary for five sites: the Street Operations Facility, Public Schools Operations Command Center, the Transit Maintenance Facility, the Public Schools Maintenance Department, and Dogwood Trace Golf Course.

Section 6 Stormwater Pollution Prevention Plan Components

A Stormwater Pollution Prevention Plan (SWPPP) is a document that is prepared in accordance with good engineering practices and that identifies potential sources of pollutants that may reasonably be expected to affect the quality of stormwater discharges. Per the MS4 Permit, all high priority facilities with a high potential for pollutant discharge require a SWPPP with the exception of facilities covered under a separate VPDES permit. SWPPPs are to be kept at each facility and updated as necessary, including evaluations and modification following discharges, releases, and/or spills. Each SWPPP shall include the following:

a. A site description that includes a site map identifying all outfalls, direction of flows, existing source controls, and receiving water bodies;
b. A discussion and checklist of potential pollutants and pollutant sources;
c. A discussion of all potential non-stormwater discharges;
d. Written procedures designed to reduce and prevent pollutant discharge;
e. A description of the applicable training as required in Section II B 6.d;
f. Procedures to conduct an annual comprehensive site compliance evaluation;
g. An inspection and maintenance schedule for site specific source controls, including provisions for recording the inspection dates, associated findings, and follow-up actions;
h. Information for each discharge, release, or spill, including the following information: date of incident; material discharged, released, or spilled; and quantity discharged, released or spilled.

A template SWPPP was prepared for the City of Petersburg to provide consistency in formatting across facilities and departments. Standard Operating Procedures were developed for City-wide daily good housekeeping procedures for incorporation into the template SWPPP. Following development of the template format, individual SWPPPs were prepared for the sites identified previously in Section 5. Training for maintaining of the SWPPPs and implementation of the SWPPPs is scheduled for after July 1, 2015, consistent with the Permit requirements (required by July 1, 2017).

Phase II MS4 General Permit
Program Plan Update

Nutrient Management Plan (NMP)
Implementation Schedule

I AM PETERSBURG VIRGINIA

OCTOBER 2015

CITY OF PETERSBURG VIRGINIA

TIMMONS GROUP
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Table of Contents

Section 1 Introduction

Per the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 Permit) requirements, minimum control measure (MCM) 6 states that the City of Petersburg is required to identify City property requiring nutrient management plans (NMPs).

The scope of this analysis included a review of all City owned property using the most current City GIS data and aerial photography to identify where nutrients may be applied to one (1) contiguous acre or more of land and will require a nutrient management plan. Parcels that were missing ownership records and areas in the ROW with greater than one contiguous acres of managed turf were also included in this analysis.

Section 2 Resources

The majority of the analysis was completed by desktop using resources provided by the City of Petersburg and other publically available data. Below is a compilation of resources used to complete the SWPPP analysis.

1. Data from the City of Petersburg
    a. "Parcels" Shapefile
    b. "Pervious" Shapefile
    c. GIS website, including: property owner information, parcel boundaries, aerial photography, *etc*.
2. Other data
    a. Publically available current aerial photography (Bing, Google)
    b. The General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (VAR04), effective 2013-2018.

Section 3 Methodology

In order to identify properties that will need a nutrient management plan, properties with more than one contiguous acre of managed turf had to be identified. Using the resources identified in Section 2, the following steps were completed to identify all City properties that may require a nutrient management plan based on the MS4 Permit requirements.

1. The City "Parcels" and "Pervious" GIS Shapefiles were imported into ArcGIS.
2. The "Parcels" Shapefile records were sorted by owner and all parcels that were not owned by the City, in the ROW, or missing ownership information were eliminated.
3. An intersection was performed with the "Parcels" and "Pervious" Shapefiles to generate a "City-owned Pervious" Shapefile that included all City-owned, ROW, or unidentified parcels with potentially managed turf.
4. The "City-owned Pervious" Shapefile records were sorted by area (in acres) and all parcels that were less than one acre were eliminated.

5. The remaining parcels were then investigated one-by-one in ArcGIS using the area tool to determine if the pervious sites greater than one acre were contiguous.
6. Any parcels that were determined to have pervious areas that were not contiguous and at least an acre were eliminated.
7. The remaining parcels were then investigated using the most current publically available aerial imagery from Bing and Google to determine if the pervious land cover had changed.
8. The parcels that were identified as City-owned, in the ROW, or missing ownership information with greater than one contiguous acre of pervious were then populated into a draft Excel spreadsheet (Table 4.1).
9. The draft list was then reviewed with the most up to date aerial imagery and sites that were determined to not be mowed or maintained regularly (*i.e.*, areas under transmission lines) were eliminated (Table 4.2).
10. Upon review with the City and once all properties requiring nutrient management plans were identified along with the responsible party/parties, the Excel spreadsheet was finalized and the properties prioritized based upon contiguous acreage (largest contiguous acreage being the highest priority).

Section 4 Potential City-owned Properties Requiring a NMP

Following the process mentioned in Section 3, 80 properties were identified as potentially requiring a nutrient management plan based on the MS4 Permit requirements. The Table 4.1 presented below lists the potential properties identified that may have been required to develop a nutrient management plan.

Table 4.1 – City Properties with More than One Contiguous Acre of Pervious Surface

Confirmed City Parcel	Parcel #	Address	Description	Acreage
Y	97010004	1555 Flank Rd.	Open Space	18.65
Y	96010001	3645 Halifax Rd.	Open Space	14.03
Y	96010001	3645 Halifax Rd.	Forested Strip w/ <1 ac. Managed Turf	1.97
Y	96010001	3645 Halifax Rd.	Open Space Near Industrial Area	27.93
Y	85030002	Bradford Lane	Berkley Manor Park	10.93
Y	79110013	3101 Homestead Rd.	Vernon Johns Junior High School	6.91
Y	91050001	3101 Johnson Rd.	Petersburg High School	29.84
Y	78040003	3000 Homestead Rd.	Dogwood Trace Golf Course	40.42
Y	76030800	2233 Halifax Rd.	Open Space	34.82
Y	61010001	1151 Fort Bross Dr.	Petersburg Fire & Emergency Services	1.84
Y	68120001	1214 Johnson Ave.	Baseball Field East of Wilcox Lake	4.07
Y	65100042	435 Blackwater Dr.	Baseball Field	5.23

Confirmed City Parcel	Parcel #	Address	Description	Acreage
Y	55220001	300 South Blvd. W.	Walnut Hill Elementary School	6.63
Y	52090002	1450 Talley Ave.	AP Hill Elementary School	7.20
Y	45240013	1237 Halifax St.	AP Hill Community Center	2.18
Y	43030001	1511 Monticello St.	Open Space Near Water Tower	3.96
Y	46080026	1100 Patterson St.	Westview Early Childhood Education Center	5.29
Y	47140008	100 Pleasants Ln.	JEB Stuart Elementary School	5.43
Y	44080006	1000 Diamond St.	Virginia Avenue School	2.91
Y	43010001	1017 Sycamore St.	Parking Lot	3.28
Y	30130005	605 Halifax St.	Peabody Middle School	2.48
Y	30130002	725 Wesley St.	Peabody Middle School	5.05
Y	27010010	2351 Washington St. W.	Open Space Under Transmission Lines	1.12
Y	29170023	1216 Farmer St.	Farmer Street Pool	4.62
Y	31050038	115 Jolly Alley	Forested Space	1.06
Y	26010001	Railroad Tracks @ Rohoic Creek	Open Space Under Transmission Lines Adjacent to Appomattox	1.76
Y	28010001	1701 Dock St.	Open Space <1 ac.	1.01
Y	21070011	424 St. Andrew St.	Scattered Parcels <1 ac. Of Contiguous Managed Turf	1.73
Y	21180006	111 Rochelle Ln.	Cemetery	1.08
Y	9040008	951 McKenzie St.	McKenzie Street Park	4.02
Y	20010001	319 Crater Rd. S.	Blandford Cemetery	84.44
Y	10010007	308 Canal St.	Open Space	2.40
Y	12340006	820 Old Wythe St.	School Bus Parking Lot	2.58
Y	10110026	339 Low St.	Open Space <1 ac.	1.05
Y	11010802	Old St. W. @ N. Market St.	Open Space Adjacent to Railroad Tracks	1.26
Y	12090001	816 Bank St. E.	Blandford Academy	2.54
Y	11010002	37 River St.	Open Space Adjacent to Railroad Tracks	2.21
Y	11020006	275 River St.	Open Space South of Railroad Tracks	3.33
Y	11010801	River St. @ 2nd St. Bridge	Open Space Between Railroad Tracks	1.29
Y	12010001	433 River St.	Forested Space Adjacent to I-95	2.04
Y	7080001	150 Sapony St.	Open Space Adjacent to Railroad Tracks and Appomattox River	4.79
Y	7020001	301 Rolfe St.	Open Space <1 ac.	1.01
Y	27010012	2120 Dock St.	Open Space <1 ac.	1.55
Y	29170024	1320 Farmer St.	Open Space	5.38
Y	31300002	801 Adams St.	Open Space	10.78
Y	32080001	909 Sycamore St. S.	Cameron Field	9.34
Y	34020002	950 Winfield Rd.	Open Space	1.13

Confirmed City Parcel	Parcel #	Address	Description	Acreage
Y	22290001	243 Sycamore St. S.	Central Park	10.62
Y	21170009	334 Crater Rd. S.	People Memorial Cemetery	8.25
Y	9010005	South St. N. @ Fleet St.	Open Space <1 ac.	2.18
Y	10040003	501 Piamingo Alley	Forested Space Adjacent to Appomattox River	1.42
Y	4190005	51 Gibbons Ave.	Lee Elementary School	10.49
Y	41040001	2140 Anderson St.	Open Space	2.41
Y	52130004	1616 Defense Rd.	Lee Memorial Park	26.91
Y	52130004	1616 Defense Rd.	Forested Space	1.39
Y	98010001	100 Ballpark Rd.	Petersburg Sports Complex	53.39
Y	79030027	3100 Homestead Dr.	Dogwood Trace Golf Course	50.36
Y	52130004	1616 Defense Rd.	Open Space Under Transmission Line	11.23
Y	29170013	522 West St. S.	West End Park	8.27
Y	76030800	2233 Halifax Rd.	Open Space Under Transmission Lines	19.51
Y	76030800	2233 Halifax Rd.	Open Space Between Railroad Tracks and Halifax Rd.	2.75
N	N/A	N/A	Under Transmission Lines SE of Brenwood Rd.	3.07
N	N/A	N/A	Open Space West of Halifax Rd. @ I-85	16.55
N	N/A	N/A	Open Space N/ of Petersburg Country Club, Adjacent to Flank Rd.	2.31
N	N/A	N/A	Open Space E. of Railroad @ Intersection of Flank Rd. and Halifax Rd.	6.04
N	N/A	N/A	NW of Intersection of Flank Rd. and Johnson Rd.	25.58
N	N/A	N/A	Under Transmission Lines Between Squirrel Level Rd. and Vaughn Rd.	8.55
N	N/A	N/A	Under Transmission Lines E. of Rohoic Creek, N. of Boydton Plank Rd.	1.94
N	N/A	N/A	Transmission Station at Western Limit of City Adjacent to Appomattox River	19.64
N	N/A	N/A	Open Space Between Budd Rd. and Tynes Rd.	9.39
N	N/A	N/A	Under Transmission Lines @ Intersection of Boydton Plank Rd. and Tynes Rd.	8.95
N	N/A	N/A	Open Space W. of Flank Rd. and Johnson Rd.	22.37
N	N/A	N/A	Open Space Between N. Dunlop St. and N. West St. along Upper Appomattox St.	1.84
N	N/A	N/A	Open Space, The Crater @ 460 and Siege Rd.	138.52
N	N/A	N/A	Unnamed Dogwood Trace Golf Course Parcel	15.27
N	N/A	N/A	Under Tranmission Lines N. of Dogwood Trace Golf Course W. of Johnson Rd.	1.52
N	N/A	N/A	Open Spaces Within City of Petersburg ROW	1848.67
N	N/A	N/A	Open Space Along Fort Bross Dr. E. of Railroad Tracks	5.93
N	N/A	N/A	Under Transmission Lines Along N. Normandy Dr., N. of Wagner Rd.	10.49

Confirmed City Parcel	Parcel #	Address	Description	Acreage
N	N/A	N/A	Under Transmission Lines Along Quality Dr. Adjacent to Transmission Station	1.16

Following development of Table 4.1, the draft list was then thoroughly reviewed using desktop analysis and review of aerial imagery and sites that were determined to be not mowed or maintained regularly were eliminated as presented in Table 4.2.

Table 4.2 –City Properties with More than One Acre of Contiguous Pervious Surface that May be Maintained as Managed Turf

Permit Year	Parcel #	Address	Description	Acreage
2015	21180006	111 Rochelle Ln.	Cemetery	1.08
2015	21170009	334 Crater Rd. S.	People Memorial Cemetery	8.25
2015	79110013	3101 Homestead Rd.	Vernon Johns Junior High School	6.91
2015	91050001	3101 Johnson Rd.	Petersburg High School	29.84
2015	55220001	300 South Blvd. W.	Walnut Hill Elementary School	6.63
2015	52090002	1450 Talley Ave.	AP Hill Elementary School	7.20
2015	46080026	1100 Patterson St.	Westview Early Childhood Education Center	5.29
2015	47140008	100 Pleasants Ln.	JEB Stuart Elementary School	5.43
2015	44080006	1000 Diamond St.	Virginia Avenue School	2.91
2015	30130005	605 Halifax St.	Peabody Middle School	2.48
2015	30130002	725 Wesley St.	Peabody Middle School	5.05
2015	12090001	816 Bank St. E.	Blandford Academy	2.54
2015	4190005	51 Gibbons Ave.	Lee Elementary School	10.49
2015	85030002	Bradford Lane	Berkley Manor Park	10.93
2015	68120001	1214 Johnson Ave.	Baseball Field East of Wilcox Lake	4.07
2015	65100042	435 Blackwater Dr.	Baseball Field	5.23
2015	9040008	951 McKenzie St.	McKenzie Street Park	4.02
2015	32080001	909 Sycamore St. S.	Cameron Field	9.34
2015	22290001	243 Sycamore St. S.	Central Park	10.62
2015	52130004	1616 Defense Rd.	Lee Memorial Park	26.91
2015	29170013	522 West St. S.	West End Park	8.27
2016	97010004	1555 Flank Rd.	Open Space	18.65
2016	78040003	3000 Homestead Rd.	Dogwood Trace Golf Course	40.42
2016	76030800	2233 Halifax Rd.	Open Space	34.82
2016	61010001	1151 Fort Bross Dr.	Petersburg Fire & Emergency Services	1.84
2017	45240013	1237 Halifax St.	AP Hill Community Center	2.18
2017	43030001	1511 Monticello St.	Open Space Near Water Tower	3.96
2017	29170023	1216 Farmer St.	Farmer Street Pool	4.62

Permit Year	Parcel #	Address	Description	Acreage
2017	10110026	339 Low St.	Open Space <1 ac.	1.05
2017	7020001	301 Rolfe St.	Open Space <1 ac.	1.01
2017	29170024	1320 Farmer St.	Open Space	5.38
2017	98010001	100 Ballpark Rd.	Petersburg Sports Complex	53.39
2017	79030027	3100 Homestead Dr.	Dogwood Trace Golf Course	50.36
2017	N/A	N/A	Open Space, The Crater @ 460 and Siege Rd.	138.52
2018	N/A	N/A	Unnamed Dogwood Trace Golf Course Parcel	15.27
2018	N/A	N/A	Open Space Along Fort Bross Dr. E. of Railroad Tracks	5.93
2018	N/A	N/A	Open Space West of Halifax Rd. @ I-85	16.55
2018	N/A	N/A	Open Space N/ of Petersburg Country Club, Adjacent to Flank Rd.	2.31
2018	N/A	N/A	NW of Intersection of Flank Rd. and Johnson Rd.	25.58
2018	N/A	N/A	Open Space Between Budd Rd. and Tynes Rd.	9.39
2018	N/A	N/A	Open Space W. of Flank Rd. and Johnson Rd.	22.37

Table 4.2 was then presented to the City for review. Fertilizer application on City property is managed by the Streets Operations Division of Public Works with the exception of Dogwood Trace Golf Course, which already has a nutrient management plan in place. No fertilizer was applied to the remainder of City properties in 2014. If application is necessary, it is only used on targeted areas with problems.

Section 5 Proposed NMP Implementation Schedule

Per the MS4 Permit requirements, the City must implement the nutrient management plans within 60 months of permit coverage. As stated in the MS4 Permit, the nutrient management plans need to be developed and implemented based on the following measurable outcomes:

a. Within 24 months of permit coverage, not less than 15% of all identified acres will be covered by turf and landscape nutrient management plans;
b. Within 36 months of permit coverage, not less than 40% of all identified acres will be covered by turf and landscape nutrient management plans;
c. Within 48 months of permit coverage, not less than 75% of all identified acres will be covered by turf and landscape nutrient management plans.

The City is only responsible for a nutrient management plan for Dogwood Trace Golf Course which already exists, thus the City has met its nutrient management plan requirement.

Phase II MS4 General Permit
Program Plan Update

Good Housekeeping Standard Operating Procedures (SOPs)

I AM PETERSBURG VIRGINIA

OCTOBER 2015

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

Table of Contents

Section 1 Standard Operating Procedures - Municipal Facilities

Municipal facility operations have the potential to produce pollutant discharge from their day to day operations. It is imperative to implement good housekeeping procedures on all municipal facilities.

Included in this section are general good housekeeping practices and general spill/leak cleanup procedures that are to be implemented on all municipal facilities by each facility supervisor. Facility inspections are to be completed and records maintained as specified in the following procedures for inclusion in the facility's Stormwater Pollution Prevention Plan (SWPPP) binder.

The Department of Public Works (DPW) Stormwater Program Coordinator will work in close coordination with each facility supervisor to ensure good housekeeping procedures are being applied and to ensure the City of Petersburg remains compliant with the MS4 Permit requirements.

Purpose: To protect stormwater from pollutants by implementing general good housekeeping practices.

Practices:

- Do not dispose of leaves, grass clippings, tree trimmings, trash, oil, fuel, sediment, cleaning fluids or any other pollutant into a storm drain or water body.
- Keep open, exposed areas clean and protected from precipitation.
- Keep equipment, stockpiles, chemicals, paints, etc. covered.
- Post signs and labels in problem areas and areas with hazardous materials.
- Consider additional control measures in conjunction with coverings; including curbing, grading, or elevating materials to divert stormwater run-on and to contain stormwater run-off.
- Identify and label any storm drain inlets at or near the facility to notify employees and contractors not to dispose of any materials or wastes.
- Do not wash down or hose down any outdoor work areas or trash/waste container storage areas except where wash water will only enter the sanitary sewer following treatment.
- Recycle wastes, used oil, solvents, grease rags, wash water, and other spent liquids. Store materials awaiting recycling under cover with secondary containment.
- Install secondary containment devices where appropriate. Secondary controls include curbing, drip pans, basins, sumps, oil/water separators, catch basin inserts, oil pads/skimmers, and impervious work areas.
- Use oil/water separators, or other commercially-available devices to eliminate or minimize oil and grease pollution of stormwater runoff.
- Stabilize exposed soil areas to prevent soil from eroding during rain events. This can be done by applying mulch or permanent vegetation that will hold the soils in place. Stone or gravel can also be used to stabilize soils that have been disturbed by vehicle traffic and have the potential for repeated traffic.
- Install erosion and sediment controls such as silt fence, inlet protection, and dewatering filter bags during construction and utility maintenance activities.

Inspections/Maintenance/ Spill Response /Reporting:

- See the beginning of this plan for a schedule of routine inspections. Appendices F and G list tasks to be done during each of the inspections. Inspections focus on areas that have a greater potential to contaminate stormwater.
- Monitor floor drains and storm inlets and/or catch basins, and inspect, remove/replace as appropriate.
- Inspect oil/water separators and floor drain systems periodically to determine maintenance needs.
- Regularly inspect equipment and storage areas for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2 and fill out a “Facility Spill, Release, or Discharge Report” form located within the facility’s SWPPP binder.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called “Municipal Stormwater Pollution Prevention: Employee Training” (from EXCAL Visual).

Standard Operating Procedure for: **SPILL/LEAK CLEANUP**	**SOP 3.2**

Purpose: To protect stormwater from spilled pollutants by implementing proper spill cleanup procedures and preventative measures.

Practices:

- Do not use water to clean up spills/leaks.
- Do not wash spills/leaks into storm drain or water body.
- Do not leave spill/leak without cleaning it up.
- Stop the source of the spill/leak immediately, if safe to do so.
- Contain any spilled/leaked liquids, if safe to do so.
- Cover the spill with absorbent material such as kitty litter, sawdust, or absorbent pads.
- Sweep up granules and dispose of properly.
- Install control measures on nearby storm drains and water bodies if spill could potentially reach the stormwater systems.
- Position mats to contain leaks from vehicles and equipment until they can be repaired.
- Use secondary containment under or around petroleum and chemical storage containers.

Inspections/Maintenance/ Spill Response /Reporting:

- Develop and maintain a site specific spill prevention/spill response plan.
- Maintain a spill kit in areas where petroleum or hazardous materials are stored.
- Complete a "Facility Spill, Release, or Discharge Report" form located within the facility's SWPPP binder for all spills.
- Contact the City of Petersburg Fire Marshal at (804) 733-2328 to report the following spills:
    - Oil spills of one pound or greater;
    - Oil spills that cause film or sheen upon or discoloration of the surface water;
    - All Hazardous Substance Spills as defined by Table 117.3 – *Reportable Quantities of Hazardous Substances Designated Pursuant to Section 311 of the Clean Water Act* (40 CFR 117.3)
- In the event that the Fire Marshal (or assigned) is unavailable, **dial 911**.

Training:

- Train applicable employees in site specific spill response procedures and equipment.
- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called "Municipal Stormwater Pollution Prevention: Employee Training" (from EXCAL Visual).

Section 2 Standard Operating Procedures - Parking Lot Maintenance

Parking lot maintenance activities such as parked cars, dumpsters, trash cans, stockpiles, *etc*. have the potential to produce pollutant discharge if good housekeeping procedures are not put into place in and around municipal parking lots.

Included in this section are good housekeeping practices for municipal parking lot maintenance operations. The procedures are to be implemented on all City owned/operated parking lots and all construction activities completed on City facilities.

The Parks & Leisure Services Director (or assigned supervisor) is responsible for ensuring all applicable Parks & Leisure Services employees comply with the following procedures. Inspections are to be completed and records maintained for inclusion in the facility's SWPPP binder.

The DPW Stormwater Program Coordinator will work in close coordination with the Parks & Leisure Services Director (or assigned supervisor) to ensure good housekeeping procedures are being applied to all municipal parking lots and during construction/maintenance operations to ensure that the City of Petersburg remains compliant with the MS4 Permit requirements.

Standard Operating Procedure for: **PARKING LOT MAINTENANCE - GENERAL**	**SOP 4.1**

Purpose: To protect stormwater from trash and debris by properly cleaning and maintaining parking lots through general practices.

Practice:

- Do not hose down parking lots or sidewalks within parking lots.
- Do not sweep trash, sediment, or any other pollutants to or down a storm drain or water body.
- Do not place trash cans or dumpsters near a storm drain or water body.
- Do not place hazardous waste in a dumpster or trash can.
- Do not wash out dumpsters. Return to owner for cleaning at owner's facility. If municipally owned containers must be washed, do so in an approved location where wastewater is either recycled or treated before discharging to the sanitary sewer with approval.
- Locate trash cans or dumpsters on a flat concrete surface that does not drain towards a storm drain or water body.
- Ensure all trash cans and dumpsters within parking lots remain covered and have no leaks.
- Request/use dumpsters with properly plugged drain holes whenever possible.
- Pick up trash and debris and dispose of in covered trash can or dumpster.
- Empty trash cans and dumpsters often. Do not overfill trash cans or dumpsters.
- Provide properly-labeled recycling bins to reduce the amount of garbage disposed.

Inspections/Maintenance/ Spill Response /Reporting:

- Regularly inspect parking lots for trash and debris.
- Regularly inspect trash cans and dumpsters for leaks, corrosion, broken/missing lids or leaking drain valves.
- Immediately repair or replace any damaged trash cans or dumpsters.
- Regularly inspect parking lots for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2 and fill out a "Facility Spill, Release, or Discharge Report" form located within the facility SWPPP binder.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called "Municipal Stormwater Pollution Prevention: Employee Training" (from EXCAL Visual).

Standard Operating Procedure for: **PARKING LOT MAINTENANCE - SALT/DEICING APPLICATION**	**SOP 4.2**

Purpose: To protect stormwater from salt/deicers and sand by properly storing and applying the materials.

Practice:

- Do not store salt, sand, deicer, or snow near storm drain or water body.
- Do not dispose of salt, sand, deicer, or snow in a storm drain or water body.
- Apply minimal amount of salt, sand, or deicer as needed to be effective.
- When loading salt, sand, or deicer, take care to minimize salt spillage by not exceeding the capacity of equipment (i.e. front end loader, truck bed).
- Operate equipment at low speed for effective spreading.
- Control spread patterns to concentrate material where most effective.
- Consider use of deicing alternatives such as calcium magnesium acetate, potassium acetate, sand, etc. in sensitive areas.
- If using sand, use coarse, clean "washed" sand, which is free of fine particles and dust and easier to clean in the spring.
- Locate salt, sand, or deicer stockpiles on flat, covered, impervious sites that are protected from runoff and divert run-on around stockpile. Store salt, sand, or deicer in accordance with SOP 5.1.
- Provide diversion where runoff leaves salt storage area to direct runoff to holding tank or stormwater treatment device.
- Where possible, remove snow manually without use of salt/deicer.

Inspections/Maintenance/ Spill Response /Reporting:

- Regularly inspect salt/deicer storage area to ensure the area remains dry and the materials remain within the designated storage area.
- During the winter months, regularly inspect spreader equipment and calibrate to manufacturer's specifications to maximize the effectiveness of the equipment.
- Maintain accurate logs of amount of salt/deicing material applied to each parking lot.
- Keep up-to-date records of inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called "Municipal Stormwater Pollution Prevention: Employee Training" (from EXCAL Visual).

Standard Operating Procedure for: **PARKING LOT MAINTENANCE - STORM DRAINS**	**SOP 4.3**

Purpose: To protect stormwater from trash, debris, sediments, oil and grease, solvents, detergents, fertilizers, and other pollutants by routinely inspecting, cleaning, and maintaining storm drain systems.

Practice:

- Do not allow defective storm pipes or structures to go unrepaired.
- Do not discharge contaminated stormwater, storm drain flush water, or surface debris into storm drain or water body.
- Regularly clean storm drain systems, preferably in late winter and early spring. Give priority to areas with relatively flat grades as they rarely achieve high enough flows to flush out stormwater.
- If flushing out pipes, use vactor truck to vacuum up flush water and debris downstream from flush inlet.
- Discharge flush water and debris properly. Debris should be collected and taken to a permitted disposal site and flush water should be discharged to the sanitary sewer with approval.
- Regularly clean storm drain structures by removing trash, sediment, leaves, grass clippings, etc. from the inlet throats, grate tops, and structure sumps. Properly dispose of debris. Do not allow debris to accumulate.
- Use appropriate erosion and sediment control practices when performing repairs. Refer to SOP 4.4 for erosion and sediment control practices.

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect catch basins for structural integrity, cracks, and leaks or other condition that would lead to breakdowns in the system and repair any structures found to be leaking or damaged as soon as possible.
- Create a checklist for catch basins to help classify which catch basins require maintenance and generally how often. Prioritize catch basins that need repair.
- Report any suspected illicit connections or dumping to supervisor.
- Keep up-to-date records of inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.
- Refer to the City of Petersburg's Illicit Discharge Detection and Elimination procedures for more details.

Training:

- Train applicable employees on proper storm drain system maintenance and cleaning practices.
- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called "Municipal Stormwater Pollution Prevention: Employee Training" (from EXCAL Visual).

Standard Operating Procedure for: **PARKING LOT MAINTENANCE - EROSION & SEDIMENT CONTROL**	**SOP 4.4**

Purpose: To protect stormwater from pollutants during construction or maintenance operations by implementing proper erosion and sediment control practices.

Practice:

- Do not stockpile materials near storm drains or water bodies.
- Do not remove erosion control measures before construction or maintenance operations are complete.
- Do not dispose of sediment or other captured pollutants in a storm drain or a water body.
- Prior to moving control measures, inspect site and ensure all accumulated debris or other pollutants are cleaned up and removed.
- Minimize the land disturbance and stabilize the disturbed area once construction or maintenance is complete.
- Divert clean water around construction or maintenance site.
- Install erosion control devices per the *Virginia Erosion and Sediment Control Handbook* (VESCH).
    - Install inlet protection on all storm drain inlets near the construction or maintenance operations, per Chapter 3.07 of the VESCH; or use a filter sock, or equivalent.
    - Enclose material stockpiles (salt, topsoil, gravel) with a double row of silt fence to prevent pollutant runoff. Stockpiles should be temporary and removed once construction or maintenance is complete.
    - If needed, install sediment traps and basins per Chapters 3.13 and 3.14 of the VESCH to protect downstream channels and water bodies from sediment runoff.
    - Cover bare soil with mulch or other cover to prevent sediment runoff.
    - Use an appropriately sized sediment filter bag when dewatering construction or maintenance area. Dispose of captured sediment properly prior to removing storm drain protection.
- Regularly inspect and maintain erosion and sediment control devices.

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect control measures and adjust, maintain, and repair them periodically and after every storm.
- Keep up-to-date records of inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called “Municipal Stormwater Pollution Prevention: Employee Training” (from EXCAL Visual).

Section 3 Standard Operating Procedures – Vehicle / Equipment Maintenance

Vehicle and equipment maintenance operations include fueling, washing, repairing, maintaining, and storing large and small vehicles (fire trucks, emergency vehicles, utility vehicles) and large and small equipment (lawn mowers, weed-eaters, chemical spreaders). Both operations have the potential to produce pollutant discharge if good housekeeping procedures are not implemented.

Included in this section are good housekeeping practices for vehicle and equipment maintenance operations. The procedures are to be implemented on all City owned/operated facilities where vehicles and equipment are stored and maintained.

The Parks & Leisure Services Director (or assigned supervisor) and the Fire Chief (or assigned supervisor) are responsible for ensuring all applicable Parks & Leisure Services and Fire, Rescue, & Emergency Services employees comply with the following procedures. Inspections are to be completed and records maintained as specified in the following procedures for inclusion in the facility's SWPPP binder.

The DPW Stormwater Program Coordinator will work in close coordination with the Parks & Leisure Services Director (or assigned supervisor) and the Fire Chief (or assigned supervisor) to ensure good housekeeping procedures are being implemented where vehicles and equipment are being stored and maintained to ensure that the City of Petersburg remains compliant with the MS4 Permit requirements.

Standard Operating Procedure for: **VEHICLE / EQUIPMENT - STORAGE & MAINTENANCE**	**SOP 5.1**

Purpose: To protect stormwater from solvents, antifreeze, battery acid, motor oil, fuel, grease, brake fluid, metals, and sediment by properly storing and maintaining the vehicles and equipment.

Practice:

- Do not park vehicles or place equipment over, on, or near a storm drain or water body.
- Do not store vehicles or equipment near storm drains or water bodies.
- Do not dispose of fluids in storm drains or water bodies.
- Whenever possible, store vehicles and equipment inside to minimize the potential for pollutant discharge in stormwater runoff. Where indoor storage is not possible, store on paved areas and under a covered facility if possible.
- If vehicles must be stored outside, uncovered, and not on top of paved areas, regularly inspect around and underneath them to make sure there are no discharges.
- If storing vehicles and equipment inside, ensure floor drains have been properly connected and do not outfall into storm drain system. If the drain does outfall to a storm drain system, floor drain should be sealed.
- Store drums, tanks, and containers in low-traffic areas and on pallets.
- Store cracked batteries in leak-proof secondary containers.
- Store drip pans and draining boards in designated and marked holding tubs for reuse.
- Store limited amounts of solvents, antifreeze, motor oil, fuel, grease, etc. to prevent surplus or expiration of fluids. Store in a dry controlled area.
- Store salt, sand, or deicer in limited amounts under cover. If stockpiled outdoors, cover with tarp to minimize stormwater runoff and install fabric barrier around to capture polluted runoff.
- Perform vehicle/equipment maintenance in a single day indoors or under cover to minimize exposure time to stormwater runoff.
- Use drip pans and other containment devices to prevent spills when performing maintenance.
- Move leaking vehicles and equipment indoors or under cover as soon as possible and use a drip pan to contain the leak. If possible, drain the leaking fluid and tag the vehicle/equipment to alert others of the leak.
- Clean equipment prior to placing in storage. Equipment shall be washed in a controlled location in accordance with SOP 5.2.
- Use non-hazardous cleaners when possible.
- Use steam cleaning, pressure washing, or aqueous washers instead of solvents.
- Drain oil filters before disposal or recycling and dispose of properly.
- Pour drip pan fluids in appropriate waste/recycle containers as the first step in clean up after repair work is completed.
- Dispose of or recycle all fluids properly.

Inspections/Maintenance/ Spill Response /Reporting:

- Regularly inspect parking areas for stains, leaks, and spills.
- Daily inspect for leaks and the condition of equipment, drums, tanks, and containers and make sure all materials are properly stored and labeled.
- Maintain vehicles and equipment on a regular basis to prevent leaks.
- Regularly sweep maintenance area to remove dirt/debris.
- Regularly pickup and dispose of waste materials and scrap equipment.

- If leaks or spills occur, clean up in accordance with SOP 3.2 and fill out a "Facility Spill, Release, or Discharge Report" form located within the facility's SWPPP binder.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called "Municipal Stormwater Pollution Prevention: Employee Training" (from EXCAL Visual).

Standard Operating Procedure for: **VEHICLE / EQUIPMENT - WASHING AREAS**	**SOP 5.2**

Purpose: To protect stormwater from detergents, oils, grease, and heavy metals by properly washing vehicles and equipment.

Practice:

- Do not release vehicle/equipment wash water into a storm drain or water body without prior authorization under a separate VPDES permit.
- Wash all vehicles and equipment in a controlled area (indoors when possible) designed to recycle, collect, or treat wash water prior to approved discharge to the sanitary sewer system.
- Use a commercial car wash for light duty vehicles.
- If washing vehicles/equipment outdoors, install curbs, berms, or dikes around outdoor wash area to control and contain wastewater. If recycling is not feasible, use wet/dry vacuum or vacuum truck to collect wash water and discharge to the sanitary sewer.
- Use drain guards (filter inserts) on nearby storm drain inlets to catch sediments and other pollutants that might enter the storm drains as a result of vehicle washing.
- Avoid detergents whenever possible. If detergents are necessary, a phosphate-free, non-toxic, biodegradable soap is recommended.
- Minimize water use when washing and rinsing.

Inspections/Maintenance/ Spill Response /Reporting:

- Regularly inspect and maintain washing equipment such as hoses, wands, and nozzles. Make sure they deliver proper rate of water and shutoff automatically when not in use.
- Where wash racks are used, inspect for leaks, overspray, or other signs of ineffective containment. Immediately correct any observed defects. Clean periodically to remove particulate matter and other pollutants.
- Periodically inspect plumbing, recycling, and pretreatment systems to ensure they are functioning properly.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called “Municipal Stormwater Pollution Prevention: Employee Training” (from EXCAL Visual).

Purpose: To protect stormwater from gasoline and diesel fuel by properly maintaining fueling areas and by properly fueling vehicles and equipment.

Practice:

- Do not fuel vehicle or equipment near storm drain or water body.
- Do not hose down or bury fuel spill.
- Do not "top off" fuel tanks. This will minimize the possibility of spills.
- Use a permitted off-site facility such as a fuel/gas station to refuel vehicles and equipment, whenever possible.
- If refueling onsite, use a designated fueling area. Designated fueling area should contain a spill kit, spill response practices, and a covered garbage can for proper cleanup and disposal of spilled fuel.
- Cover fuel storage tanks whenever possible to prevent polluting stormwater runoff.
- Cover nearby storm drains during loading/transfer of fuel storage tanks.
- Use overflow protection devices on tanks and enclose fuel tanks with secondary containment.
- When fueling small equipment from portable containers, fuel in a designated area away from storm drains and water bodies. Use a funnel to minimize spills.
- Fuel carefully to minimize drips to the ground.
- Use absorbent material under small equipment during fueling to collect any drips, overflow, or leaks.
- For new or remodeled facilities, the fuel-dispensing area should be covered and paved with an impervious surface. The surface should be sloped to prevent ponding and contain a grade break that allows for polluted runoff to drain inward to a contained area and the remaining runoff to be diverted away from the fueling, storage, and disposal area.

Inspections/Maintenance/ Spill Response /Reporting:

- Regularly inspect fueling equipment for corrosion and structural failure, cracks in foundations, and physical damage to container systems.
- Maintain clean fuel dispensing areas using dry cleanup methods.
- Maintain fuel storage tanks in accordance with local, state, and federal laws.
- Regular maintenance is required if oil/water separators are used.
- Regularly inspect fuel storage tanks for leaks. Regularly inspect for overfills due to operator error. Regularly inspect for spills during pumping from truck to storage facility or vice versa. If leaks or spills occur, clean up in accordance with SOP 3.2 and fill out a "Facility Spill, Release, or Discharge Report" form located within the facility's SWPPP binder.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- Train applicable employees and subcontractors on proper fueling methods and spill cleanup materials.
- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called "Municipal Stormwater Pollution Prevention: Employee Training" (from EXCAL Visual).

Purpose: To protect stormwater from gasoline and diesel fuel during bulk deliveries.

Practice:

- Delivery driver shall check in with the facility upon arrival.
- Facility representative shall ensure that the appropriate spill cleanup and response equipment and personal protective equipment are readily available and easily accessible.
- If any storm drains are immediately downstream of the fuel delivery area, they must be blocked with temporary berms or temporary absorbent booms during the transfer process.
- Facility representative or delivery driver shall check to ensure that the intended amount of delivery does not exceed the available capacity of the tank.
- Delivery driver and facility representative shall inspect all visible lines, connections, and valves for leaks prior to fuel transfer.
- Delivery driver and facility representative shall both remain with the vehicle during the delivery process.
- The operation of moving equipment in the immediate area of a fuel delivery operation shall be suspended during delivery.
- Delivery driver shall verify that there is a proper connection between the fuel fill hose and the fill pipe of the tank being filled and shall also verify that the fill valve is open.
- When delivery is complete and the hoses are removed, buckets or absorbent pads should be placed underneath connection points to catch drippings.
- Delivery vehicle shall be inspected prior to departure to ensure that the hose is disconnected from the tank.
- Facility representative shall inspect the fuel tank to verify that no leaks have occurred, or that any leaked or spilled material has been cleaned and disposed of properly.
- Facility representative shall gauge the tank level to ensure that the proper amount of fuel is delivered and then collect a receipt from the delivery driver.

Inspections/Maintenance/ Spill Response /Reporting:

- Regularly inspect fueling equipment for corrosion and structural failure, cracks in foundations, and physical damage to container systems.
- Maintain clean fuel dispensing areas using dry cleanup methods.
- Maintain fuel storage tanks in accordance with local, state, and federal laws.
- Regular maintenance is required if oil/water separators are used.
- Regularly inspect fuel storage tanks for leaks. Regularly inspect for overfills due to operator error. Regularly inspect for spills during pumping from truck to storage facility or vice versa. If leaks or spills occur, clean up in accordance with SOP 3.2 and fill out a “Facility Spill, Release, or Discharge Report” form located within the facility’s SWPPP binder.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- Train applicable employees and subcontractors on proper fueling methods and spill cleanup materials.
- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called. “Municipal Stormwater Pollution Prevention: Employee Training” (from EXCAL Visual).

Section 4 Standard Operating Procedures - Grounds Maintenance

Grounds maintenance activities such as mowing, tree trimming, irrigating, fertilizing, spraying pesticides, etc. have the potential to produce pollutant discharge if good housekeeping procedures are not put into place during grounds maintenance operations.

Included in this section are good housekeeping practices for grounds maintenance operations. The procedures are to be implemented on all City owned/operated facilities where vegetated areas are maintained and fertilizers, pesticides, and herbicides are applied, handled, and stored.

The Parks & Leisure Services Director (or assigned supervisor) is responsible for ensuring all applicable Parks & Leisure Services employees comply with the following procedures. Inspections are to be completed and records maintained as specified in the following procedures for inclusion in the facility's SWPPP binder.

The DPW Stormwater Program Coordinator will work in close coordination with the Parks & Leisure Services Director (or assigned supervisor) to ensure good housekeeping procedures are being implemented during grounds maintenance operations to ensure that the City of Petersburg remains compliant with the MS4 Permit requirements.

Standard Operating Procedure for: **PESTICIDES, HERBICIDES, & FERTILIZERS - STORAGE & DISPOSAL**	**SOP 6.1**

Purpose: To protect stormwater from chemicals by properly storing, using and disposing of pesticides, herbicides, and fertilizers.

Practice:

- Do not store pesticides, herbicides, and fertilizers near storm drains or water bodies.
- Do not dispose of pesticides, herbicides, and fertilizers near or in storm drains or water bodies.
- Store pesticides, herbicides, and fertilizers in a covered container, off the floor, and in a dry location according to the manufacturer's specifications.
- Where possible, store pesticides, herbicides, and fertilizers in an enclosed, controlled area.
- Use proper containers for storing chemicals and clearly label.
- Use and clearly label secondary containers.
- Store Material Safety Data Sheets (MSDS) near chemical storage areas.
- Order only the amount needed to prevent surplus or expired chemicals.
- Order chemicals just prior to usage to reduce storage time.
- Use entire order of chemicals to minimize disposal.
- Dispose of fertilizers and pesticides according to manufactures specifications and applicable regulations.
- Follow all applicable federal and state regulations for storing pesticides, herbicides, and fertilizers.

Inspections/Maintenance/ Spill Response /Reporting:

- Annually check expiration dates and dispose of expired products in accordance with the manufacturer's specifications.
- Keep an up-to-date inventory of all pesticides, herbicides and fertilizers stored. The list should include the name of the product, the manufacturer, the number of bags/containers and expiration date.
- Compile a binder of all Material Safety Data Sheets (MSDS) for pesticides, herbicides and fertilizers and have a general location to store it.
- Keep an up-to-date list of all Certified Pesticide Applicators.
- Keep an up-to-date list of pesticides, herbicides and fertilizers being applied. The list should include the name of the product, employee who applied the product, date of application, amount applied and location.
- Documents regarding pesticides, herbicides, and fertilizers shall be kept in an area to be designated by the facility. Facility to write in area here: _____.
- Regularly inspect storage areas for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2 and fill out a "Facility Spill, Release, or Discharge Report" form located within the facility's SWPPP.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- All employees who handle or apply pesticides and herbicides shall be certified in accordance with the Virginia Pesticide Control Act through Virginia Department of Agriculture and Consumer Services (VDACS).
- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called "Municipal Stormwater Pollution Prevention: Employee Training" (from EXCAL Visual).

Standard Operating Procedure for: **PESTICIDES, HERBICIDES, & FERTILIZERS - STORAGE & DISPOSAL**	**SOP 6.1**

Purpose: To protect stormwater from untreated chemicals by properly handling and applying pesticides, herbicides, and fertilizers.

Practice:

- Do not apply pesticides, herbicides, and fertilizers before a heavy rainfall.
- Do not dispose of pesticides, herbicides, and fertilizers in storm drains or water bodies.
- Only a Certified Pesticide Applicator may apply pesticides, herbicides, and fertilizers.
- Use proper Personal Protection Equipment (PPE) when handling and applying chemicals.
- All employees handling, mixing, and applying pesticides, herbicides, and fertilizers should be trained on the use of MSDS.
- Mix only enough chemical for immediate use.
- Follow manufacturer's recommendations for handling, mixing, and applying chemicals.
- Follow all federal and state regulations when handling, mixing, and applying pesticides, herbicides, and fertilizers.
- Mix pesticides, herbicides, and fertilizers in designated areas and away from storm drains or water bodies.
- Employees applying pesticides, herbicides, and fertilizers should read the MSDS for each product they use.
- Calibrate application equipment to ensure proper amount of product is applied.
- Use caution when broadcasting product near a waterway or storm drain structure.
- If fertilizer is broadcast or spilled on a sidewalk, street or driveway, sweep up the excess and dispose of properly.
- Promptly cleanup any spills or leakage. Use dry absorbent for liquids and sweep up solid product. Properly dispose of waste. Do not rinse with water.
- Use fertilizers with no phosphorous content.
- Pesticide application equipment should have an emergency shut-off switch.
- Use the least toxic product or method available to do the job.
- Use biodegradable products when available.
- Spot treat problem areas with pesticides rather than treating larger areas.
- Avoid broadcast spraying of pesticides or herbicides.
- Use the granular form of fertilizers, herbicides, and pesticides to minimize application losses. If using liquids, be aware of wind direction to avoid wind drift of chemicals.
- Wash equipment in accordance with SOP 5.2.
- Apply products when ground is not frozen; fertilizer during the fall or spring as needed, pesticides and herbicides only as needed.

Inspections/Maintenance/ Spill Response /Reporting:

- Annually check expiration dates and dispose of expired products in accordance with the manufacturer's specifications.
- Keep an up-to-date inventory of all pesticides, herbicides, and fertilizers stored. The list should include the name of the product, the manufacturer, the number of bags/containers and expiration date.
- Compile a binder of all MSDS for pesticides, herbicides, and fertilizers and have a general location to store it.
- Keep an up-to-date list of all Certified Pesticide Applicators.
- Keep an up-to-date list of pesticides, herbicides, and fertilizers being applied. The list should include the name of the product, employee who applied the product, date of application, amount applied and location.

- Documents regarding pesticides, herbicides, and fertilizers shall be kept in an area to be designated by the facility. Facility to write in area here: _____.
- Regularly inspect storage areas for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2 and fill out a "Facility Spill, Release, or Discharge Report" form located within the facility's SWPPP binder.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- All applicable employees who handle or apply pesticides and herbicides shall be certified in accordance with the Virginia Pesticide Control Act through Virginia Department of Agriculture and Consumer Services (VDACS).
- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called "Municipal Stormwater Pollution Prevention: Employee Training" (from EXCAL Visual).

Standard Operating Procedure for: **GROUNDS MAINTENANCE - MOWING, IRRIGATION, & DISPOSAL OF LANDSCAPE WASTE**	**SOP 6.3**

Purpose: To protect stormwater from organic matter, sediments, nutrients, and other pollutants by using proper mowing and irrigation techniques and by properly disposing of landscape waste.

Practice:

- Do not dispose of leaves, clippings, or compost in storm drain or water body.
- Do not pile leaves, clippings, and compost piles near a storm drain or water body.
- Do not dump gas from lawn mowing equipment, waste, or contaminated water in storm drain or water body.
- Do not refuel or change mower oil near storm drains.
- Mow only as low as needed for the area's intended use. Where possible, mow once or twice a year to allow for meadow growth.
- Use a bag to catch grass clippings and appropriately dispose of clippings.
- Water at appropriate times (no rain in forecast and cooler time of day) and do not overwater. Overwatering can result in excess runoff.
- If used for composting, use appropriate compost bin away from storm sewer or water body.
- If temporary stockpile is necessary, cover leaves, clippings, and compost piles with tarp or enclose with a barrier so that runoff does not enter storm drain system or water body.
- Do not pile tree trimmings. Dispose of properly at a yard waste facility, chip material and use as mulch, or burn in controlled area as regulated under City Ordinances.

Inspections/Maintenance/ Spill Response /Reporting:

- Store and maintain lawn care equipment in controlled location per SOP 5.1.
- Wash lawn care equipment in controlled location per SOP 5.2.
- Fill gas tanks in a controlled location per SOP 5.3.
- Regularly inspect lawn care equipment and storage areas for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2 and fill out a "Facility Spill, Release, or Discharge Report" form located within the facility's SWPPP binder.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called "Municipal Stormwater Pollution Prevention: Employee Training" (from EXCAL Visual).

Purpose:

To protect stormwater from bacteria, organic matter, disinfectants, and suspended solids by properly placing and maintaining portable toilets.

Practices:

- Do not place toilets on top of storm drain inlets.
- Do not dispose of waste or pollutants in storm drains or water bodies.
- Portable toilets should be placed away from all storm drains and streets.
- Portable toilets should not be located adjacent to any stream or lake.
- Portable toilets shall be placed on a level ground surface that provides unobstructed access to users and servicing pump trucks.
- Portable toilets should, wherever possible, be located upon natural ground and not on or within 5 feet of a paved surface such as asphalt, concrete, or similar.
- If portable toilets must be placed on a paved surface exposed to rainwater or stormwater runoff, extra care must be taken during servicing to ensure any waste water spilled onto the paved surface is rinsed and adequately collected so as not to leave any residue. A wet shop vacuum or similar would provide for adequate collection.
- To prevent spills, portable toilets should not be moved more often than is absolutely necessary.
- Portable toilets should be anchored down to prevent from tipping over.
- Owner identification and contact information must be effectively displayed in a prominent location on the exterior of each unit for reporting purposes.
- Collected portable toilet waste must be disposed of at a permitted wastewater disposal facility by a capable servicing company. Users of portable toilets should make all reasonable efforts to ensure that the waste hauler is disposing of waste at a permitted location.
- Damaged toilets must be repaired/replaced immediately.

Inspections/Maintenance/ Spill Response /Reporting:

- Clean and remove waste from portable toilets at least once a week. Additional cleaning may be necessary depending on the volume of use.
- Rinsing of portable toilets (excluding the inside of portable toilet waste tank) may be completed on site when the following conditions are met:
    - Rinse water is controlled to prevent it from entering into a storm drain;
    - No more than one (1) gallon of rinse water is used per portable toilet (i.e. low volume high-pressure cleaners, or bucket and rag. No common household hoses.);
    - Rinsing is completed away from a street or storm drain;
    - Where the portable toilet must be located on a paved surface, any rinse water that comes in contact with the paved surface must be adequately collected;
    - Where the portable toilet is located on a non-paved surface, rinsing should be completed at least 5 feet away from a paved surface and rinsing wastewater is drained to the ground at a rate that allows it to immediately soak into the ground;
    - Rinse water generated during the cleaning of portable toilet waste tanks must not be discharged to the ground or to a storm drain and must be retained within the tank;
    - Portable toilet wastewater (human waste/sewage) must never be disposed of on-site.

- Regularly inspect portable toilets to prevent leaks or spills. In the event of a toilet unit being tipped over, immediately lift the unit back to its original position and inspect for spills, leakage, or damage to the unit. If leaks or spills occur, clean up in accordance with SOP 3.2 and fill out a "Facility Spill, Release, or Discharge Report" form located within the facility's SWPPP binder.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- All applicable employees shall be trained in good housekeeping and pollution prevention biennially through a video called "Municipal Stormwater Pollution Prevention: Employee Training" (from EXCAL Visual).

Section 5 Standard Operating Procedures - Utility Maintenance

Utility maintenance activities such as fire hydrant testing, waterline repair, and sanitary sewer repair have the potential to produce pollutant discharge if good housekeeping procedures are not implemented during the described activities.

The Department of Public Utilities (Utilities) will minimize pollutant discharge during sewer overflows. Per the MS4 Permit requirements, additional procedures for utility maintenance and construction work will be developed prior to June 30, 2015.

The DPW Stormwater Program Coordinator will work in close coordination with the Utilities Director and/or assigned supervisor to ensure good housekeeping procedures are being applied during utility maintenance operations to ensure that the City of Petersburg remains compliant with the MS4 Permit requirements.

Section 6 Resources

1. Environmental Protection Agency (EPA). (August 2014). *Pollution Prevent/Good Housekeeping for Municipal Operators National Menu of BMPs.* Retrieved from http://water.epa.gov/polwaste/npdes/swbmp/Pollution-Prevention-Good-Housekeeping-for-Municipal-Operatators.cfm

2. New Hampshire Department of Environmental Services (NHDES). (August 2014). *Guidelines and Standard Operating Practices: Illicit Discharge Detection and Elimination and Pollution Prevent/Good Housekeeping for Stormwater Phase II Communities in New Hampshire Manual.* Retrieved from http://des.nh.gov/organization/divisions/water/stormwater/documents/nh_idde_sop.pdf

3. City of Lansing, MI. (August 2014). *MS4 NPDES Application Attachment C-City of Lansing Standard Operating Procures.* Retrieved from http://www.lansingmi.gov/media/view/7_Attachment_C_SOPs/3013

4. California Stormwater Quality Association (CASQA). (August 2014). *Municipal BMP Handbook.* Retrieved from https://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook

5. Gwinnett County, GA Public Utilities. (August 2014). *Water Quality Guidelines; WQ-04 Portable Toilet Management.* Retrieved from http://www.gwinnettcounty.com/portal/gwinnett/Departments/PublicUtilities/StormwaterManagement/WaterQualityProtection/WaterQualityGuidelines

Phase II MS4 General Permit
Program Plan Update

Municipal Employee
Training Plan and Schedule

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OCTOBER 2015

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Table of Contents

Section 1 Introduction

Per Section II(B)(6)(d) of the MS4 Permit, the City shall develop and implement a training plan and schedule for all applicable employees. The training plan shall document the applicable employees or positions to receive each type of training. If the training topic is not applicable to the City's operations, training for that topic is not required. However, the lack of applicability must be documented in the MS4 Program Plan. The training requirements may be fulfilled, in total or in part, through a regional training program with other MS4 localities as long as the City maintains its own individual records certifying compliance with the training requirements.

Section 2 Training Plan

Per the MS4 Permit, the training plan and schedule shall ensure implementation of the following requirements:

1. ***"The operator shall provide biennial training to applicable field personnel in the recognition and reporting of illicit discharges."***

   The City will provide training in recognition and reporting of illicit discharges to all applicable field personnel within the Public Works and Utilities field personnel, Petersburg Area Transit Facility personnel, Public Schools personnel, Park & Leisure and Dogwood Trace Golf Course employees, Code Enforcement, and the Fire Marshal through the end of this permit cycle (June 30, 2018). Initial training was conducted by Contractors (CWP and JRA) on February 10, 2015 (Permit Year 2). Follow up training will be conducted by means of two videos called "Municipal Stormwater Pollution Prevention: A Drop in the Bucket" and "Rain Check: Stormwater Pollution Prevention for MS4s" (from EXCAL Visual). The video will be shown in a group setting and will also be available on the City's internal website for individual employees who cannot attend the group training. New employees hired after the initial training will watch the videos as part of their orientation process.

2. ***"The operator shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed during road, street, and parking lot maintenance."***

   The City of Petersburg will provide training in good housekeeping and pollution prevention to all applicable Public Works and Public Utilities employees at time of hire and biennially through the end of this permit cycle (June 30, 2018). Initial training was conducted by CWP on September 22, 2014 (Permit Year 2). Subsequent training will be conducted by means of two videos called "Municipal Stormwater Pollution Prevention: A Drop in the Bucket" and "Rain Check: Stormwater Pollution Prevention for MS4s" (from EXCAL Visual). The video will be shown in a group setting and will also be available on City of Petersburg's internal website for individual employees who cannot attend the group training.

3. ***"The operator shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around maintenance and public works facilities."***

   City of Petersburg will provide training in good housekeeping and pollution prevention to all applicable Public Works & Utilities, Public Schools, Parks & Leisure Services, Dogwood Trace Golf Course, and Petersburg Area Transit Maintenance Facility employees at time of hire and biennially through the end of this permit cycle (June 30, 2018). Training will be conducted by means of two videos called "Municipal Stormwater Pollution Prevention: A Drop in the Bucket" and "Rain Check: Stormwater Pollution Prevention for MS4s" (from EXCAL Visual). The video will be shown in a group setting and will also be available on City of Petersburg's internal website for individual employees who cannot attend the group training.

4. ***"The operator shall ensure that employees, and require that contractors, who apply pesticides and herbicides are properly trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia)."***

   All applicable Public Works, Parks & Leisure Services, Dogwood Trace Golf Course, and Public Schools employees and contractors who apply pesticides and herbicides will obtain training and certification in accordance with the Virginia Pesticide Control Act. All re-certifications will be completed every two years through VDACS.

5. ***"The operator shall ensure that employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations."***

   City of Petersburg requires all plan reviewers, inspectors, program administrators, and construction site operators within the Public Works department to obtain the required Virginia ESC certifications. All re-certifications will be completed every three years as required through the Virginia DEQ.

6. ***"The operator shall ensure that applicable employees obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations."***

   The City will continue to require all applicable employees within the Public Works department to obtain the required Virginia ESC certifications. All re-certifications will be completed every three years as required through the Virginia DEQ.

7. ***"The operators shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around recreational facilities."***

   City of Petersburg will provide good housekeeping and pollution prevention training to all applicable Public Works, Dogwood Trace, and Parks & Leisure Services employees at time of hire and biennially through the end of this permit cycle (June 30, 2018). Training will be conducted by means of two videos called "Municipal Stormwater Pollution Prevention: A Drop in the Bucket" and "Rain Check: Stormwater Pollution Prevention for MS4s" (from EXCAL Visual). The video will be shown in a group setting and will also be available on City of Petersburg's internal website for individual employees who cannot attend the group training.

8. ***"The appropriate emergency response employees shall have training in spill responses. A summary of the training or certification program provided to emergency response employees shall be included in the first annual report."***

   City of Petersburg provides spill response training to the Fire Marshal and all applicable Fire and Rescue and Code Enforcement personnel along with all applicable Petersburg Area Transit and Public Schools staff at time of hire through the end of this permit cycle (June 30, 2018). All training will be completed through VDFP using the VDEM curriculum. A summary of the training/certification program provided to emergency response employees will be included in the first annual report.

9. ***"The operator shall keep documentation on each training event including the training date, the number of employees attending the training, and the objective of the training event for a period of three years after each training event."***

   City of Petersburg will document all training by utilizing and maintaining record of a training attendance which documents the training date, number of employees attended, and the objective of the training event. Individual online training will be documented through a system of reporting. Employees who complete the training will inform their Supervisor and the Supervisor will report to the Stormwater Program Manager. A record of the training will be maintained for a period of three years after each training event.

Section 3 Training Schedule

Below is a summary of the City of Petersburg's Municipal Employee Training Schedule.

Table 3-1

Topic	Trainee	Frequency	MS4 Permit Year (July 1 – June 30)
Recognition and Reporting of Illicit Discharges	Public Works & Utilities	Time of hire & every 2 years	2 & 4
	PAT Facility Employees		2 & 4
	Public Schools		2 & 4
	Parks & Leisure Services and Dogwood Trace Employees		2 & 4
	Code Enforcement		2 & 4
	Fire Marshal		2 & 4
Pollution Prevention / Good Housekeeping	Public Works & Utilities	Time of hire & every 2 years	2 & 4
	Public Schools		2 & 4
	Parks & Leisure Services and Dogwood Trace Employees		2 & 4
	Petersburg Area Transit Employees		2 & 4
	Fire Marshal		2 & 4
	Code Enforcement		2 & 4
Pesticide Applicator Training & Certification	Public Works	Certification is good for 2 years with re-certification course	On-Going
	All Parks & Leisure Services and Dogwood Trace Golf Course employees who apply pesticides and herbicides		On-Going
	Public Schools		On-Going
E&S Training and Certification	Public Works ESC reviewers, inspectors, program administrators, and construction site operators	Certification is good for 3 years with re-certification course	On-Going
Spill Prevention & Spill Response	Fire Marshal	Time of Hire	On-Going
	Fire and Rescue		On-Going
	Code Enforcement		On-Going
	Petersburg Area Transit Employees		On-Going
	Public Schools		On-Going