

Town of Vienna, Virginia



Municipal Separate Storm Sewer System (MS4) Program Plan

Submitted to the Virginia Department of Environmental Quality in compliance with Permit No. VAR040066, "General Virginia Pollutant Discharge Elimination System Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems."



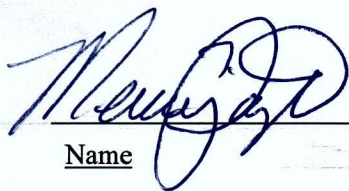
Town of Vienna
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April 16, 2019
2018 MS4 General Permit Update

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.”



Name

TOWN MANAGER

Title

11/20/20

Date



Town of Vienna Municipal Separate Storm Sewer System (MS4) Program Plan

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Town of Vienna Municipal Separate Storm Sewer System (MS4) Program Plan

A. Introduction

This document represents the Town of Vienna’s plan to meet the requirements of the General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 permit). The Town was originally issued an MS4 permit in 2003 (Permit VAR040066). The permit was re-issued on July 9, 2008, July 1, 2013, and November 1, 2018. The current five-year permit will expire on October 31, 2023. This MS4 Program Plan supersedes earlier plans and has been updated to meet the requirements of the 2018-2023 MS4 permit.

Stormwater in the Town flows to four local streams: Piney Branch, Wolftrap Creek, Hunters Branch, and Bear Branch (see Figure 1). Piney Branch and Wolftrap Creek are part of the Difficult Run watershed (PL22), while Hunters Branch and Bear Branch are part of the Accotink Creek watershed (PL30). The Town’s streams are important to the quality of life of Vienna residents and ultimately affect the health of the Potomac River and the Chesapeake Bay.

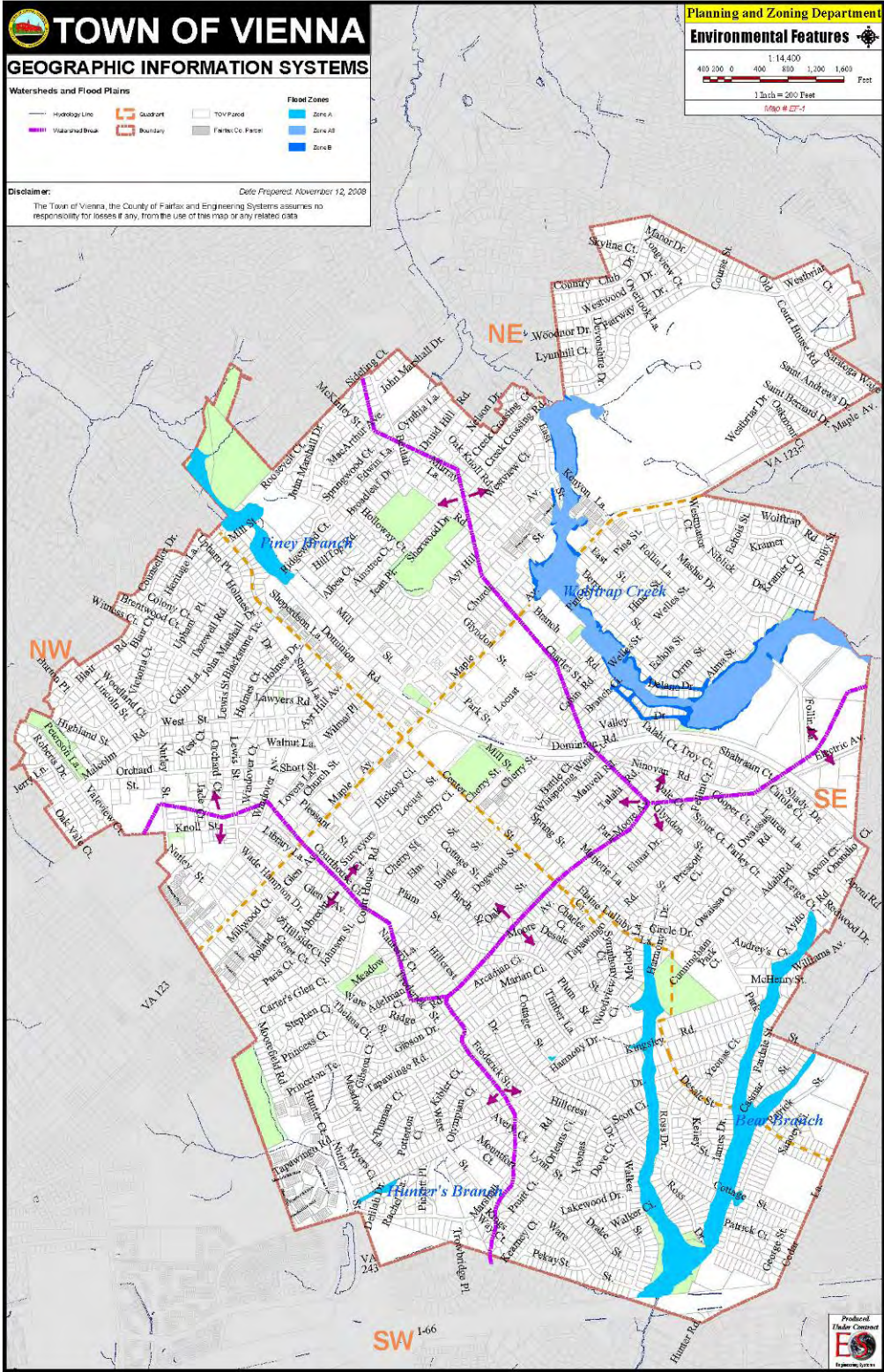
Mandated by Congress under the Clean Water Act and implemented in Virginia by the Department of Environmental Quality (DEQ), the purpose of the MS4 permit is to protect water quality from urban pollution carried by stormwater. Stormwater runoff from urban areas may contain sediments, fertilizers, pesticides, bacteria, motor oil, and other pollutants generated by various land uses and human activities. When left uncontrolled, this pollution can result in the impairment or destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public safety and health.

To achieve these water quality goals, the permit requires the Town to control the discharge of pollutants to the maximum extent practicable (MEP) by addressing six minimum control measures (MCMs).

Table 1. Six Minimum Control Measures

1. Public Education and Outreach on Stormwater Impacts	4. Construction Site Stormwater Runoff Control
2. Public Involvement/Participation	5. Post-Construction Stormwater Management
3. Illegal Discharge Detection and Elimination	6. Pollution Prevention/Good Housekeeping for Municipal Operations

Figure 1. Town of Vienna Streams and Watersheds



In addition to addressing the MCMs, the Town must develop and implement action plans to address pollutant loads allocated to Vienna in approved Total Maximum Daily Loads (TMDLs). A TMDL establishes the maximum amount of a pollutant that can enter a water body without violating water quality standards. The Town has been allocated pollutant loads associated with TMDLs for Accotink Creek, Difficult Run, and the Chesapeake Bay. These are further discussed in Section C.

The Town has successfully implemented its MS4 program for the past three permit cycles. As part of this plan update, the Town engaged in an extensive review and assessment of existing stormwater management operations, ordinances, protocols, and programming against the MS4 permit conditions. This MS4 plan builds on the Town's past success and meets the new MS4 permit requirements.

B. Stormwater Management Organization

MS4 permit compliance is coordinated through the Town's Department of Public Works (DPW). DPW is responsible for overall MS4 permit administration, stormwater facility design, erosion and sediment control, stormwater facility maintenance, and street sweeping. DPW also operates the Northside Property Yard, which includes equipment and vehicle storage and maintenance, as well as bulk storage of items such as salt, mulch, sweeping spoils, and millings. In addition to DPW, several other agencies have important roles in implementing the permit. These include Parks and Recreation, Planning and Zoning (including overall development plan review), Public Information, and Information Technology.

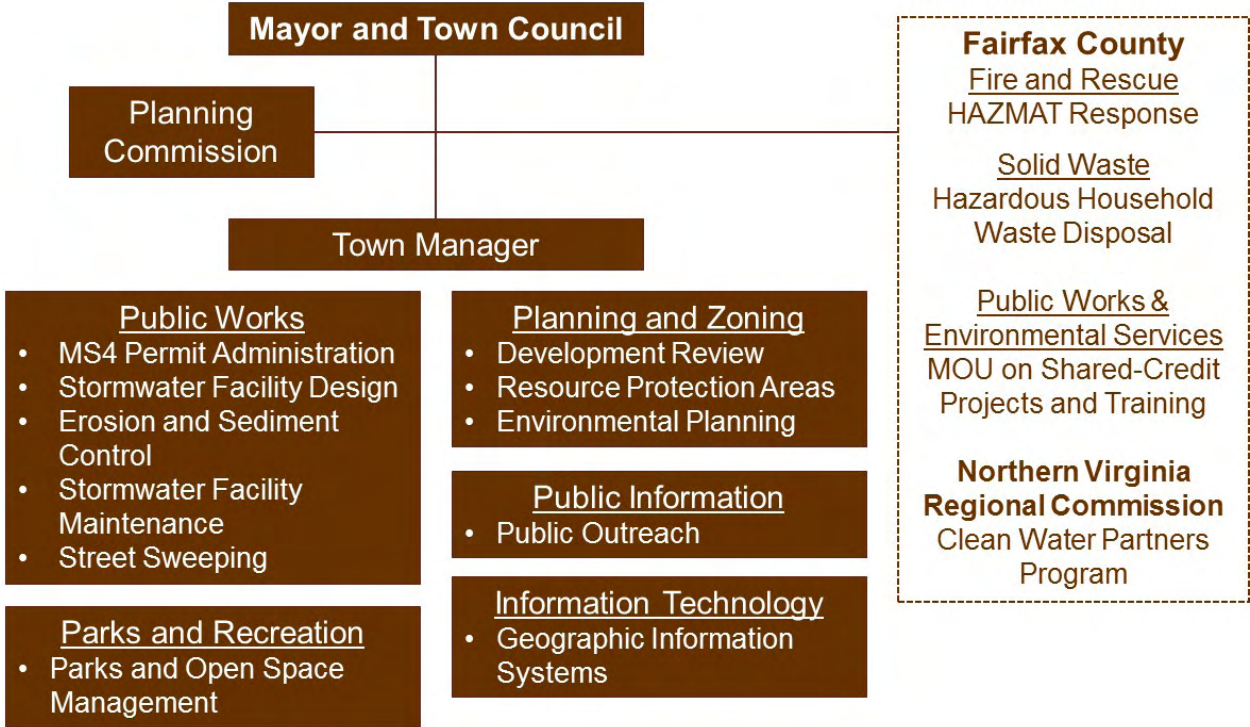
Since the Town is part of Fairfax County, the County is responsible for providing emergency response and hazardous household waste (HHW) disposal services. Roles and responsibilities are outlined in Figure 2.

C. Reliance on Other Government Entities

The MS4 permit requires that if the Town relies on another entity to implement portions of its MS4 program that the plan must include a description of each party's roles and responsibilities. The plan must also include copies of any written agreements.

The Town is engaged in two formal partnerships, which are further described in the plan. This includes regional education and outreach efforts coordinated through the Northern Virginia Clean Water Partners program and a memorandum of understanding (MOU) signed with Fairfax County and the Town of Herndon to share pollutant reduction credit for projects jointly implemented through the County's Stormwater Service District Fee. The MOU also allows the Town to utilize County stormwater-related training programs. The MOU was originally adopted by the Town Council on October 28, 2013 and amended on November 7, 2016. The agreements are included in Appendix A.

Figure 2. Town of Vienna Stormwater Management Organization



D. Special Conditions for Approved TMDLs

While the focus of the MS4 permit is on pollution prevention, the permit contains special conditions that require the Town to develop clean-up “action plans” for impaired streams where a TMDL assigns a waste load allocation (WLA) to the Town that has been approved by the State Water Control Board (SWCB) prior to the issuance of this permit. The Town has been assigned WLAs associated with the Chesapeake Bay (nitrogen, phosphorus, and sediment), the Potomac River (PCBs), Difficult Run (bacteria and sediment), and Accotink Creek (bacteria, sediment, and chloride).

Based on the MS4 permit, the Town must achieve Chesapeake Bay TMDL pollutant reductions over three five-year permit cycles in accordance with the following: 5% by the end of the first permit cycle (2018); 40% by the end of the second permit cycle (2023); and, 100% by the end of the third permit cycle (2028). The Town met the 5% reduction requirement for the first permit cycle and in May 2018 submitted a draft Phase II Chesapeake Bay TMDL Action Plan demonstrating how the Town will meet the 40% reduction. The final Phase II action plan must be submitted to DEQ no later than November 1, 2019.

During the last permit cycle, the Town submitted to DEQ the PCB TMDL Action Plan, the Sediment TMDL Action Plan for Difficult Run, and the Bacteria TMDL Action Plan for

Difficult Run and Accotink Creek. In accordance with the MS4 permit, these existing action plans must be updated by March 31, 2020.

Two new TMDLs for sediment and chloride were approved for Accotink Creek by the SWCB on April 12, 2018. In accordance with the MS4 permit, these new action plans must be developed by April 1, 2021. The Town plans to amend the existing Sediment TMDL Action Plan for Difficult Run to include Accotink Creek.

Completed TMDL action plans are included in Appendix B.

Table 3. TMDL Action Plan Development Schedule

TMDL	Pollutants	SWCB Approval	Permit Milestone
Chesapeake Bay TMDL	Nitrogen, phosphorus, and sediment	NA (EPA approved 12/29/2010)	Final phase II plan due 10/31/2019
“Total Maximum Daily Loads of PCBs for Tidal Portions of the Potomac and Anacostia Rivers”	PCBs	4/11/2008	Update existing plan by 3/31/2020
“Benthic TMDL Development for Difficult Run”	Sediment	4/27/2009	Update existing plan by 3/31/2020
“Bacteria TMDL for the Difficult Run Watershed”	E. coli bacteria	4/28/2009	Update existing plan by 3/31/2020
“Fecal Coliform TMDL for Accotink Creek”	Fecal coliform bacteria	6/17/2004	Update existing plan by 3/31/2020
“Sediment TMDLs for the Accotink Creek Watershed”	Sediment	4/12/2018	New plan by 4/1/2021
“Chloride TMDLs for the Accotink Creek Watershed”	Chloride	4/12/2018	New plan by 4/1/2021

E. Minimum Control Measures

This section outlines the specific BMPs and strategies for meeting the MCMs in Part I E of the MS4 permit. For each MCM, the following information is included:

- Each specific requirement as listed in Part I E for each MCM.
- A description of the BMPs or strategies that the permittee anticipates will be implemented to demonstrate compliance with the permit conditions.
- All standard operating procedures (SOPs) or policies necessary to implement the BMPs.
- The measurable goal by which each BMP or strategy will be evaluated.
- The persons, positions, or departments responsible for implementing each BMP or strategy.

A table at the end of each section summarizes the schedule for implementing the BMPs.

MCM #1: Public Education and Outreach on Stormwater Impacts

Permit Reference: Part I E 1

- a. The permittee shall implement a public education and outreach program designed to:
- (1) Increase the public's knowledge of how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;
 - (2) Increase the public's knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and
 - (3) Implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts.
- b. The permittee shall identify no less than three high-priority stormwater issues to meet the goal of educating the public in accordance with Part I E 1 a. High-priority issues may include the following examples: Chesapeake Bay nutrients, pet wastes, local receiving water impairments, TMDLs, high-quality receiving waters, and illicit discharges from commercial sites.
- c. The high-priority public education and outreach program, as a whole, shall:
- (1) Clearly identify the high-priority stormwater issues;
 - (2) Explain the importance of the high-priority stormwater issues;
 - (3) Include measures or actions the public can take to minimize the impact of the high priority stormwater issues; and
 - (4) Provide a contact and telephone number, website, or location where the public can find out more information.
- d. The permittee shall use two or more of the strategies listed in Table 1 below per year to communicate to the public the high-priority stormwater issues identified in accordance with Part I E 1 b including how to reduce stormwater pollution.

<i>Table 1 Strategies for Public Education and Outreach</i>	
<i>Strategies</i>	<i>Examples (provided as examples and are not meant to be all inclusive or limiting)</i>
<i>Traditional written materials</i>	<i>Informational brochures, newsletters, fact sheets, utility bill inserts, or recreational guides for targeted groups of citizens</i>
<i>Alternative materials</i>	<i>Bumper stickers, refrigerator magnets, t-shirts, or drink koozies</i>
<i>Signage</i>	<i>Temporary or permanent signage in public places or facilities, vehicle signage, bill boards, or storm drain stenciling</i>
<i>Media materials</i>	<i>Information disseminated through electronic media, radio, television, movie theater, or newspaper</i>
<i>Speaking engagements</i>	<i>Presentations to school, church, industry, trade, special interest, or community groups</i>
<i>Curriculum materials</i>	<i>Materials developed for school-aged children, students at local colleges or universities, or extension classes offered to local citizens, trade organizations, or industrial officials.</i>

- e. The permittee may coordinate its public education and outreach efforts with other MS4 permittees; however, each permittee shall be individually responsible for meeting all of its state permit requirements.

f. The MS4 program plan shall include:

- (1) A list of the high-priority stormwater issues the permittee will communicate to the public as part of the public education and outreach program;
- (2) The rationale for selection of each high-priority stormwater issue and an explanation of how each education or outreach strategy is intended to have a positive impact on stormwater discharges;
- (3) Identification of the public audience to receive each high-priority stormwater message;
- (4) The strategies from Table 1 of Part I E 1 d to be used to communicate each high-priority stormwater message; and
- (5) The anticipated time periods the messages will be communicated or made available to the public.

g. The annual report shall include the following information:

- (1) A list of the high-priority stormwater issues the permittee addressed in the public education and outreach program; and
- (2) A list of the strategies used to communicate each high-priority stormwater issue.



Public Education and Outreach Program Overview

Pollution Prevention Public Education and Outreach Plan

The Town has developed a Pollution Prevention Public Education and Outreach Plan that documents the Town's public education and outreach strategy. This includes the process used to identify three high-priority stormwater issues, identify target audiences, and select appropriate communication strategies that will have a positive impact on stormwater discharges. High-priority stormwater issues identified in the plan are: (1) nutrients; (2) sediment and other illicit discharges; and, (3) bacteria from pet waste. The Town has also developed strategies targeting restaurants and automotive service centers.

Clean Water Partners Program

The Town participates in the NVRC Clean Water Partners program. This collaborative effort allows the Town to reach a broader audience through cable television and digital media. The program includes an annual assessment component conducted through a web-based survey of Northern Virginia residents. The specific focus areas, messages, and survey results are reviewed each year by the Clean Water Partners, including the Town.

TMDL Action Plans

The Town has developed TMDL action plans for nutrients, sediment, bacteria, and PCBs. Several of these plans have education and outreach components that have been incorporated into this MCM. The plans are included in Appendix B

Referenced Documents

- Pollution Prevention Public Education and Outreach Plan (Appendix C).
- NVRC Clean Water Partners Program Memorandum of Agreement (Appendix A).
- Stormwater Webpage:
<https://www.viennava.gov/index.aspx?NID=788>



Best Management Practices

The following BMPs will be implemented in accordance with Part I E 1 of the permit and the Town's Stormwater Pollution Prevention Public Education and Outreach Plan. Selected communication strategies align with those in Table 1 of the MS4 permit.

BMP 1.1 – General Education and Outreach

Objective: The objective of this BMP is to increase general knowledge about the link between individual actions and stormwater pollution and to educate Town residents about how they can change their behavior to have a positive impact on local streams and the Chesapeake Bay.

Best Management Practices:

- Distribute giveaways such as magnets, rulers, and key chains with water quality messages at the Town Hall and during community events.
- At least once annually, include a general pollution prevention message linked to water quality in either: (1) the Town Water Quality Report; or, (2) one of the quarterly residential water bills.
- Host the stormwater web page and update it with new information as appropriate.
- Participate in the NVRC Clean Water Partners program.

Standard Operating Procedures and Policies: This BMP is supported by the MOA between the Town of Vienna and Clean Water Partners.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report: (1) the amount of materials distributed and an estimate of the number of individuals reached; (2) the message included in the Town Water Quality Report or residential water bill; (3) a snapshot of the stormwater web page; and, (4) a summary of the Clean Water Partners program and the results of any surveys or other mechanisms used to determine program effectiveness.

Responsible Party: Public Works and Public Information. NVRC Clean Water Partners will act as the Town's regional partner.

BMP 1.2 – Youth-Focused Outreach

Objective: The objective of this BMP is to instill positive, pollution prevention behaviors in youth that will last a life-time.

Best Management Practices:

- Host an annual Public Works Day with a focus on activities of interest to school-age children.
- Use the Town's EnviroScope model at Town events to teach children about watersheds, stormwater, and pollution prevention.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report documentation of efforts to educate youth, including an estimate of the number of youth engaged.

Responsible Party: Public Works.

BMP 1.3 – Chesapeake Bay Nutrients

Objective: The objective of this BMP is to inform property owners and managers about ways to reduce the impact of nutrients through proper use and application of fertilizers. The Town has identified all households as well as HOAs and condominium associations as the target audiences.

Best Management Practices:

- At least once annually, distribute information on proper fertilizing techniques using one of the following: (1) seasonally-appropriate press release; (2) article in the Vienna Voice newsletter; (3) message in the Town Calendar; or, (4) message in the quarterly residential water bill in addition to BMP 1.
- At least once annually, include a message about the proper use and application of fertilizers using a social media platform.
- In FY21, mail information to HOA and condominium contacts about proper use and application of fertilizers and how to ensure contractors are using water quality friendly practices.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report: (1) documentation that information has been distributed on proper fertilizing techniques; and, (2) a snapshot of the social media post. In FY21, the Town will also provide information mailed to HOA and condominiums.

Responsible Party: Public Works and Public Information.

BMP 1.4 – Sediment and Other Illicit Discharges

Objective: The objective of this BMP is to reduce illicit discharges, with a particular focus on sediment pollution, by educating residents on how to recognize and report a suspected illicit discharge. The Town has identified all households as the target audience for illicit discharge and sediment-related education.

Best Management Practices:

- At least once annually, promote the means by which the public can report a suspected illicit discharge using one of the following: (1) press release; (2) article in the Vienna Voice newsletter; (3) message in the Town Calendar; or, (4) message in the quarterly residential water bill in addition to BMP 1.
- At least once annually, include a message about how the public can report a suspected illicit discharge using a social media platform.

- At least once annually, promote the availability of the Fairfax County Hazardous Household Waste Program using one of the following: (1) article in the Vienna Voice newsletter; (2) message in the Town Calendar; or, (3) message using Vienna Happenings.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report: (1) documentation that information has been distributed on how to report a suspected illicit discharge; (2) a snapshot of the social media post; and, (3) documentation of how the HHW program was promoted.

Responsible Party: Public Works and Public Information.

BMP 1.5 – Bacteria

Objective: The objective of this BMP is to reduce bacteria pollution by educating residents in general, and pet owners specifically, on the impacts of pet waste on water quality and the importance of picking up after pets. The Town has identified all residents as the target audience for pet waste-related education, with a specific focus on dog owners

Best Management Practices:

- At least once annually, distribute information about proper pet waste disposal using one of the following: (1) press release; (2) article in the Vienna Voice newsletter; (3) message in the Town Calendar; or, (4) message in the quarterly residential water bill in addition to BMP 1.
- At least once annually, include a message about the proper pet waste disposal using a social media platform.
- In FY20, mail information to Town residences holding dog licenses about the importance of picking up after pets.
- Maintain signage at medium risk and priority sites identified in the Difficult Run and Accotink Creek Bacteria TMDL Action Plan to encourage pet walkers to clean up pet waste and alert them to fines for non-compliance. Signage for newly identified sites will be installed within one year of identification.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report: (1) documentation that information has been distributed on proper pet waste disposal; and, (2) a snapshot of the social media post. In FY20, the Town will also provide information mailed to pet owners. The Town will confirm maintenance of existing signage and document any newly installed signage.

Responsible Party: Public Works and Parks and Recreation.

BMP 1.6 – Targeted Business Outreach for Illicit Discharges

Objective: The objective of this BMP is to engage businesses in general as partners in protecting water quality and preventing stormwater pollution. In addition, this BMP aims to reduce the discharge of fats, oils, and grease from restaurants and automotive fluids from automotive service centers.

Best Management Practices:

- At least once annually beginning FY20, include a pollution prevention message in Town Business Matters along with an offer for the Town to present to specific businesses or business associations.
- No later than FY22, send a letter and any other information to all restaurants about the importance of pollution prevention and the legal ramifications for dumping or illicit discharges.
- No later than FY23, send a letter and any other information to all automotive service centers about the importance of pollution prevention and the legal ramifications for dumping or illicit discharges.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report documentation of the message in Town Business Matters. No later than FY22 and FY23, the Town will provide information sent to restaurants and automotive service centers, respectively.

Responsible Party: Public Works and Public Information.



MCM#1 Implementation Schedule

The Town will implement the BMPs for MCM #1 in accordance with the following schedule.

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
1.1	General Education and Outreach						
	Distribute giveaways with water quality messages at events.	▶	▶	▶	▶	▶	Public Works
	Include general pollution prevention article in either: (1) Town Water Quality Report; or, (2) residential water bill.	▶	▶	▶	▶	▶	Public Works; Public Information

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
	Host stormwater web page.	▶	▶	▶	▶	▶	Public Works; Public Information
	Participate in Clean Water Partners regional program.	▶	▶	▶	▶	▶	Public Works, NVRC
1.2	Youth-Focused Outreach						
	Host DPW Day with a focus on youth education.	▶	▶	▶	▶	▶	Public Works
	Use the EnviroScape model at Town events.	▶	▶	▶	▶	▶	Public Works
1.3	Chesapeake Bay Nutrients						
	Distribute information on proper fertilizing techniques through one of the following: (1) press release; (2) Vienna Voice; (3) Town Calendar; (4) water bill.	▶	▶	▶	▶	▶	Public Works; Public Information
	Distribute nutrient-related message using a social media platform.	▶	▶	▶	▶	▶	Public Works; Public Information
	Distribute nutrient-related message to HOAs/condominium associations.			■			Public Works; Public Information
1.4	Sediment and Other Illicit Discharges						
	Distribute information on illicit discharge reporting through one of the following: (1) press release; (2) Vienna Voice; (3) Town Calendar; (4) water bill.	▶	▶	▶	▶	▶	Public Works; Public Information
	Distribute illicit discharge reporting message using a social media platform.	▶	▶	▶	▶	▶	Public Works; Public Information
	Promote County HHW program through either; (1) the Vienna Voice; (2) Town Calendar; or, (3) Vienna Happenings.	▶	▶	▶	▶	▶	Public Works; Public Information

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
1.5	Bacteria						
	Distribute information on proper pet waste through one of the following: (1) press release; (2) Vienna Voice; (3) Town Calendar; (4) water bill.	▶	▶	▶	▶	▶	Public Works; Public Information
	Distribute one bacteria-related message using a social media platform.	▶	▶	▶	▶	▶	Public Works; Public Information
	Distribute bacteria-related message to dog license holders.		■				Public Works; Public Information; Animal Control
	Maintain signage at medium risk and priority sites identified in the Difficult Run and Accotink Creek Bacteria TMDL Action Plan; install signage at newly identified sites within one year.	▶	▶	▶	▶	▶	Public Works
1.6	Targeted Business Outreach						
	Include pollution prevention message in Town Business Matters.		▶	▶	▶	▶	Public Works; Public Information
	Distribute pollution prevention materials to restaurants.		▶	▶	■		Public Works
	Distribute pollution prevention materials to automotive service centers.		▶	▶	▶	■	Public Works

MCM #2: Public Involvement and Participation

Permit Reference: Part I E 2

- a. The permittee shall develop and implement procedures for the following:
 - (1) The public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns;
 - (2) The public to provide input on the permittee's MS4 program plan;
 - (3) Receiving public input or complaints;
 - (4) Responding to public input received on the MS4 program plan or complaints; and
 - (5) Maintaining documentation of public input received on the MS4 program and associated MS4 program plan and the permittee's response.
- b. No later than three months after this permit's effective date, the permittee shall develop and maintain a webpage dedicated to the MS4 program and stormwater pollution prevention. The following information shall be posted on this webpage:
 - (1) The effective MS4 permit and coverage letter;
 - (2) The most current MS4 program plan or location where the MS4 program plan can be obtained;
 - (3) The annual report for each year of the term covered by this permit no later than 30 days after submittal to the department;
 - (4) A mechanism for the public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns in accordance with Part I E 2 a (1); and
 - (5) Methods for how the public can provide input on the permittee's MS4 program plan in accordance with Part I E 2 a (2).
- c. The permittee shall implement no less than four activities per year from two or more of the categories listed in Table 2 below to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects.

<i>Table 2 Public Involvement Opportunities</i>	
<i>Public involvement opportunities</i>	<i>Examples (provided as examples and are not meant to be all inclusive or limiting)</i>
<i>Monitoring</i>	<i>Establish or support citizen monitoring group</i>
<i>Restoration</i>	<i>Stream or watershed clean-up day, adopt-a-water way program</i>
<i>Educational events</i>	<i>Booth at community fair, demonstration of stormwater control projects, presentation of stormwater materials to schools to meet applicable education Standards of Learning or curriculum requirements, watershed walks, participation on environmental advisory committees</i>
<i>Disposal or collection events</i>	<i>Household hazardous chemicals collection, vehicle fluids collection</i>
<i>Pollution prevention</i>	<i>Adopt-a-storm drain program, implement a storm drain marking program, promote use of residential stormwater BMPs, implement pet waste stations in public areas, adopt-a-street program</i>

d. The permittee may coordinate the public involvement opportunities listed in Table 2 with other MS4 permittees; however, each permittee shall be individually responsible for meeting all of the permit requirements.

e. The MS4 program plan shall include:

(1) The webpage address where mechanisms for the public to report (i) potential illicit discharges, improper disposal, or spills to the MS4, (ii) complaints regarding land disturbing activities, or (iii) other potential stormwater pollution concerns;

(2) The webpage address that contains the methods for how the public can provide input on the permittee's MS4 program; and

(3) A description of the public involvement activities to be implemented by the permittee, the anticipated time period the activities will occur, and a metric for each activity to determine if the activity is beneficial to water quality. An example of metrics may include the weight of trash collected from a stream cleanup, the number of participants in a hazardous waste collection event, etc.

f. The annual report shall include the following information:

(1) A summary of any public input on the MS4 program received (including stormwater complaints) and how the permittee responded;

(2) A webpage address to the permittee's MS4 program and stormwater website;

(3) A description of the public involvement activities implemented by the permittee;

(4) A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality; and

(5) The name of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities.



Public Involvement and Participation Overview

The Town's public involvement and participation program meets the requirements of Part I E 2 of the MS4 permit. For this permit cycle, the Town has developed an SOP for receiving and responding to complaints and public input into the MS4 Program Plan. The Town has a dedicated stormwater webpage that includes all information required in the MS4 permit.

Public Involvement Opportunities

The Town implements at least four activities from Table 2 of the MS4 permit each year to provide an opportunity for public involvement in water quality and local restoration and clean-up projects.

Referenced Documents

- Public Involvement and Participation SOP (Appendix D).
- Stormwater Webpage:
<https://www.viennava.gov/index.aspx?NID=788>
- Report a Concern Function:
<https://www.viennava.gov/index.aspx?nid=1272>



Best Management Practices

The following BMPs will be implemented in accordance with Part I E 2 of the permit.

BMP 2.1 – Stormwater Web Page

Objective: The objective of the stormwater webpage is to ensure that residents and businesses have readily available access to all MS4 program documents and reporting mechanisms.

Best Management Practices:

- Post the effective MS4 permit and coverage letter.
- Post the most current MS4 Program Plan within 30 days of an update.
- Post each annual report within 30 days of submittal to DEQ.
- Provide links to reporting functions from BMPs 2.2 and 2.3.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report a snapshot of the stormwater webpage documenting all required elements.

Responsible Party: Public Works and Public Information.

BMP 2.2 – Public Reporting of Potential Illicit Discharges

Objective: The objective of this BMP is to promote the ability of the public to report illicit discharges, illegal dumping, spills, complaints about land disturbing activities, and other stormwater pollution concerns.

Best Management Practices:

- Provide information on how to report a potential illicit discharge or illegal dumping (including phone, email, and online forms) on the stormwater webpage.

Standard Operating Procedures and Policies: This BMP is supported by the Public Involvement and Participation SOP. Complaint investigation, response, and tracking is conducted in accordance with BMP 3.5.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report a snapshot of the reporting functions on the stormwater webpage.

Responsible Party: Public Works and Public Information.

BMP 2.3 – Public Input and Complaints

Objective: This objective of this BMP is to promote the ability of the public to provide input into the MS4 Program Plan and to receive public input or complaints.

Best Management Practices:

- Provide information on how to register public input or complaints on the stormwater webpage.
- Implement the Public Involvement and Participation SOP to document how the Town receives, tracks, responds to, and maintains documentation on public input or complaints.

Standard Operating Procedures and Policies: This BMP is supported by the Public Involvement and Participation SOP.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report: (1) a snapshot of the public input and complaint reporting function; and, (2) a summary of any public complaints or input on the MS4 Program Plan and the Town’s response to complaints or input.

Responsible Party: Public Works and Public Information.

BMP 2.4 – Public Involvement Opportunities

Objective: The objective of this BMP is to increase the public’s awareness and participation in the Town’s water quality and pollution prevention efforts.

Best Management Practices:

- Implement no less than four public involvement activities per year from two or more categories in Table 2 of the MS4 permit. Planned activities include the following:

Description	Time Period	Metric	Permit Strategy
Public Works Day	Annually in May	Number of Participants; Materials Distributed	Educational Events
Town of Vienna Clean Up Day	Twice Annually	Number of Volunteers; Amount of Trash Collected	Restoration
Family Fishing Rodeo	Annually in April	Number of Participants; Materials Distributed	Restoration
Storm Drain Marking Program	Ongoing	Number of Volunteers; Number Storm Drains Marked	Pollution Prevention
Recycling Day	Quarterly	Amount of Used Oil and Antifreeze Collected	Disposal and Collection Events

- Continue to include guidelines on the stormwater webpage for submitting a request for the Town to promote a volunteer activity.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report a summary of the activities implemented and the metrics from the above table.

Responsible Parties: Public Works and Parks and Recreation.

BMP 2.5 – Town Council Updates

Objective: It is important for elected officials to have a thorough understanding of the MS4 Program Plan and to provide feedback on the effectiveness of the program.

Best Management Practices:

In FY22 or FY23, provide Town Council with an update on stormwater management program activities, with a focus on the Chesapeake Bay TMDL.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in the FY22 or FY23 annual report any meeting materials and a summary of significant feedback, if any.

Responsible Parties: Public Works and Town Clerk.



MCM #2 Implementation Schedule

The Town will implement the BMPs for MCM #2 in accordance with the following schedule.

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
2.1	Stormwater Web Page						
	Host the stormwater webpage with information required by permit.	▶	▶	▶	▶	▶	Public Works; Public Information
2.2	Public Reporting of Potential Illicit Discharges						
	Provide information on how to report a potential illicit discharge on the stormwater web page.	▶	▶	▶	▶	▶	Public Works; Public Information
2.3	Public Input and Complaints						
	Provide information on how to register public input or complaints on the stormwater web page.	▶	▶	▶	▶	▶	Public Works; Public Information

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
	Implement the Public Involvement and Participation SOP to document complaint tracking and response.	▶	▶	▶	▶	▶	Public Works
2.4	Public Involvement Opportunities						
	Promote or implement four local watershed activities annually.	▶	▶	▶	▶	▶	Public Works; Parks and Recreation; Public Information
2.5	Town Council Update						
	Provide MS4 program update to Town Council.				■	■	Public Works; Town Clerk

MCM #3: Illicit Discharge Detection and Elimination

Permit Reference: Part I E 3

a. The permittee shall develop and maintain an accurate MS4 map and information table as follows:

(1) A map of the storm sewer system owned or operated by the permittee within the census urbanized area identified by the 2010 decennial census that includes, at a minimum:

(a) MS4 outfalls discharging to surface waters, except as follows:

....

(b) A unique identifier for each mapped item required in Part I E 3;

(c) The name and location of receiving waters to which the MS4 outfall or point of discharge discharges;

(d) MS4 regulated service area; and

(e) Stormwater management facilities owned or operated by the permittee.

(2) The permittee shall maintain an information table associated with the storm sewer system map that includes the following information for each outfall or point of discharge for those cases in which the permittee elects to map the known point of discharge in accordance with Part I E 3 a (1) (a):

(a) A unique identifier as specified on the storm sewer system map;

(b) The latitude and longitude or the outfall or point of discharge;

(c) The estimated regulated acreage draining to the outfall or point of discharge;

(d) The name of the receiving water;

(e) The 6th Order Hydrologic Unit Code of the receiving water;

(f) An indication as to whether the receiving water is listed as impaired in the Virginia 2016 305(b)/303(d) Water Quality Assessment Integrated Report;

(g) The predominant land use for each outfall discharging to an impaired water; and,

(h) The name of any EPA approved TMDLs for which the permittee is assigned a wasteload allocation.

(3) No later than July 1, 2019, the permittee shall submit to DEQ a GIS-compatible shapefile of the permittee's MS4 map as described in Part I E 3 a. If the permittee does not have an MS4 map in a GIS format, the permittee shall provide the map as a PDF document.

(4) No later than October 1 of each year, the permittee shall update the storm sewer system map and outfall information table to include any new outfalls constructed or TMDLs approved or both during the immediate preceding reporting period.

(5) The permittee shall provide written notification to any downstream adjacent MS4 of any known physical interconnection established or discovered after the effective date of this permit.

b. The permittee shall prohibit, through ordinance, policy, standard operating procedures, or other legal mechanism, to the extent allowable under federal, state, or local law, regulations, or ordinances, unauthorized nonstormwater discharges into the storm sewer system. Nonstormwater discharges or flows identified in 9VAC25-890-20 D 3 shall only be addressed if they are identified by the permittee as a significant contributor of pollutants discharging to the MS4. Flows that have been identified by the department as de minimis discharges are not significant sources of pollutants to surface water.

c. The permittee shall maintain, implement, and enforce illicit discharge detection and elimination (IDDE) written procedures designed to detect, identify, and address unauthorized nonstormwater discharges, including illegal dumping, to the small MS4 to effectively eliminate the unauthorized discharge. Written procedures shall include:

(1) A description of the legal authorities, policies, standard operating procedures or other legal mechanisms available to the permittee to eliminate identified sources of ongoing illicit discharges including procedures for using legal enforcement authorities.

(2) Dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol shall include:

(a) A prioritized schedule of field screening activities and rationale for prioritization determined by the permittee based on such criteria as age of the infrastructure, land use, historical illegal discharges, dumping or cross connections;

(b) If the total number of MS4 outfalls is equal to or less than 50, a schedule to screen all outfalls annually;

(c) If the total number of MS4 outfalls is greater than 50, a schedule to screen a minimum of 50 outfalls annually such that no more than 50% are screened in the previous 12-month period. The 50% criteria is not applicable if all outfalls have been screened in the previous three years; and

(d) A mechanism to track the following information:

...

(3) A timeframe upon which to conduct an investigation to identify and locate the source of any observed unauthorized nonstormwater discharge. Priority of investigations shall be given to discharges of sanitary sewage and those believed to be a risk to human health and public safety. Discharges authorized under a separate VPDES or state permit require no further action under this permit.

(4) Methodologies to determine the source of all illicit discharges. If the permittee is unable to identify the source of an illicit discharge within six months of beginning the investigation then the permittee shall document that the source remains unidentified. If the observed discharge is intermittent, the permittee shall document that attempts to observe the discharge flowing were unsuccessful.

(5) Methodologies for conducting a follow-up investigation for illicit discharges that are continuous or that permittees expect to occur more frequently than a one-time discharge to verify that the discharge has been eliminated except as provided for in Part I E 3 c (4);

(6) A mechanism to track all illicit discharge investigations to document the following:

(a) The dates that the illicit discharge was initially observed, reported, or both;

(b) The results of the investigation, including the source, if identified;

(c) Any follow-up to the investigation;

(d) Resolution of the investigation; and

(e) The date that the investigation was closed.

d. The MS4 program plan shall include:

(1) The MS4 map and information table required by Part I E 3 a. The map and information table may be incorporated into the MS4 program plan by reference. The map shall be made available to the department within 14 days upon request;

(2) Copies of written notifications of new physical interconnections given by the permittee to other MS4s; and

(3) The IDDE procedures described in Part I E 3 c.

e. The annual report shall include:

(1) A confirmation statement that the MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year;

(2) The total number of outfalls screened during the reporting period as part of the dry weather screening program; and

(3) A list of illicit discharges to the MS4 including spills reaching the MS4 with information as follows:

- (a) *The source of illicit discharge;*
- (b) *The dates that the discharge was observed, reported, or both;*
- (c) *Whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe);*
- (d) *How the investigation was resolved;*
- (e) *A description of any follow-up activities; and*
- (f) *The date the investigation was closed.*



Illicit Discharge Detection and Elimination Program Overview

The Town has developed a comprehensive program to maintain an accurate understanding of the storm sewer system and to identify and eliminate illicit discharges and illegal dumping.

Storm Sewer System Map

The Town conducted a comprehensive update of its storm sewer system map during the previous permit cycle. The map is updated on a continuous basis. The map and outfall information table will be updated as required in Part I E 3 a of the MS4 permit.

Description of Legal Authorities

Adequate legal tools are needed to effectively prohibit illicit discharges to the storm sewer system and to conduct necessary enforcement in the case of an illicit discharge. The Town prohibits illicit discharges in Section 16.2.2 of the Town Code. The Town Attorney reviewed this authority during the last permit cycle and as part of the adoption of the Town's ordinance to implement the Virginia Stormwater Management Regulations.

Illicit Discharge Detection and Elimination Plan

The Town has developed an Illicit Discharge Detection and Elimination Plan (IDDE plan) in accordance with the requirements of the MS4 permit. The plan has been updated in accordance with the MS4 permit.

TMDL Action Plans

The Town has developed TMDL action plans for nutrients, sediment, bacteria, and PCBs. Several of these plans have illicit discharge components that have been incorporated into this MCM.

Referenced Documents

- Storm Sewer System Map and Outfall Information Table (Appendix E).
- Vienna Town Code Section 16.2.2
https://library.municode.com/va/vienna/codes/code_of_ordinances?nodeId=PTIICOOR_CH16STSI_ART1INGE_S16-2.2STDRFAMACL
- Illicit Discharge Detection and Elimination Plan (Appendix F).
- TMDL Action Plans (Appendix B).



Best Management Practices

The following BMPs will be implemented in accordance with Part I E 3 of the permit, the Town's IDDE plan, and applicable elements of TMDL action plans.

BMP 3.1 – Storm Sewer System Map

Objective: The objective of this BMP is to ensure that the Town has a full understanding of the system so that the Town can quickly track and correct illicit discharges, identify physical interconnections between the Town and other MS4s, and accurately calculate baseline and target loads in the Chesapeake Bay TMDL Action Plan.

Best Management Practices:

- By July 1, 2019, update the outfall table to include all new elements required in Part I E 3 a of the MS4 permit.
- By July 1, 2019, submit to DEQ a GIS-compatible shapefile of the Town's MS4 map.
- By October 1 of each year, update the storm sewer system map and outfall table to include any new outfalls and/or reflect any newly approved TMDLs.
- Each year, provide written notification to downstream MS4s of any new interconnection or newly discovered interconnection.

Standard Operating Procedures and Policies: All policies are reflected in the Storm Sewer System Map and Outfall Information Table.

Measurable Goals and Evaluation Criteria: The Town will provide DEQ with the GIS-compatible shapefile by July 1, 2019. The Town will include in each annual report: (1) documentation of updates to the storm sewer system map and outfall table; and, (2) copies of notifications to downstream MS4s, if any.

Responsible Party: Information Technology and Public Works.

BMP 3.2 – Prohibition on Illicit Discharges

Objective: The objective of this BMP is to ensure that the legal tools are in place to effectively prohibit illicit discharges to the storm sewer system and to conduct necessary enforcement in the case of an illicit discharge.

Best Management Practices:

- Enforce the provisions of Section 16.2.2 of the Town Code.

Standard Operating Procedures and Policies: This BMP is implemented through Section 16.2.2 of the Town Code.

Measurable Goals and Evaluation Criteria: The Town will annually assess whether any changes are necessary to the Town Code. The Town will document any changes in the appropriate annual report.

Responsible Party: Town Attorney and Public Works.

BMP 3.3 – Written Procedures for Illicit Discharges and Illegal Dumping

Objective: The objective of this BMP is to establish procedures to detect, identify, and address unauthorized nonstormwater discharges and illegal dumping into the storm sewer system. Standardized procedures ensure consistency in the Town’s approach.

Best Management Practices:

- Implement the IDDE plan.
- Incorporate relevant portions of the IDDE plan into field personnel training in BMP 6.3.

Standard Operating Procedures and Policies: This BMP is implemented through the IDDE plan.

Measurable Goals and Evaluation Criteria: The Town will document any changes to the written procedures during the reporting period in the associated annual reports.

Responsible Party: Public Works and Town Attorney.

BMP 3.4 – Dry Weather Outfall Screening

Objective: The purpose of this BMP is to identify and eliminate illicit discharges as soon as possible to minimize impacts to water quality. The Town’s IDDE plan includes dry weather outfall inspection procedures, written inspection and investigation protocols, and remedies for discovered discharges.

Best Management Practices:

- Perform dry weather outfall screening for at least 50 outfalls annually such that no more than 50% are screened in the previous 12-month period.

Standard Operating Procedures and Policies: This BMP is implemented through the IDDE plan.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report a summary of all dry weather outfall monitoring activities including the total number of outfalls screened, the screening results, and detail of any follow up actions. Tracking will be reported as part of BMP 3.5.

Responsible Party: Public Works.

BMP 3.5 – Track and Report Illicit Discharges

Objective: The MS4 permit requires that the Town track and process complaints about potential illicit discharges and coordinate the appropriate response. Potential illicit discharges are identified through complaints from Town residents (BMP 2.2), the Town’s dry weather outfall screening program (BMP 3.4), or by Town staff trained to identify illicit discharges (BMP 6.3).

Best Management Practices:

- Maintain a tracking database to record potential and actual illicit discharges.

Standard Operating Procedures and Policies: This BMP is implemented through the IDDE plan.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report a summary of all potential and actual illicit discharges in the tracking database. For each case, the Town will provide: (1) the date the discharge was observed or reported; (2) follow up activities; (3) measures to resolve the investigation; and, (4) closure date.

Responsible Party: Public Works.

BMP 3.6 – Site-Specific Illicit Discharge Assessment and Prevention

Objective: The TMDL action plans for bacteria and sediment identify specific sites that have a higher potential for the discharge of these pollutants. The objective of this BMP is to continually assess these sites and to implement strategies as necessary to reduce sources of bacteria and sediment.

Best Management Practices:

- Maintain pet waste stations identified in the Difficult Run and Accotink Creek Bacteria TMDL Action Plan to provide a convenient place to dispose of pet waste.
- Annually, conduct walk through of medium risk and priority sites for the presence of pet waste to determine whether medium risk sites should be re-classified as priority sites and to assess the effectiveness of implemented management strategies. To provide a consistent basis from which to measure the effectiveness of the Town’s efforts, the Town will use representative segments established in the previous permit cycle. The site assessments will be conducted between April 1 and June 30 of each year.
- Annually, assess the condition of Waters and Caffi Fields, and take corrective action as necessary, to ensure that they are not a source of sediment pollution.

Standard Operating Procedures and Policies: This BMP is supported by the Town’s TMDL action plans for bacteria and sediment.

Measurable Goals and Evaluation Criteria: The Town will provide a summary of any pet waste stations installed at priority sites and the results of the annual walk through of medium risk and priority sites. The Town will provide a summary of the results of the annual assessment of Waters and Caffi Fields, and any corrective actions taken to address sediment pollution.

Responsible Party: Public Works and Parks and Recreation.



MCM #3 Implementation Schedule

The Town will implement the BMPs for MCM #3 in accordance with the following schedule.

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
3.1	Storm Sewer System Map						
	Update the outfall information table in accordance with Part I E 3 a of the permit.	■					Public Works; Information Technology
	Submit GIS shape-file to DEQ.	■					Public Works; Information Technology
	Maintain the storm sewer system map and outfall information table, no later than October 1.	▶	▶	▶	▶	▶	Public Works; Information Technology
	Notify downstream MS4s of any new interconnections, as applicable.	▶	▶	▶	▶	▶	Public Works
3.2	Prohibition of Illicit Discharges						
	Enforce the provisions of Section 16.2.2 of the Town Code.	▶	▶	▶	▶	▶	Town Attorney; Public Works
3.3	Written Procedures for Illicit Discharges and Dumping						
	Implement IDDE plan and incorporate into training	▶	▶	▶	▶	▶	Public Works
3.4	Dry Weather Outfall Screening						
	Annually perform dry weather screening on 50 outfalls.	▶	▶	▶	▶	▶	Public Works
3.5	Track and Report Illicit Discharges						
	Maintain tracking database.	▶	▶	▶	▶	▶	Public Works
3.6	Site-Specific Illicit Discharge Assessment and Prevention						
	Maintain pet waste stations at priority sites.	▶	▶	▶	▶	▶	Public Works; Parks and Recreation

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
	Conduct walk through of medium risk and priority sites for pet waste.	▶	▶	▶	▶	▶	Public Works
	Assess condition of Waters and Caffi Fields and take corrective action as necessary.	▶	▶	▶	▶	▶	Public Works; Parks and Recreation

MCM #4: Construction Site Stormwater Runoff Control

Permit Reference: Part I E 4

a. The permittee shall utilize its legal authority, such as ordinances, permits, orders, specific contract language, and interjurisdictional agreements, to address discharges entering the MS4 from regulated construction site stormwater runoff. The permittee shall control construction site stormwater runoff as follows:

(1) If the permittee is a city, county, or town that has adopted a Virginia Erosion and Sediment Control Program (VESCP), the permittee shall implement the VESCP consistent with the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq. of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840);

....

b. The permittee 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 D through the MS4 is not authorized by this state permit.

c. The permittee's MS4 program plan shall include:

(1) If the permittee implements a construction site stormwater runoff control program in accordance with Part I E 4 a (1), the local ordinance citations for the VESCP program;

(2) A description of the legal authorities utilized to ensure compliance with Part I E 4 a to control construction site stormwater runoff control such as ordinances, permits, orders, specific contract language, policies, and interjurisdictional agreements;

(3) Written inspection procedures to ensure the erosion and sediment controls are properly implemented and all associated documents utilized during inspection including the inspection schedule;

(4) Written procedures for requiring compliance through corrective action or enforcement action to the extent allowable under federal, state, or local law, regulation, ordinance, or other legal mechanisms; and

(5) The roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the construction site stormwater runoff control requirements in Part I E 4.

d. The annual report shall include the following:

(1) If the permittee implements a construction site stormwater runoff program in accordance with Part I E 4 a (3):

(a) A confirmation that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved standards and specifications for erosion and sediment control; and,

(b) If one or more of the land disturbing projects were not conducted with the department approved standards and specifications, an explanation as to why the projects did not conform to the approved standards and specifications.

(2) Total number of inspections conducted; and,

(3) The total number and type of enforcement actions implemented and the type of enforcement actions.



Construction Site Stormwater Runoff Control Overview

The Town must ensure that construction activities minimize impacts to water quality and meet all applicable local, state, and federal requirements. The following provides an overview of the Town’s program in accordance with the requirements of Part I E 4 of the permit.

Description of Legal Authorities

The Town’s construction site stormwater runoff control program includes Town Code Chapter 23, Article 2 “Erosion and Sediment Control” and Article 3 “Stormwater Management.” Article 2 implements the requirements of the Virginia Erosion and Sediment Control Law and attendant regulations. Article 3 implements the requirements of the Virginia Stormwater Management Act and attendant regulations.

Written Plan Review Procedures

The Department of Public Works is the Plan Approving Authority, and the Public Works Director maintains certification as a program administrator. The Town reviews erosion and sediment control plans and stormwater management plans for proposed land-disturbing activities that disturb 2,500 square feet or greater. Proposed land disturbing activities must receive plan approval or secure the appropriate agreement in lieu of a plan prior to the commencement of land-disturbing activities. The Town’s “Land Disturbing Permit” and “Submittal and Review of Stormwater Management and Erosion and Sediment Control Plans Standard Operating Procedures” are used to ensure that plans meet the requirements adopted in the Town Code.

Written Inspection and Enforcement Procedures

The Town’s inspectors maintain the required qualified personnel designation for erosion and sediment control, and the appropriate staff has received DEQ Stormwater Inspector Training, so that staff can perform comprehensive onsite stormwater pollution prevention plan (SWPPP) inspections. The inspector completes the appropriate inspection report and notes any applicable corrective actions, and changes to the SWPPP if necessary, along with a timetable for completing the corrective action. If there is a failure to comply with such measures within the time specified, the plan or revision may be revoked and the responsible party will be deemed to be in violation and upon conviction will be subject to the penalties provided in Town Code Section 23-10. The Town’s “Stormwater Management Construction Inspection and Enforcement Standard Operating Procedures” is used to ensure compliance with the Town Code.

Roles and Responsibilities

Review of development plans for projects within the Town, including erosion and sediment control plans and stormwater management plans, is handled by the DPW Administration Division. Final approval of plans is the responsibility of the Director of DPW.

Inspection and enforcement is handled by the DPW Administration Division through periodic site inspections in accordance with the Town’s approved VSMP. Enforcement actions are the responsibility of the Director and Deputy Director of DWP in coordination with the Town Attorney.

Reference Documents

- Vienna Town Code Chapter 23, Article 2 “Erosion and Sediment Control”
https://library.municode.com/va/vienna/codes/code_of_ordinances?nodeId=PTIICOOR_CH23ENCO
- Land Disturbing Permit (Appendix G).
- Submittal and Review of Stormwater Management and Erosion and Sediment Control Plans Standard Operating Procedures (Appendix G).
- Stormwater Management Construction Inspection and Enforcement Standard Operating Procedures (Appendix G).



Best Management Practices

The following BMPs will be implemented in accordance with Section II.B.4 of the permit.

BMP 4.1 – Maintain Local Program Consistency

Objective: The objective of this BMP is to minimize impacts to water quality from construction activities by maintaining consistency with the Virginia Erosion and Sediment Control Law, the Virginia Stormwater Management Act, and their attendant regulations.

Best Management Practices:

- Implement a program consistent with state law and regulations.
- Train all plan review, inspection, and enforcement staff as required by state law and regulation.

Standard Operating Procedures and Policies: This BMP is implemented through Town Code Chapter 23 and the procedures cited in Reference Documents.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report a summary of any changes in program consistency, if applicable.

Responsible Party: Public Works and Town Attorney.

BMP 4.2 – Land Disturbing Activities Tracking System

Objective: The objective of this BMP is to ensure that all required land disturbing activity data needed to be reported to DEQ is adequately and accurately tracked.

Best Management Practices:

- Track and submit to DEQ all land disturbing activities in accordance with permit requirements.

Standard Operating Procedures and Policies: Excel spreadsheet or other means to track land disturbing activities and erosion and sediment controls.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report: (1) a confirmation statement that land disturbing activities have been conducted in accordance with all approved standards and specifications; (2) an explanation for any projects not conducted in accordance with all standards and specifications; (3) the total number of inspections conducted; and, (4) the number and type of enforcement actions taken during the reporting period.

Responsible Party: Public Works.



MCM #4 Implementation Schedule

The Town will implement the BMPs for MCM #4 in accordance with the following schedule.

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
4.1	Maintain Local Program Consistency						
	Implement consistent construction site stormwater control program.	▶	▶	▶	▶	▶	Public Works; Town Attorney
	Train all plan review, inspection, and enforcement staff.	▶	▶	▶	▶	▶	Public Works
4.2	Land Disturbing Activities Tracking System						
	Track and report annually on land-disturbing activities.	▶	▶	▶	▶	▶	Public Works

MCM #5: Post-Construction Stormwater Management

Permit Reference: Part I E 5

a. The permittee shall address post-construction stormwater runoff that enters the MS4 from the following land disturbing activities by implementing a post-construction stormwater runoff management program as follows:

(1) If the permittee is a city, county, or town, with an approved Virginia Stormwater Management Program (VSMP), the permittee shall implement the VSMP consistent with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and VSMP Regulations (9VAC25-870) as well as develop an inspection and maintenance program in accordance with Parts I E 5 b and c;

...

b. The permittee shall implement an inspection and maintenance program for those stormwater management facilities owned or operated by the permittee that discharges to the MS4 as follows:

(1) The permittee shall develop and maintain written inspection and maintenance procedures in order to ensure adequate long-term operation and maintenance of its stormwater management facilities;

(2) The permittee shall inspect stormwater management facilities owned or operated by the permittee no less than once per year. The permittee 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 and rationale is included in the MS4 program plan. The alternative inspection frequency shall be no less than once per five years; and

(3) If during the inspection of the stormwater management facility conducted in accordance with Part I E 5 b (2), it is determined that maintenance is required, the permittee shall conduct the maintenance in accordance with the written procedures developed under Part I E 5 b (1).

c. For those permittees described in Part I E 5 a (1) or (2), the permittee shall:

(1) Implement an inspection and enforcement program for stormwater management facilities not owned by the permittee (i.e., privately owned) that includes:

(a) An inspection frequency of no less than once per five years for all privately owned stormwater management facilities that discharge into the MS4; and

(b) Adequate long-term operation and maintenance by the owner of the stormwater management facility by requiring the owner to develop and record a maintenance agreement, including an inspection schedule to the extent allowable under state or local law or other legal mechanism;

(2) Utilize its legal authority for enforcement of the maintenance responsibilities if maintenance is neglected by the owner; and

(3) The permittee may develop and implement a progressive compliance and enforcement strategy provided that the strategy is included in the MS4 program plan.

d. The permittee shall maintain an electronic database or spreadsheet of all known permittee owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4. The database shall also include all BMPs implemented by the permittee to meet the Chesapeake Bay TMDL load reduction as required in Part II A. A database shall include the following information as applicable:

(1) The stormwater management facility or BMP type;

(2) The stormwater management facility or BMPs location as latitude and longitude;

(3) The acres treated by the stormwater management facility or BMP, including total acres, pervious acres, and impervious acres;

(4) The date the facility was brought online (MM/YYYY). If the date brought online is not known, the permittee shall use June 30, 2005;

- (5) *The 6th Order Hydrologic Unit Code in which the stormwater management facility is located;*
- (6) *Whether the stormwater management facility or BMP is owned or operated by the permittee or privately owned;*
- (7) *Whether or not the stormwater management facility or BMP is part of the permittee's Chesapeake Bay TMDL action plan required in Part II A or local TMDL action plan required in Part II B, or both;*
- (8) *If the stormwater management facility or BMP is privately owned, whether a maintenance agreement exists; and*
- (9) *The date of the permittee's most recent inspection of the stormwater management facility or BMP.*

e. The electronic database or spreadsheet shall be updated no later than 30 days after a new stormwater management facility is brought online, a new BMP is implemented to meet a TMDL load reduction as required in Part II, or discovered if it is an existing stormwater management facility.

f. The permittee shall use the DEQ Construction Stormwater Database or other application as specified by the department to report each stormwater management facility installed after July 1, 2014, to address the control of post-construction runoff from land disturbing activities for which the permittee is required to obtain a General VPDES Permit for Discharges of Stormwater from Construction Activities.

g. No later than October 1 of each year, the permittee shall electronically report the stormwater management facilities and BMPs implemented between July 1 and June 30 of each year using the DEQ BMP Warehouse and associated reporting template for any practices not reported in accordance with Part I E 5 f including stormwater management facilities installed to control post-development stormwater runoff from land disturbing activities less than one acre in accordance with the Chesapeake Bay Preservation Act regulations (9VAC25-830) and for which a General VPDES Permit for Discharges of Stormwater from Construction Activities was not required.

h. The MS4 program plan shall include:

(1) If the permittee implements a VSMP in accordance with Part I E 5 a (1) and (2):

- (a) A copy of the VSMP approval letter issued by the department;*
- (b) Written inspection procedures and all associated documents utilized in the inspection of privately owned stormwater management facilities; and*
- (c) Written procedures for compliance and enforcement of inspection and maintenance requirements for privately owned BMPs.*

(2) If the permittee implements a post-development stormwater runoff control program in accordance with Part I E 5 a (3):

- (a) The most recently approved standards and specifications or if incorporated by reference, the location where the standards and specifications can be viewed; and*
- (b) A copy of the most recent standards and specifications approval letter from the department.*

(3) A description of the legal authorities utilized to ensure compliance with Part I E 5 a for post-construction stormwater runoff control such as ordinances (provide citation as appropriate), permits, orders, specific contract language, and interjurisdictional agreements;

(4) Written inspection procedures and all associated documents utilized during inspection of stormwater management facilities owned or operated by the permittee;

(5) The roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the post-construction stormwater runoff control program;

and

(6) The stormwater management facility spreadsheet or database incorporated by reference and the location or webpage address where the spreadsheet or database can be reviewed.

i. The annual report shall include the following information:

- (1) If the permittee implements a Virginia Stormwater Management Program in accordance with Part I E 5 a (1) and (2):
- (a) The number of privately owned stormwater management facility inspections conducted; and
 - (b) The number of enforcement actions initiated by the permittee to ensure long-term maintenance of privately owned stormwater management facilities including the type of enforcement action;
- (2) Total number of inspections conducted on stormwater management facilities owned or operated by the permittee;
- (3) A description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection;
- (4) A confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part I E 5 f or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities; and
- (5) A confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part I E 5 g and the date on which the information was submitted.



Post-Construction Site Stormwater Runoff Control Overview

The Town must ensure that post-construction controls minimize the long-term impacts to water quality caused by development and that the Town meets all applicable local, state, and federal requirements. The following provides an overview of the Town’s program in accordance with the requirements of Part I E 5 of the permit.

Description of Legal Authorities

The Town’s post-construction stormwater requirements are included in Town Code Chapter 23, Article 3 “Stormwater Management.” Article 3 implements the requirements of the Virginia Stormwater Management Act and attendant regulations. The Town has been approved as a VSMP authority by DEQ.

Written Stormwater Facility Design and Installation Procedures

Stormwater management facilities must be designed and installed properly to ensure that pollutant reduction requirements are met and that the facility provides long-term water quality benefits. The Town reviews development plans to ensure that projects meet the appropriate water quality and water quantity design criteria contained in the VSMP regulations, DEQ-approved standards and specifications, the Virginia BMP Clearinghouse and Virginia Stormwater Management Handbook, and the Fairfax County Public Facilities Manual, as applicable. As built stormwater management plans must contain the signature and stamp of the licensed professional consultant and owner certification.

The Town’s “Stormwater Management Plan Review Checklist” and any supplemental review materials in Appendix 3 of the Virginia Stormwater Management Handbook are used to verify that minimum standards are met in accordance with the Town Code. Public Works utilizes the Virginia Stormwater BMP Clearinghouse or the Fairfax County Public Facilities Manual,

whichever is more stringent unless waived by the Director of Public Works in accordance with Town Code Section 23-17.A.1, to review stormwater management facility design.

Written Inspection, Compliance, and Enforcement Procedures

Maintenance of both public and private BMPs is essential to ensuring that these investments continue to provide their intended water quality benefits. The Town annually inspects all public and private stormwater management facilities. The Town’s “Stormwater Facility Maintenance and Inspection Standard Operating Procedures” and “Private Stormwater Management Facility Inspection and Maintenance Report” establish the Town’s protocols and procedures in accordance with the Town Code and the VSMP regulations. The Town requires the execution of a “Stormwater Management Facility Maintenance Agreement” for all private stormwater management facilities. The agreement is entered into the land records of Fairfax County.

Roles and Responsibilities

The DPW Administration Division conducts inspections of permanent public and private stormwater management facilities annually unless the Town develops an alternative maintenance schedule and updates the MS4 Program Plan accordingly. The Town Attorney, with support from the DPW Administration Division, institutes enforcement protocols to address determinations of non-compliance.

Reference Documents

- Vienna Town Code Chapter 23, Article 3 “Stormwater Management”
https://library.municode.com/va/vienna/codes/code_of_ordinances?nodeId=PTIICOOR_CH23ENCO
- VSMP Approval Letter (Appendix G).
- Fairfax County Public Facilities Manual Site Plan and Subdivision Site Plan Checklists
<https://www.fairfaxcounty.gov/landdevelopment/public-facilities-manual>
- Virginia Stormwater BMP Clearinghouse
<https://www.swbmp.vwrrc.vt.edu/>
- Stormwater Management Plan Review Checklist (Appendix G).
- Stormwater Facility Maintenance and Inspection Standard Operating Procedures (Appendix G)
- Private Stormwater Management Facility Inspection and Maintenance (Appendix G).
- Stormwater Management Facility Maintenance Agreement (Appendix G).



Best Management Practices

The following BMPs will be implemented in accordance with Section II.B.5 of the permit.

BMP 5.1 – Maintain Local Program Consistency

Objective: The objective of this BMP is to minimize the long-term impacts to water quality caused by development by maintaining consistency with the Virginia Stormwater Management Act and its attendant regulations.

Best Management Practices:

- Implement a program consistent with state law and regulations.
- Train all plan review, inspection, and enforcement staff as required by state law and regulation.

Standard Operating Procedures and Policies: This BMP is implemented through Town Code Chapter 23 and the procedures cited in Reference Documents.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report a summary of any changes in program consistency, if applicable.

Responsible Party: Public Works and Town Attorney.

BMP 5.2 – Stormwater Facility Maintenance, Inspection, and Enforcement

Objective: The objective of this BMP is to ensure that stormwater management facilities continue to provide their intended water quality benefits.

Best Management Practices:

- Require all new BMP facilities to enter into a maintenance agreement with the Town.
- Inspect each public stormwater facility at least once annually.
- Inspect each private stormwater facility at least once every five years and take follow-up and/or enforcement action as necessary.

Standard Operating Procedures and Policies: This BMP is implemented through Town Code Chapter 23 and the procedures cited in Reference Documents.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report: (1) the number of private facilities inspected each year; (2) the number and type of enforcement actions taken against private facilities, if applicable; (3) the number of public facilities inspected each year; (4) a description of significant maintenance, repair, or retrofit activities performed on public facilities; and, (5) confirmation that new facilities were reported either through the DEQ Construction Stormwater Database or the DEQ BMP Warehouse.

Responsible Party: Public Works.

BMP 5.3 – Stormwater Facility Tracking Database

Objective: The objective of this BMP is to ensure that all Town maintenance, inspection, and enforcement activities are properly tracked.

Best Management Practices:

- By July 1, 2019, update the database to include all new elements required in Part I E 5 d of the MS4 permit.
- Update the database no later than 30 days after each new stormwater management facility is brought online.
- Record each inspection and enforcement action in the database, as applicable.
- Use the DEQ Construction Stormwater Database to report any new facility installed to meet the requirements of a General VPDES Permit for Discharges of Stormwater from Construction Activities.
- By October 1 of each year, use the DEQ BMP Warehouse to report any new facility not reported using the DEQ Construction Stormwater Database, including facilities to meet the Chesapeake Bay TMDL and facilities where a General VPDES Permit for Discharges of Stormwater from Construction Activities was not required.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will submit an electronic database or spreadsheet of all facilities brought online during the reporting period with the appropriate annual report. The data will include: the type of facility, location, acres treated (total acres with a breakdown of impervious and pervious acres), date brought online, sixth order Hydrologic Unit Code (HUC), the name of the impaired stream segment the facility is discharging into, whether public or private, existence of maintenance agreement, date of the most recent inspection, and when applicable, the number of enforcement actions.

Responsible Party: Public Works.



MCM #5 Implementation Schedule

The Town will implement the BMPs for MCM #5 in accordance with the following schedule.

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
5.1	Maintain Local Program Consistency						
	Implement consistent post-construction site stormwater control program.	▶	▶	▶	▶	▶	Public Works; Town Attorney
	Train all plan review, inspection, and enforcement staff.	▶	▶	▶	▶	▶	Public Works

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
5.2	Stormwater Facility Maintenance, Inspection, and Enforcement						
	Require all new BMP facilities to enter into a maintenance agreement with the Town.	▶	▶	▶	▶	▶	Public Works; Town Clerk
	Inspect private facilities at least once every five years.	▶	▶	▶	▶	▶	Public Works
	Inspect public facilities once annually or in accordance with an adopted alternative schedule.	▶	▶	▶	▶	▶	Public Works
5.3	Stormwater Facility Tracking Database						
	Update the stormwater facility database in accordance with Part I E 5 of the MS4 permit	■					Public Works
	Update the database no later than 30 days after each new stormwater facility is brought on-line.	▶	▶	▶	▶	▶	Public Works
	Record inspection and enforcement actions in the tracking database.	▶	▶	▶	▶	▶	Public Works
	Use the DEQ Construction Stormwater Database to report new facilities requiring a construction general permit.	▶	▶	▶	▶	▶	Public Works
	Use the DEQ BMP Warehouse to report all other new facilities no later than October 1.	▶	▶	▶	▶	▶	Public Works

MCM #6: Pollution Prevention and Good Housekeeping

Permit Reference: Part I E 6

a. The permittee shall maintain and implement written procedures for those activities at facilities owned or operated by the permittee, such as road, street, and parking lot maintenance; equipment maintenance; and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers designed to:

- (1) Prevent illicit discharges;*
- (2) Ensure the proper disposal of waste materials, including landscape wastes;*
- (3) Prevent the discharge of wastewater or permittee vehicle wash water or both into the MS4 without authorization under a separate VPDES permit;*
- (4) Require implementation of best management practices when discharging water pumped from utility construction and maintenance activities;*
- (5) Minimize the pollutants in stormwater runoff from bulk storage areas (e.g., salt storage, topsoil stockpiles) through the use of best management practices;*
- (6) Prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and*
- (7) Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.*

b. The written procedures established in accordance with Part I E 6 a shall be utilized as part of the employee training program at Part I E 6 m.

c. Within 12 months of state permit coverage, the permittee shall identify which of the high-priority facilities have a high potential of discharging pollutants. The permittee shall maintain and implement a site specific stormwater pollution prevention plan (SWPPP) for each facility identified. High priority facilities that have a high potential for discharging pollutants are those facilities 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:

- (1) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;*
- (2) Materials or residuals on the ground or in stormwater inlets from spills or leaks;*
- (3) Material handling equipment;*
- (4) Materials or products that would be expected to be mobilized in stormwater runoff during loading or unloading or transporting activities (e.g., rock, salt, fill dirt);*
- (5) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);*
- (6) 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;*
- (7) Waste material except waste in covered, nonleaking containers (e.g., dumpsters);*
- (8) Application or disposal of process wastewater (unless otherwise permitted); or*
- (9) 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.*

d. Each SWPPP as required in Part I E 6 c shall include the following:

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

- (2) A description and checklist of the potential pollutants and pollutant sources;
- (3) A description of all potential nonstormwater discharges;
- (4) Written procedures designed to reduce and prevent pollutant discharge;
- (5) A description of the applicable training as required in Part I E 6 m;
- (6) Procedures to conduct an annual comprehensive site compliance evaluation;
- (7) An inspection frequency of no less than once per year and maintenance requirements for site specific source controls. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP; and
- (8) A log of each unauthorized discharge, release, or spill incident reported in accordance with Part III G including the following information:
 - (a) Date of incident;
 - (b) Material discharged, released, or spilled; and
 - (c) Estimated quantity discharged, released or spilled.

e. No later than June 30 of each year, the permittee shall annually review any high-priority facility owned or operated by the permittee for which a SWPPP has not been developed to determine if the facility has a high potential to discharge pollutants as described in Part I E 6 c. If the facility is determined to be a high-priority facility with a high potential to discharge pollutants, the permittee shall develop a SWPPP meeting the requirements of Part I E 6 d no later than December 31 of that same year.

f. The permittee shall review the contents of any site specific SWPPP no later than 30 days after any unauthorized discharge, release, or spill reported in accordance with Part III G to determine if additional measures are necessary to prevent future unauthorized discharges, releases, or spills. If necessary, the SWPPP shall be updated no later than 90 days after the unauthorized discharge.

g. The SWPPP shall be kept at the high-priority facility with a high potential to discharge and utilized as part of staff training required in Part I E 6 m. The SWPPP and associated documents may be maintained as a hard copy or electronically as long as the documents are available to employees at the applicable site.

h. If activities change at a facility such that the facility no longer meets the criteria of a high-priority facility with a high potential to discharge pollutants as described in Part I E 6 c, the permittee may remove the facility from the list of high-priority facilities with a high potential to discharge pollutants.

i. The permittee shall maintain and 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 permittee where nutrients are applied to a contiguous area greater than one acre. If nutrients are being applied to achieve final stabilization of a land disturbance project, application shall follow the manufacturer's recommendations.

j. Permittees with lands regulated under § 10.1-104.4 of the Code of Virginia, including state agencies, state colleges and universities, and other state government entities, shall continue to implement turf and landscape nutrient management plans in accordance with this statutory requirement.

k. The permittee 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.

l. The permittee shall require through the use of contract language, training, standard operating procedures, or other measures within the permittee's legal authority that contractors employed by the permittee and engaging in activities with the potential to discharge pollutants use appropriate control measures to minimize the discharge of pollutants to the MS4.

m. The permittee shall develop a training plan in writing for applicable staff that ensures the following:

- (1) Field personnel receive training in the recognition and reporting of illicit discharges no less than once per 24 months;

(2) *Employees performing road, street, and parking lot maintenance receive training in pollution prevention and good housekeeping associated with those activities no less than once per 24 months;*

(3) *Employees working in and around maintenance, public works, or recreational facilities receive training in good housekeeping and pollution prevention practices associated with those facilities no less than once per 24 months;*

(4) *Employees and contractors hired by the permittee who apply pesticides and herbicides are trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia). Certification by the Virginia Department of Agriculture and Consumer Services (VCACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement;*

(5) *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) *Employees and contractors implementing the stormwater program obtain the appropriate certifications as required under the Virginia Stormwater Management Act and its attendant regulations; and*

(7) *Employees whose duties include emergency response have been trained in spill response. Training of emergency responders such as firefighters and law-enforcement officers on the handling of spill releases as part of a larger emergency response training shall satisfy this training requirement and be documented in the training plan.*

n. The permittee shall maintain documentation of each training event conducted by the permittee to fulfill the requirements of Part I E 6 m for a minimum of three years after the training event. The documentation shall include the following information:

(1) The date of the training event;

(2) The number of employees attending the training event; and

(3) The objective of the training event.

o. The permittee may fulfill the training requirements in Part I E 6 m, in total or in part, through regional training programs involving two or more MS4 permittees; however, the permittee shall remain responsible for ensuring compliance with the training requirements.

p. The MS4 program plan shall include:

(1) The written procedures for the operations and maintenance activities as required by Part I E 6 a;

(2) A list of all high-priority facilities owned or operated by the permittee required in accordance with Part I E 6 c, and whether or not the facility has a high potential to discharge;

(3) A list of lands for which turf and landscape nutrient management plans are required in accordance with Part I E 6 i and j, including the following information:

(a) The total acreage on which nutrients are applied;

(b) The date of the most recently approved nutrient management plan for the property; and

(c) The location in which the individual turf and landscape nutrient management plan is located;

(4) A summary of mechanisms the permittee uses to ensure contractors working on behalf of the permittees implement the necessary good housekeeping and pollution prevention procedures, and stormwater pollution plans as appropriate; and

(5) The written training plan as required in Part I E 6 m.

q. The annual report shall include the following:

(1) A summary of any operational procedures developed or modified in accordance with Part I E 6 a during the reporting period;

(2) A summary of any new SWPPPs developed in accordance Part I E 6 c during the reporting period;

- (3) A summary of any SWPPPs modified in accordance with Part I E 6 f or the rationale of any high priority facilities delisted in accordance with Part I E 6 h during the reporting period;
- (4) A summary of any new turf and landscape nutrient management plans developed that includes:
- (a) Location and the total acreage of each land area; and
 - (b) The date of the approved nutrient management plan; and
- (5) A list of the training events conducted in accordance with Part I E 6 m, including the following information:
- (a) The date of the training event;
 - (b) The number of employees who attended the training event; and
 - (c) The objective of the training event.



Pollution Prevention and Good Housekeeping Overview

Operation and Maintenance Pollution Prevention SOPs

Municipal employees engage in a variety of daily activities that have the potential to influence water quality. The Town has developed operation and maintenance pollution prevention standard operating procedures (SOPs) in accordance with the requirements of Part I E 6 a of the permit. The SOPs cover: road, street and parking lot maintenance; equipment maintenance; the application, storage, transport and disposal of pesticides, herbicides and fertilizers; snow and deicing operations; and, utility construction and maintenance. The snow and deicing operations SOP has been updated to prohibit the use of urea-based deicers and other deicers containing nutrients in accordance with the MS4 permit.

Stormwater Pollution Prevention Plans

The Town identified one location (Northside Property Yard) where a stormwater pollution prevention plan (SWPPP) is required to be developed and implemented in accordance with Part I E 6 c of the permit. High-priority facilities may include any of the following: composting, equipment storage and maintenance, recycling, solid waste handling and transfer, salt storage, pesticide storage, public works yards, and vehicle storage and maintenance yards. The SWPPP was developed and implemented in FY15.

Nutrient Management Plans

The Town has assessed all of its owned and operated properties and has determined that nutrients are not applied to any contiguous areas greater than one acre. As a result, the Town does not need to develop nutrient management plans (NMPs). Should this change, the Town will develop a NMP development schedule and update the MS4 Program Plan accordingly.

Contractors

Part I E 6 l requires the Town to ensure that all contractors providing services to the Town are in full compliance with applicable licensing and certification requirements as well as the Town's pollution prevention SOPs. The Town includes the following language in all contracts to ensure that contractors abide by the Town's pollution prevention SOPs and applicable local, state, and federal stormwater management requirements:

“Town of Vienna standards and regulations including, but not limited to, all Storm Water Standard Operating Procedures, erosion and sediment control storm water regulations.”

Training

The Town has developed a training schedule and program in accordance with the permit requirements. Fire and Rescue personnel are employees of Fairfax County and are subject to the County’s training requirements. Town Police are provided initial training through the Fairfax County Criminal Justice Training Academy. The training program also reflects TMDL action plans for nutrients, sediment, bacteria, and PCBs.

Northside Property Yard

The Town is developing a Northside Property Yard Stormwater Design Improvements Conceptual Report to examine ways to improve stormwater quality at the facility. The MS4 Program Plan will be updated as needed to reflect any recommendations.

Referenced Documents

- Operation and Maintenance Pollution Prevention SOPs (Appendix H).
- Northside Property Yard SWPPP (Appendix I).



Best Management Practices

The following BMPs will be implemented in accordance with Section II.B.6 of the permit and applicable elements of TMDL action plans.

BMP 6.1 – Operation and Maintenance Pollution Prevention SOPs

Objective: The objective of this BMP is to minimize or prevent the discharge of pollution from municipal operations through the implementation of written procedures.

Best Management Practices:

- Implement the Operation and Maintenance Pollution Prevention SOPs.
- Prohibit the application of any deicing agent containing urea or other forms of nutrients in accordance with the Operation and Maintenance Pollution Prevention SOPs.
- Annually review, and if necessary update, the Operation and Maintenance Pollution Prevention SOPs to comply with MS4 permit requirements.
- Incorporate Operation and Maintenance Pollution Prevention SOPs into staff training in BMP 6.3.

Standard Operating Procedures and Policies: This BMP is implemented through the Operation and Maintenance Pollution Prevention SOPs.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report a confirmation that the SOPs have been reviewed and any necessary changes have been made.

Responsible Party: Public Works.

BMP 6.2 – Stormwater Pollution Prevention Plans for High-Priority Facilities

Objective: The objective of this BMP is to reduce and prevention the discharge of pollutants from high-priority facilities through the implementation of SWPPPs and other pollution prevention measures.

Best Management Practices:

- Implement the Town’s existing SWPPP and review and update, if necessary, in accordance with the following schedule:

Facility	Agency	Location	Review Schedule
Northside Property Yard	Public Works	600 Mill Street NE Vienna, VA 22180	FY21

- By June 30 of each year, review Town properties for high-priority sites that do not have a SWPPP to determine if they have a high potential to discharge pollutants. By December 31 of the same year, develop a SWPPP for any newly identified high priority site with a high potential to discharge pollutants.
- Review a SWPPP within 30 days of any unauthorized discharge, release, or spill reported in accordance with the MS4 permit. Update the SWPPP within 90 days if necessary to prevent future unauthorized discharge, release or spill.

Standard Operating Procedures and Policies: This BMP is implemented through Northside Property Yard SWPPP.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report: (1) confirmation that the SWPPP is being implemented, including a sample completed site inspection checklist; (2) confirmation of the review of high-priority sites; and, (3) a description of any changes to the SWPPP or any new SWPPPs.

Responsible Party: Public Works.

BMP 6.3 – Employee Training

Objective: The objective of this BMP is to implement a training plan in accordance with Part I E 6 m-o of the MS4 permit. All Town employees should be aware of pollution prevention goals and be trained to recognize and correct potential sources of pollution. The training plan includes a focus on pollutants identified in TMDL action plans, including bacteria, sediment, nutrients, and PCBs.

To the extent practicable, training will be coordinated with the required training associated with the Northside Property Yard. In addition, the Town has entered into an MOU with Fairfax County that allows Town staff to utilize applicable County training programs. While site-specific training is required for the Property Yard SWPPP, the Town may engage in cooperative training for more specific areas such as training required for recreation center employees and employees engaged in road, street, and parking lot maintenance. Training for Town Police in

spill response is initially provided through the Fairfax County Criminal Justice Training Academy. Refresher training will be provided once each five-year permit cycle.

Best Management Practices: Training will be provided in accordance with the following schedule:

Requirement	Agency	Training Type/ Notes	Schedule				
			FY19	FY20	FY21	FY22	FY23
Northside Property Yard SWPPP. Part I E 6 c	DPW Administration	Purpose and contents of the SWPPP.					
	DPW Street Maintenance						
	DPW General Maintenance			■		■	
	DPW Sanitation/ Refuse						
	DPW Traffic Engineering						
Field personnel recognition and reporting of illicit discharges. Part I E 6 m (1)	DPW Street Maintenance	Include specific training on pollutants identified in TMDL action plans (nutrients, sediment, and PCBs).					
	DPW General Maintenance						
	DPW Sanitation/ Refuse						
	DPW Traffic Engineering		■		■		■
	DPW Sanitary Sewer						
	DPW Water						
	DPW Meter Reading						
	Parks Maintenance						

Requirement	Agency	Training Type/ Notes	Schedule				
			FY19	FY20	FY21	FY22	FY23
Road, street, and parking lot maintenance good housekeeping. Part I E 6 m (2)	DPW Street Maintenance	Conducted as part of Property Yard SWPPP training. Focus on road, street, and parking lot maintenance SOP developed in BMP 6.1.		■		■	
Maintenance and public work facility good housekeeping. Part I E 6 m (3)	DPW Administration	Conducted as part of Property Yard SWPPP training. Focus on SOPs developed in BMP 6.1.					
	DPW Street Maintenance						
	DPW General Maintenance						
	DPW Sanitation/ Refuse		■		■		
	DPW Traffic Engineering						
	DPW Sanitary Sewer						
	DPW Water						
Recreational facility good housekeeping. Section II.B.6.d(3)	Parks Maintenance	Conducted as part of Property Yard SWPPP training. Focus on SOPs developed in BMP 6.1.		■		■	
	Parks Community Center						
Application of pesticides and herbicides. Part I E 6 m (4)	Parks Maintenance	See BMP 6.5.		-	-	-	-
Certifications under Virginia Erosion and Sediment Control Law Part I E 6 m (5)-(6)	DPW Administration	See BMP 6.6.		-	-	-	-

Requirement	Agency	Training Type/ Notes	Schedule				
			FY19	FY20	FY21	FY22	FY23
Emergency response employee spill response training. Part I E 6 m (7)	Police	Provided during initial training through Fairfax County Criminal Justice Training Academy. Refresher course provide internally in FY23.					■

Agency/Division	Training Type
DPW Administration	Property Yard SWPPP
	VESC/VSMP Certifications
DPW Street Maintenance	Property Yard SWPPP
	Illicit Discharges
	Roads, Streets, and Parking Lots
	Maintenance and Public Works
DPW General Maintenance	Property Yard SWPPP
	Illicit Discharges
	Maintenance and Public Works
DPW Sanitation/Refuse	Property Yard SWPPP
	Illicit Discharges
	Maintenance and Public Works
DPW Traffic Engineering	Property Yard SWPPP
	Illicit Discharges
	Maintenance and Public Works
DPW Sanitary Sewer	Property Yard SWPPP
	Illicit Discharges
	Maintenance and Public Works
DPW Water	Property Yard SWPPP
	Illicit Discharges
	Maintenance and Public Works
DPW Meter Reading	Illicit Discharges
Parks Maintenance	Illicit Discharges
	Recreation Facilities

Agency/Division	Training Type
Parks Community Center	Illicit Discharges
	Recreation Facilities
Police Patrol Division	Emergency Spill Response

Standard Operating Procedures and Policies: This BMP will be implemented through the schedule provided above.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report: (1) the date of each training event; (2) the number of employees attending each training event; and, (3) the objective of each training event.

Responsible Party: Public Works, with departments and divisions providing coordination for their respective personnel.

BMP 6.4 – Certification for Pesticide and Herbicide Applicators

Objective: The objective of this BMP is to ensure that pesticide and herbicide applicators are certified in accordance with Virginia law in proper handling, application, and disposal best practices. This will help to reduce the likelihood of potential impacts to water quality.

Best Management Practices:

- Require that all staff and contractors who apply pesticides or herbicides to Town-owned property receive the proper training or certification in accordance with the Virginia Pest Control Act (§ 3.2-3900 *et seq* Code of Virginia).

Standard Operating Procedures and Policies: This BMP is enforced through the Virginia Pest Control Act. This BMP is also supported by contract language requiring contractors to be properly certified.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report verification that all employees that handle or apply pesticides and herbicides are certified by the Virginia Department of Agriculture and Consumer Services. The Town will retain the training and certification records and report this information in the annual report.

Responsible Party: Parks and Recreation.

BMP 6.5 – Proper State Certification for Erosion and Sediment Control

Objective: The objective of this BMP is to ensure that staff serving as plan reviewers, inspectors, program administrators, and construction site operators obtain appropriate certifications required under the Virginia Erosion and Sediment Control Law and attendant regulations.

Best Management Practices:

- Require applicable staff to obtain and maintain the required state erosion and control certification.
- Require applicable staff to obtain DEQ certification and approval for stormwater management basic, inspector, plan reviewer, and combined administrator, as applicable.

Standard Operating Procedures and Policies: This BMP is enforced through the Virginia Erosion and Sediment Control Act and the Virginia Stormwater Management Act and supported by the Town Code Chapter 23.

Measurable Goals and Evaluation Criteria: Staff certification will be kept in the department of human resource files and employee supervisor will ensure that certifications remain current.

Responsible Party: Public Works.

BMP 6.6 – Contractor Oversight Procedures

Objective: The objective of this BMP is to ensure that Town contractors are held to the same standards as Town employees with regard to protecting water resources.

Best Management Practices:

- Implement contract language requiring contractors to follow all control measures and procedures required by the Town, including applicable SOPs.

Standard Operating Procedures and Policies: This BMP is implemented through standard language in all Town contracts.

Measurable Goals and Evaluation Criteria: The Town will include in each annual report verification that the contract language is being implemented.

Responsible Party: Public Works.

BMP 6.7 – Street Sweeping

Objective: The objective of this BMP is to reduce trash, particulates, and organic matter from entering the storm system through an effective street sweeping program.

Best Management Practices:

- Continue to conduct Town-wide street sweeping operations at least once a year, and sweep after major outdoor special events.

Standard Operating Procedures and Policies: This BMP is implemented through the Town's street sweeping schedule.

Documentation and Measure of Effectiveness: The Town will include in each annual report a summary of street sweeping activities and an estimate of the amount of material collected and prevented from entering the storm drain system.

Responsible Party: Public Works.



MCM #6 Implementation Schedule

The Town will implement the BMPs for MCM #6 in accordance with the following schedule.

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
6.1	Operation and Maintenance Pollution Prevention SOPs						
	Implement operation and maintenance SOPs.	▶	▶	▶	▶	▶	Public Works; Parks and Recreation
	Prohibit the application of deicing agents containing urea or nutrients.	▶	▶	▶	▶	▶	Public Works; Parks and Recreation
	Annually review, and update if necessary, operation and maintenance SOPs.	▶	▶	▶	▶	▶	Public Works
	Incorporate SOPs into employee training.	▶	▶	▶	▶	▶	Public Works
6.2	Stormwater Pollution Prevention Plans for High-Priority Facilities						
	Implement Northside Property Yard SWPPP.	▶	▶	▶	▶	▶	Public Works
	Review, and update as needed, the Northside Property Yard SWPPP.			■			Public Works
	Review high-priority sites and develop new SWPPPs, if necessary.	▶	▶	▶	▶	▶	Public Works
	Review high-priority sites after incidents and update SWPPPs, if necessary.	▶	▶	▶	▶	▶	Public Works
6.3	Employee Training						
	Implement employee training plan with focus on TMDL pollutants of concern.	▶	▶	▶	▶	▶	Public Works; Parks and Recreation
6.4	Certification for Pesticide and Herbicide Applicators						
	Maintain certifications.	▶	▶	▶	▶	▶	Parks and Recreation
6.5	Proper State Certification for Erosion and Sediment Control						
	Maintain the required state erosion and control certification.	▶	▶	▶	▶	▶	Public Works

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
	Maintain DEQ certification and approval for stormwater management basic, inspector, plan reviewer, and combined administrator, as applicable.	▶	▶	▶	▶	▶	Public Works
6.6	Contractor Oversight Procedures						
	Implement contract language contractors will abide by all SOPs.	▶	▶	▶	▶	▶	Public Works; Town Attorney, Finance
6.7	Street Sweeping						
	Operate street sweeping program.	▶	▶	▶	▶	▶	Public Works

F. Annual Report and Key Milestones

Annual Report

The Town will submit annual reports to DEQ each year covering the period of July 1 through June 30. The reports will be submitted to DEQ no later than October 1 of each year. The information provided to DEQ will be in accordance with the provisions of Part I D of the MS4 permit, which includes the following:

- a) General information:
 - i) The permittee, system name, and permit number.
 - ii) The reporting period for which the annual report is being submitted.
 - iii) A signed certification as per Part III K.
 - iv) Each annual reporting item as specified in an MCM in Part I E.
 - v) An evaluation of the MS4 program implementation, including a review of each MCM, to determine the MS4 program’s effectiveness and whether or not changes to the MS4 Program Plan are necessary.
- b) A status report on the implementation of the Chesapeake Bay TMDL Action Plan in accordance with Part II A of the permit, including any revisions to the plan.
- c) A status report on the implementation of any local TMDL action plans (i.e. the Goose Creek Benthic TMDL Action Plan) in accordance with Part II B of the permit, including any revisions to the plan

Annual Reporting Checklist

The following are the specific annual reporting items specified in Part I E for each MCM.

MCM #1	
<input type="checkbox"/>	A list of the high-priority stormwater issues the permittee addressed in the public education and outreach program; and,
<input type="checkbox"/>	A list of the strategies used to communicate each high-priority stormwater issue.
MCM #2	
<input type="checkbox"/>	A summary of any public input on the MS4 program received (including stormwater complaints) and how the permittee responded;
<input type="checkbox"/>	A webpage address to the permittee's MS4 program and stormwater website;
<input type="checkbox"/>	A description of the public involvement activities implemented by the permittee;
<input type="checkbox"/>	A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality; and,
<input type="checkbox"/>	The name of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities.
MCM #3	
<input type="checkbox"/>	A confirmation statement that the MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year;
<input type="checkbox"/>	The total number of outfalls screened during the reporting period as part of the dry weather screening program; and,
<input type="checkbox"/>	A list of illicit discharges to the MS4 including spills reaching the MS4 with information as follows: (a) The source of illicit discharge; (b) The dates that the discharge was observed, reported, or both; (c) Whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe); (d) How the investigation was resolved; (e) A description of any follow-up activities; and (f) The date the investigation was closed.
MCM #4	
<input type="checkbox"/>	If the permittee implements a construction site stormwater runoff program in accordance with Part I E 4 a (3): (a) A confirmation that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved standards and specifications for erosion and sediment control; and, (b) If one or more of the land disturbing projects were not conducted with the department approved standards and specifications, an explanation as to why the projects did not conform to the approved standards and specifications.
<input type="checkbox"/>	Total number of inspections conducted; and,

<input type="checkbox"/>	The total number and type of enforcement actions implemented and the type of enforcement actions.
MCM #5	
<input type="checkbox"/>	If the permittee implements a Virginia Stormwater Management Program in accordance with Part I E 5 a (1) and (2): (a) The number of privately owned stormwater management facility inspections conducted; and, (b) The number of enforcement actions initiated by the permittee to ensure long-term maintenance of privately owned stormwater management facilities including the type of enforcement action.
<input type="checkbox"/>	Total number of inspections conducted on stormwater management facilities owned or operated by the permittee;
<input type="checkbox"/>	A description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection;
<input type="checkbox"/>	A confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part I E 5 f or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities; and,
<input type="checkbox"/>	A confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part I E 5 g and the date on which the information was submitted.
MCM #6	
<input type="checkbox"/>	A summary of any operational procedures developed or modified in accordance with Part I E 6 a during the reporting period;
<input type="checkbox"/>	A summary of any new SWPPPs developed in accordance Part I E 6 c during the reporting period;
<input type="checkbox"/>	A summary of any SWPPPs modified in accordance with Part I E 6 f or the rationale of any high priority facilities delisted in accordance with Part I E 6 h during the reporting period;
<input type="checkbox"/>	A summary of any new turf and landscape nutrient management plans developed that includes: (a) Location and the total acreage of each land area; and, (b) The date of the approved nutrient management plan.
<input type="checkbox"/>	A list of the training events conducted in accordance with Part I E 6 m, including the following information: (a) The date of the training event; (b) The number of employees who attended the training event; and, (c) The objective of the training event.

Key Milestones

- May 30, 2019 – Post updated MS4 Program Plan on the webpage.
- July 1, 2019 – Submit to DEQ a GIS-compatible shapefile of the Town's MS4 map.
- October 31, 2019 – Update Chesapeake Bay TMDL Action Plan.
- March 31, 2020 – Update existing TMDL action plans developed last permit cycle.
- April 1, 2021 – Develop and implement sediment and chloride TMDL action plans for Accotink Creek.
- June 30, 2021 – Update Northside Property Yard SWPPP.
- August 3, 2023 – Registration Statement due to DEQ for renewal of permit coverage.
- October 31, 2023 – MS4 permit expiration date.
- Annually by June 30 – Review high-priority sites without SWPPPs.
- Annually by October 1 – Update MS4 map and outfall information table.
- Annually by October 1 – Report new stormwater management facilities not subject to a General VPDES Construction Permit on the DEQ BMP Warehouse.
- Within 30 Days – Update stormwater management facility database with new facilities brought on line.
- Within 30 Days – Review SWPPP if an unauthorized discharge/release/spill is reported.

Appendix A

Agreements with Other Government Entities

COOPERATIVE AGREEMENT BETWEEN THE FAIRFAX COUNTY BOARD OF SUPERVISORS, THE TOWN OF VIENNA, and TOWN OF HERNDON TO SHARE CERTAIN STORMWATER SERVICE DISTRICT FEES AND RESPONSIBILITY FOR RELATED SERVICES

This Agreement (“Agreement”) is entered into on this 8th day of MARCH, 2017, by and between the BOARD OF SUPERVISORS OF FAIRFAX COUNTY, VIRGINIA (“FAIRFAX”), the TOWN COUNCIL OF VIENNA, VIRGINIA (“VIENNA”), and the TOWN COUNCIL OF HERNDON, VIRGINIA (“HERNDON”) (referenced collectively as the “Parties” or “the Governing Bodies”, and individually as the “Party”).

WITNESSETH:

WHEREAS the Towns of Vienna and Herndon (also referenced herein as “the Towns”) are located within Fairfax County (also referenced herein as “the County”); and

WHEREAS Fairfax County, the Town of Vienna, and the Town of Herndon each maintain, operate, and improve stormwater systems that affect one another; and

WHEREAS Fairfax County and the Towns are each subject to a Municipal Separate Storm Sewer System (“MS4”) permit issued by the Virginia Department of Environmental Quality (“DEQ”); and

WHEREAS FAIRFAX has cooperated with VIENNA and HERNDON to maintain, operate, and improve their respective stormwater systems and wish to continue such cooperation in the future in the best interests of their residents; and

WHEREAS pursuant to Va. Code Ann. § 15.2-2400 (2012), FAIRFAX has established a Stormwater Service District (“Service District”), and is authorized, pursuant to Va. Code Ann. § 15.2403(6) (Supp. 2016) to levy and collect an annual fee upon any property located within such Service District (“the Service District Fee”); and

WHEREAS the Towns of Vienna and Herndon are located within Fairfax County's Service District; and

WHEREAS, pursuant to Va. Code Ann. § 15.2-2403(6), Fairfax County collects revenues from properties located within the Towns of Vienna and Herndon; and

WHEREAS, pursuant to Va. Code Ann. § 15.2-2403.3 (Supp. 2016), by virtue of the Towns' maintenance of separate MS4 permits and their location within the Service District, the Towns are entitled to the Service District Fee revenues collected by Fairfax County within their respective jurisdictions; and

WHEREAS, the actual amount of revenues collected from the Service District Fee will vary from year to year; and

WHEREAS, each MS4 permit, among other things, assigns jurisdiction-specific, pollutant load reduction requirements for nitrogen, phosphorus, and sediment to address the Chesapeake Bay Total Maximum Daily Load (referred to herein as "TMDL"), and requires each MS4-permit jurisdiction to develop a Chesapeake Bay TMDL Action Plan that identifies the practices, means, and methods that are to be implemented by the permittee to achieve the required pollutant reductions; and

WHEREAS, the Commonwealth's Chesapeake Bay TMDL Watershed Implementation Plan (referred to herein as "the WIP") establishes the total pollutant reduction loads required to achieve the Chesapeake Bay TMDL and the timeframe for MS4-permit jurisdictions to achieve their assigned pollutant reductions; and

WHEREAS, each MS4 permit also requires the development of action plans for other pollutants where a TMDL assigns a wasteload allocation ("WLA") to the permittee; and

WHEREAS, pursuant to their respective MS4 permits, the Towns submitted their initial Chesapeake Bay TMDL Action Plans to DEQ prior to the deadline of October 1, 2015 while the County's initial Chesapeake Bay TMDL Action Plan will be submitted to DEQ prior to the deadline of April 1, 2017. Action plans for other TMDLs are submitted in accordance with the schedule contained in each MS4 permit; and

WHEREAS, while each MS4-permit jurisdiction is ultimately responsible for compliance with its MS4 permit, MS4 permits allow and encourage cooperation and coordination among permit holders, and such cooperation and coordination can mutually benefit MS4-permit jurisdictions through more effective and cost-efficient protection of water resources in each jurisdiction; and

WHEREAS, the purpose this Agreement, in part, is for the Parties to work cooperatively to satisfy the pollutant load reduction requirements of their current and future MS4 permits by implementing stormwater management practices within the Parties' jurisdiction that reduce the discharge of pollutants; and

WHEREAS, FAIRFAX, VIENNA, or HERNDON may terminate this Agreement as set forth by the terms herein if, pursuant to applicable law, either locality chooses not to participate under this Agreement or chooses not to share the Stormwater Service District Fees; and

WHEREAS FAIRFAX, VIENNA, and HERNDON have determined and agreed that the best interests of each locality's residents are fulfilled if FAIRFAX utilizes a portion of the Service District Fees collected by FAIRFAX from properties within the Towns to assist the Towns in maintaining, operating, and improving their respective stormwater systems to achieve the goals of effective regional water quality improvement and local initiatives in these localities and to satisfy certain MS4 permit requirements;

NOW, THEREFORE, in consideration of the mutual obligations set forth herein and other good and valuable consideration, so long as FAIRFAX continues to administer the Service District in FAIRFAX that encompasses VIENNA and HERNDON, and so long as VIENNA and HERNDON qualify to receive the Service District Fees collected by FAIRFAX from properties within the Towns, FAIRFAX, VIENNA, and HERNDON agree as follows:

1. FAIRFAX will continue to engage in a coordinated approach with VIENNA, and HERNDON to maintain and operate their respective stormwater systems throughout the incorporated and unincorporated parts of FAIRFAX. Moreover, FAIRFAX, VIENNA, and HERNDON will engage in a coordinated approach for future improvements to their respective stormwater systems.

2. This Agreement's duration shall be for one fiscal year and shall renew at the beginning of each fiscal year thereafter unless terminated pursuant to the terms set forth herein below. For the purposes of this Agreement, "fiscal year" shall mean Fairfax County's fiscal year, which, at the time of the execution of this agreement, ends on June 30.

3. This Agreement's purpose is to set forth how the Parties shall share revenues to be collected pursuant to the Service District Fee, including revenues collected from properties within VIENNA and HERNDON, and the respective obligations of the Parties with respect to the stormwater management services described herein.

STORMWATER FEE REVENUE SHARING

4. FAIRFAX shall collect all revenues to be collected pursuant to the Service District Fee, including revenues collected from properties within the Towns.

5. Revenues actually collected throughout the Service District are referred to herein as "STORMWATER FEE REVENUES."

6. At the end of each fiscal year, FAIRFAX shall calculate separately the total amount of stormwater fee revenues that were actually collected from properties within VIENNA and HERNDON from the amount of stormwater fee revenues collected elsewhere in FAIRFAX (the "VIENNA STORMWATER FEE" and "HERNDON STORMWATER FEE").

7. On or before October 30th of each fiscal year, FAIRFAX shall estimate the anticipated VIENNA STORMWATER FEE and HERNDON STORMWATER FEE for that year, and shall pay to VIENNA and HERNDON an amount equal to twenty-five percent (25%) of the estimated VIENNA STORMWATER FEE and HERNDON STORMWATER FEE, respectively, for that fiscal year, rounded to the nearest penny (the "PAID VIENNA REVENUES" and "PAID HERNDON REVENUES").

8. The Parties acknowledge and agree that PAID VIENNA REVENUES and/or PAID HERNDON REVENUES may be more or less than the amount that is actually due and owing to either or both of the Towns, and which amount is calculated at the end of each fiscal year.

9. If the PAID VIENNA REVENUES for a particular fiscal year are determined to have been less than 25% of the actual VIENNA STORMWATER FEE actually collected for that fiscal year, then FAIRFAX shall pay VIENNA the difference between the PAID VIENNA REVENUES and 25% of the VIENNA STORMWATER FEE actually collected for that fiscal year. FAIRFAX shall pay this difference at the same time as it pays the next fiscal year's PAID VIENNA REVENUES.

10. If the PAID HERNDON REVENUES for a particular fiscal year are determined to have been less than 25% of the actual stormwater fee actually collected for that fiscal year in HERNDON, then FAIRFAX shall pay HERNDON the difference between the PAID

HERNDON REVENUES and 25% of the HERNDON STORMWATER FEE actually collected for that fiscal year in HERNDON. FAIRFAX shall pay this difference at the same time as it pays the next fiscal year's PAID HERNDON REVENUES.

11. If the PAID VIENNA REVENUES for a particular fiscal year are determined to have been more than 25% of the actual VIENNA STORMWATER FEE actually collected for that fiscal year, then FAIRFAX shall deduct the difference between the PAID VIENNA REVENUES and 25% of the VIENNA STORMWATER FEE actually collected for that fiscal year from the amount that FAIRFAX pays for the next fiscal year's PAID VIENNA REVENUES.

12. If the PAID HERNDON REVENUES for a particular fiscal year are determined to have been more than 25% of the actual HERNDON STORMWATER FEE actually collected for that fiscal year, then FAIRFAX shall deduct the difference between the PAID HERNDON REVENUES and 25% of the HERNDON STORMWATER FEE actually collected for that fiscal year from the amount that FAIRFAX pays for the next fiscal year's PAID HERNDON REVENUES.

13. Once FAIRFAX has determined the amount of the actual VIENNA STORMWATER FEE and HERNDON STORMWATER FEE, which shall occur within 90 days of the fiscal year end, FAIRFAX shall forward the respective amounts to the Towns' Mayors in writing ("FINAL ACCOUNTING"). If VIENNA and/or HERNDON disputes the amount of the FINAL ACCOUNTING, then within 30 days of the Mayors' receipt of this FINAL ACCOUNTING, VIENNA and/or HERNDON, shall state the complete factual basis for any such dispute in writing to the Fairfax County Executive, and the Parties shall endeavor in good faith to resolve any such dispute. Upon the resolution of any such dispute, or if VIENNA and/or

HERNDON fails to dispute the amount of the FINAL ACCOUNTING within 30 days of either Mayor's receipt thereof, then VIENNA and/or HERNDON shall be deemed to have accepted payment of the respective fiscal year's PAID VIENNA REVENUES or PAID HERNDON REVENUES, which shall result in the waiver of any right to request from FAIRFAX any additional amount of the collected STORMWATER FEE REVENUES. VIENNA's and/or HERNDON's waiver of any such balance, however, is conditioned upon FAIRFAX's obligations to VIENNA and/or HERNDON pursuant to this Agreement.

14. Pursuant to Va. Code Ann. § 15.2-2403.3 VIENNA and HERNDON shall expend the PAID VIENNA REVENUES and PAID HERNDON REVENUES, respectively, only for costs directly related to the Towns' stormwater systems and not for non-stormwater-system costs, such as public safety, schools, or road maintenance.

15. Under this Agreement, neither VIENNA nor HERNDON is required to expend any of the paid revenues within any specific amount of time. This Agreement does not affect any other authority that VIENNA or HERNDON might have to carry over revenues from year-to-year or to expend revenues in one fiscal year when the revenues were collected in a previous fiscal year.

16. If, at any time in the future, either VIENNA or HERNDON becomes unincorporated or ceases to qualify to receive paid revenues for any reason or terminates its stormwater program or ceases to maintain its stormwater systems, none of the previously paid revenues shall be expended for anything other than the maintenance, operation, and improvement of such Town's stormwater systems. If any such amounts are returned to FAIRFAX they may be used for other qualified uses in the Service District as FAIRFAX, or its designee, in its or his sole discretion, deems appropriate.

TMDL COMPLIANCE AND THE TMDL ADVISORY COMMITTEE

17. Fairfax, Vienna, and Herndon agree that Fairfax will implement stormwater management practices throughout the County and in the Towns sufficient to achieve the TMDL pollutant load reduction requirements that are incorporated into each Party's respective current and future MS4 permit.

18. A TMDL Compliance Advisory Committee (hereinafter referred to as the "Advisory Committee") shall be established and shall be comprised of one or more representatives from each governing body.

19. Regardless of the number of representatives appointed by each governing body, each locality will have one vote on the Advisory Committee.

20. The Advisory Committee shall:

- a. establish, pursuant to each Party's respective MS4 permit, the nitrogen, phosphorus, and sediment (referred to as "pollutants of concern" or "POCs") load reductions necessary for each individual Party to achieve full compliance with the Chesapeake Bay TMDL and the WIP (referred to herein as "the Chesapeake Bay TMDL Endpoint").
- b. establish the "TOTAL POLLUTANT REDUCTION," which is the total amount of each POC that the Parties must reduce in order to reach the Chesapeake Bay TMDL Endpoint.
- c. establish the percentage of the TOTAL POLLUTANT REDUCTION for which each locality is responsible. That percentage assigned to each Party shall hereinafter be referred to, respectively, as the "FAIRFAX PERCENTAGE," "VIENNA PERCENTAGE," and "HERNDON PERCENTAGE."

- d. as determined by the Advisory Committee, the FAIRFAX PERCENTAGE, VIENNA PERCENTAGE, and the HERNDON PERCENTAGE may be established for each POC, an average of POCs, or by another mutually agreed upon methodology that will allocate pollutant reduction credits for projects completed under this Agreement as provided for in paragraph 27 below, in a manner necessary to meet the Chesapeake Bay TMDL Endpoint.
- e. establish a watershed-specific FAIRFAX PERCENTAGE, VIENNA PERCENTAGE, and HERNDON PERCENTAGE to allocate pollutant reduction credits for projects implemented within a watershed to meet a non-Chesapeake Bay TMDL Endpoint.

21. VIENNA and HERNDON may at any time provide FAIRFAX with a list of stormwater management projects to be considered for implementation. Before submitting any such project, the submitting Town must thoroughly investigate and analyze each project to ensure that any such project is feasible. Any project submitted before June 30 of each year will be considered by FAIRFAX for implementation during the following fiscal year. If a project is not implemented, it will continue to be considered for implementation in subsequent fiscal years until such time that the project is determined to be infeasible. Selection of projects for implementation and determination of final feasibility are at the sole discretion of the Director of the Fairfax County Department of Public Works and Environmental Services ("Director").

22. By April 1 of each year, the Director will send to the Towns of VIENNA and HERNDON and/or their designees a proposed list of projects within their jurisdiction.

23. Within 30 days after each Mayors' receipt of this list, the Towns shall provide comments and suggestions regarding each project, its timing, and its costs for implementation,

lifetime maintenance, and replacement. If the Towns provide any comments or suggestions, the Director shall fully consider any such comments, and may, but shall not be obligated to implement or adhere to them. In the event that a dispute exists regarding implementation of any project on the list sent by the Director, the Director and the disputing Town shall endeavor in good faith to resolve any such dispute, but final authority for the implementation of any such projects rests solely with Fairfax County and the Director.

24. FAIRFAX will pay for the development of the updated Chesapeake Bay TMDL Action Plan for each Town that is due at the beginning of each new MS4 permit cycle. Each Town will be responsible for routine annual updates as required in the MS4 permits. FAIRFAX will also pay for the initial development of other TMDL action plans necessary for compliance with each Town's MS4 permit and any substantial updates to these action plans required in future permit cycles. The action plans will include all information necessary to demonstrate compliance with MS4 permit requirements. Changes or additions to projects identified in the action plans will be reported to each Town annually in accordance with paragraph 31.

25. FAIRFAX shall be solely responsible for implementing projects under this Agreement, excluding the acquisition of any permanent or temporary land rights necessary to construct and maintain a project located within a Town. The Parties may, as necessary, have agreements that are separate from this Agreement that address the Parties' responsibilities over specific projects, facilities, and other funding.

26. A project is subject to this Agreement if it is funded in whole or in part by the Service District Fee and substantially completed on or after July 1, 2009.

27. For each project substantially completed under this Agreement on or after July 1, 2009, whether the project or facility is located within VIENNA, HERNDON, or elsewhere

within Fairfax County, the Parties will receive a pollutant reduction credit for each POC. The reduction credit is determined by applying the VIENNA PERCENTAGE and the HERNDON PERCENTAGE to the estimated total POC load reductions for each project that is substantially completed pursuant to this Agreement (the "VIENNA CREDIT," "HERNDON CREDIT," "FAIRFAX CREDIT," and collectively "REDUCTION CREDITS"). For completed projects and facilities, the REDUCTION CREDITS shall survive any termination of this Agreement unless otherwise agreed to by the Parties or in the event that a constructed facility or improvement is not maintained in accordance with paragraph 28 of this Agreement.

28. The Party in whose jurisdiction any stormwater management facility or improvement is constructed under this Agreement shall ensure that the long-term maintenance of such facility or improvement is performed as necessary to maintain the functionality and performance thereof. Each party shall ensure long-term maintenance in accordance with Va. Code Ann. § 62.1-44.15:27(E)(2) and 9 Va. Admin. Code §§ 25-870-58 and 112. In the event that a Party's failure to maintain a project completed under this Agreement results in a decrease in the amount of POCs removed therefrom, as determined by DEQ, then that Party shall, at its sole cost, maintain or improve the facility to restore the facility to its original functionality.

29. In the event that a Party is unable to meet its load reduction requirement for a specific reporting period, and another Party has exceeded its load reduction requirement, the Director may, with written notification to the Parties, transfer credit from shared credit projects among Parties in a manner to ensure that each Party is able to meet its load reduction requirement. Any such transfer shall be temporary and last only as long as it is needed to address the immediate shortfall. Further, no transfer will occur or stay in force that would result in a donating Party being in non-compliance with an MS4 permit condition.

30. Any Party that completes a stormwater management project from funds not generated by or transferred through Fairfax County shall be entitled to claim all resulting load reduction credits for purposes of satisfying its MS4 permit requirements.

31. FAIRFAX will prepare an annual report that details the activities performed under this Agreement. The report will provide sufficient detail so that each locality may use it to meet their respective MS4 permit reporting obligations to DEQ. Fairfax will provide the report annually no later than one month before the date the annual report is due to DEQ.

STAFF TRAINING

32. Without any additional invitation or payment, VIENNA's and/or HERNDON's staff may attend MS4 permit-related training programs that are conducted or hosted by FAIRFAX. FAIRFAX will provide VIENNA and HERNDON with at least one-month's advance notice of such training opportunities.

TERMINATION

33. Any Party may terminate this Agreement by resolution of that Party's governing body. Any such resolution shall be at a public meeting with notice in writing to the non-terminating Parties. Notice shall be made at least three weeks in advance of any such meeting to the Mayor(s) or, as applicable, the County Executive, of Fairfax County. After adoption of any such resolution, the terminating Party shall notify the remaining Parties. The termination shall be effective no earlier than the end of the fiscal year in which the governing body's vote for the resolution for the termination occurs.

34. If this Agreement is terminated by any party other than FAIRFAX, the Agreement shall remain in force as to the remaining parties. The terminating Town shall have responsibility to maintain and replace, as necessary, any facility constructed under this Agreement that is

located within its boundaries and shall assume all liability for such facility. Unless otherwise agreed to by the Parties, neither Town shall have any liability or responsibility for any facility that is located outside of its jurisdictional boundaries and was developed and implemented under this Agreement.

ADDITIONAL PROVISIONS

35. This Agreement is integrated and contains all provisions of the Agreement between the Parties.

36. In the event of a conflict between any term(s) of this Agreement and either of the Parties' MS4 permits or other permit requirements, either Party's respective permit provision(s), shall control.

37. Any provision or term of this Agreement may be modified only by a writing that is approved by resolution at a public meeting of each of the localities' respective governing bodies.

38. This Agreement shall be binding on the Parties' respective agencies, employees, agents, and successors-in-interests.

39. This Agreement shall not be assigned by either of the Parties unless both of the Parties agree to such an assignment in writing.

40. Nothing in this Agreement otherwise limits the respective regulatory and police powers of the Parties.

41. The Parties agree that nothing in this Agreement creates a third-party beneficiary. The Parties also agree that this Agreement does not confer any standing or right to sue or to enforce any provision of this Agreement or any other right or benefit to any person who is not a

party to this Agreement, including but not limited to a citizen, resident, private entity, or local, state, or federal governmental or public body.

42. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one in the same Agreement.

43. This Agreement shall be governed by Virginia law, and any litigation relating to this Agreement shall be brought and/or maintained only in the Circuit Court of Fairfax County, Virginia.

IN WITNESS WHEREOF, the Parties have executed this Agreement, as verified by their signatures below.

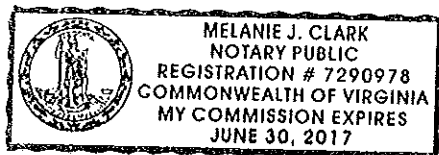
[Signatures appear on the following pages.]

TOWN OF VIENNA

By: Laurie A. DiRocco
Laurie A. DiRocco
Mayor
Town of Vienna, VA

STATE OF VIRGINIA :
: to-wit
COUNTY OF FAIRFAX :

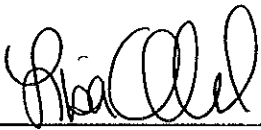
The foregoing Agreement was acknowledged before me by Laurie A. DiRocco
of the Town of VIENNA, this 21st day of February 2018 on behalf of the Town of
VIENNA.



Melanie J. Clark
Notary Public

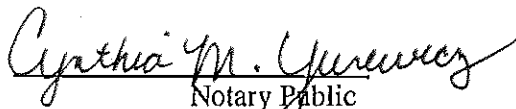
My commission expires: June 30, 2017
Notary Registration Number: 7290978

TOWN OF HERNDON

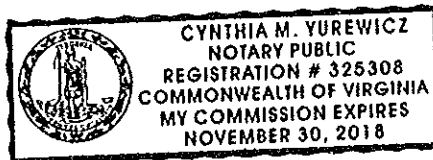
By: 
(Name and Title)
Lisa C. Merkel
Mayor

STATE OF VIRGINIA :
: to-wit
COUNTY OF FAIRFAX :

The foregoing Agreement was acknowledged before me by Lisa C. Merkel
of the Town of HERNDON, this 2nd day of March 2017 on behalf of the Town
of HERNDON.


Notary Public

My commission expires: 11/30/2018
Notary Registration Number: 325308



APPROVED AS TO FORM:


Lesa J. Yeatts
Town Attorney

BOARD OF SUPERVISORS OF
FAIRFAX COUNTY, VIRGINIA

By: Edward L. Long Jr.
Edward L. Long Jr.
County Executive
Fairfax County, Virginia

STATE OF VIRGINIA :
: to-wit
COUNTY OF FAIRFAX :

The foregoing Agreement was acknowledged before me by Edward L. Long Jr., of the
County Executive, on behalf of the Board of Supervisors of Fairfax County, Virginia this
9th day of March 2016
2017



Susan Stanners Robinson
Notary Public

My commission expires: March 31, 2019
Notary Registration Number: 7642019

Approved as to form: _____
Office of the County Attorney
Fairfax, Virginia

NORTHERN VIRGINIA
CLEAN WATER PARTNERS PROGRAM
MEMORANDUM OF AGREEMENT

In order to establish an effectively coordinated stormwater education and outreach program, the parties whose authorized agents are signatories to the Memorandum of Agreement do hereby enter into the following Memorandum of Agreement.

SECTION I PURPOSE OF MEMORANDUM

The purpose of this Memorandum is to establish and maintain a coordinated stormwater education program in the Northern Virginia region, hereinafter referred to as the "Program". The signatories, hereinafter referred to as the "Northern Virginia Clean Water Partners," or "Partners," comprise a group of local governments, public school systems, institutions of higher education, drinking water and sanitation authorities, and businesses that choose to work together to inform individuals about the pollution potential of common activities, so that individuals can take direct action to reduce stormwater pollution. To meet this goal, the Partners work together to:

- Identify high priority water quality issues for the region;
- Identify the target audience(s) for outreach;
- Educate the region's residents on simple ways to reduce pollution around their homes;
- Monitor changes in behavior through surveys and other data collection techniques; and
- Pilot new cost-effective opportunities for public outreach and education.

By working together the Partners are able to leverage their funds and services to develop and place English and Spanish bilingual educational products with common messages and themes, thereby extending the campaign's reach.

SECTION II GENERAL DEFINITIONS

The term "Northern Virginia" refers, at a minimum, to the area comprising the Northern Virginia planning district, as specified in Section III.

The terms "Clean Water Partners," "Partners," "Participants," and "Partnership" refer to all entities which enter into this Agreement and abide by its terms.

"Contributing Partners" refers to those partners who contribute direct funds to the Program.

SECTION III AREA OF COVERAGE

Contribution and Participation in this Agreement and Program is available to any local government, public authority or institution of higher education within the confines of the Northern Virginia planning district, or adjacent planning districts.

SECTION IV OPERATIONAL ARRANGEMENTS

A. Staff Services

NVRC shall provide staff support for the Program, to the extent that funds are available. This may include procuring multi-media advertising services, procuring behavior change surveys, coordinating and hosting meetings, and maintaining website hosting and domain services. All contracts and administrative agreements approved by the Partnership shall be submitted to the NVRC Board for review and execution. The Executive Director of NVRC shall be the chief administrative agent of the Partnership and in this capacity shall be responsible to the Partnership for managing its staff support.

Upon the conclusion of each fiscal year NVRC shall prepare an annual report summarizing the status, progress and effectiveness, to the extent possible, of all significant outreach efforts during the previous fiscal year. This report shall include a preliminary work program for the upcoming fiscal year, and it shall be presented to the Partnership for approval. The report will be prepared so that it can be used to support individual permit requirements.

B. Meeting Space

NVRC shall provide adequate space and facilities for the meeting of the Program participants.

C. Budget

An annual budget for the Program shall be developed and funded through a special assessment of the Contributing Partners for inclusion in the annual NVRC budget. The annual operating budget shall be submitted by the NVRC staff to each Participant for its approval. Prior to the assessment of a participating local government, the allocation of program costs must be approved by its governing body.

The funding formula for the Program is as follows: \$ 0.05 per capita based on the most recent decennial census unless more current population estimates are available from the Weldon Cooper Center for Public Service of the University of Virginia.

SECTION V TERMS

This Memorandum shall exist subject to amendment or dissolution in accordance with the following provisions:

A. Amendments

This Agreement may be amended at any time by the concurrence of all Participants. Proposed amendments shall be presented in writing to the NVRC staff and must be approved unanimously by all Participants.

The acceptance of additional Parties to this Agreement shall not require an amendment to this Agreement, but shall require the consent of a simple majority of the Partner participants. Each new Participant shall be bound to the terms of this Agreement as evidenced by the signature of its authorized agent.

B. Severability

Each paragraph and provision of this Agreement is severable from the entire Agreement and if any provision is declared invalid or unenforceable the remaining provisions shall nevertheless remain in effect.

C. Dissolution

This Agreement may be dissolved at any time by majority agreement of all participant Partners.

If a single Partner unit wishes to withdraw from the Agreement, notice of intent to withdraw must be provided at least six months prior to the end of the fiscal year, in order to provide the remaining parties with an opportunity to make any necessary budget adjustments.

This Agreement shall take effect after appropriate action by ordinance, resolution or otherwise pursuant to the law of the governing body of each participating political subdivision.

IN WITNESS WHEREOF, the _____ and NVRC have caused this document to be executed as of the date of the last signature shown:

_____, VIRGINIA

Approved as to Form:

By: _____
_____, Town Manager

By: _____
_____, Town Attorney

Date: _____

Date: _____

NORTHERN VIRGINIA REGIONAL COMMISSION

By: _____

Title: _____

Date: _____

Appendix B

TMDL Action Plans

Chesapeake Bay TMDL Action Plan

PCB TMDL Action Plan

Bacteria TMDL Action Plan for Difficult Run and Accotink Creek

Sediment TMDL Action Plan for Difficult Run

Town of Vienna, Virginia

Draft Phase II Chesapeake Bay TMDL Action Plan DEQ Submittal – May 30, 2018



**Town of Vienna
Department of Public Works
127 Center Street, South
Vienna, Virginia 22180**

**Prepared with assistance by:
Wood Environment & Infrastructure Solutions
Chantilly, Virginia**



**Prepared in Compliance with Municipal Separate Storm Sewer System (MS4)
Permit No. VAR040066**

Draft Phase II Chesapeake Bay TMDL Action Plan Town of Vienna, Virginia

May 30, 2018

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Draft Phase II Chesapeake Bay TMDL Action Plan Town of Vienna, Virginia

May 30, 2018

1. Introduction

1.1 Purpose

This Draft Phase II Chesapeake Bay TMDL Action Plan builds on the Town of Vienna’s initial Chesapeake Bay TMDL Action Plan approved by the Virginia Department of Environmental Quality (DEQ) on December 28, 2015. The plan documents how the Town intends to meet the “Chesapeake Bay TMDL Special Condition” in Part II A of the General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) that is anticipated to become effective July 1, 2018 (2018 MS4 permit).¹ In accordance with the 2013 MS4 permit (the permit currently in effect), the Town must submit a draft plan with its Registration Statement. Then, in accordance with the 2018 MS4 permit, the Town must submit a final plan to DEQ no later than 12 months after the effective date of the permit.

The Town’s MS4 permit requires the development and implementation of action plans for impaired streams where a Total Maximum Daily Load (TMDL) assigns a waste load allocation (WLA) to the Town that has been approved by the State Water Control Board. A TMDL establishes the maximum amount of a pollutant that can enter a water body without violating water quality standards.

A TMDL for the Chesapeake Bay was established by the U.S. Environmental Protection Agency in 2010. Pollutants of concern (POCs) identified for the Chesapeake Bay include total nitrogen (TN), total phosphorus (TP), and total suspended solids (TSS). Virginia subsequently developed and adopted a Watershed Implementation Plan (WIP) that establishes the framework for meeting the Chesapeake Bay TMDL. The Virginia WIP states that MS4 permit holders will implement a phased approach for meeting required reductions over three five-year permit cycles in accordance with the following: 5% by the end of the first permit cycle (June 30, 2018); 40% by the end of the second permit cycle (June 30, 2023); and, 100% by the end of the third permit cycle (June 30, 2028).

The Town has met the 5% reduction requirement for the first permit cycle ahead of schedule. This Draft Phase II Chesapeake Bay TMDL Action Plan establishes the Town’s 40% reduction

¹ The effective date may change if the permit is administratively extended.

target and identifies the Best Management Practices (BMPs) for achieving the target in accordance with the 2018 MS4 permit and the Chesapeake Bay TMDL Special Condition Guidance developed by DEQ (Guidance Memo No 15-2005) dated May 18, 2015.

1.2 Cooperative Approach to Implementation

As authorized by Section I C 2 b (3) of the 2013 MS4 permit, the Town has entered into a cooperative agreement with Fairfax County and the Town of Herndon to share pollutant reductions from certain jointly implemented projects. The agreement, included as Appendix A, was originally adopted by the Town of Vienna on October 28, 2013 and by Fairfax County on April 1, 2014. The agreement was updated by all parties effective March 8, 2017.

The agreement provides that the Town receives 3.5% credit for any project funded by the County's Stormwater Service District Fee starting July 1, 2009. This is regardless of the project's location in Vienna, Herndon, or Fairfax County. The credit is in proportion to the percentage of the total load reductions that have been established for each locality. The Town's proportion of the load reduction was averaged among TN, TP, and TSS. Shared credit projects include Structural Retrofits, Stream Restoration, and In-Lake Forebay Retrofits. The County's DEQ-approved Chesapeake Bay TMDL Action Plan also reflects this credit-sharing approach.

1.3 Summary of Required Reductions and BMPs to Achieve Reductions

The Town calculated the 5% reduction requirement in its initial Chesapeake Bay TMDL Action Plan. The 40% reduction calculation is presented in Section 3. This includes reductions from existing sources as of June 30, 2009, offsets to account for increases in pollutant loads due to new sources initiating construction between July 1, 2009 and June 30, 2014, and offsets to account for grandfathered projects commencing construction after July 1, 2014.

Reductions and offsets are calculated based on the extent of the MS4 service area within the 2010 Census Urbanized Area. The Town updated its MS4 area map in 2017 as part of the requirement to develop stormwater outfall tables in accordance with Part II B 3 a of the 2013 MS4 permit. This update included a refinement of the extent of areas draining to the Town's regulated outfalls. The updated map is shown in Appendix B.

Based on the updated MS4 area, the Town calculates that the following reductions must be achieved from existing sources as of June 30, 2009 to meet the 40% target: 878.86 pounds for TN; 103.85 pounds for TP; and, 86,628.34 pounds for TSS.

The MS4 permit requires the Town to offset any increases from new sources initiating construction between July 1, 2009 and June 30, 2014 that disturbed 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 Town identified one

project during this period that resulted in a land disturbance of one acre or greater. As presented in the initial action plan, the Town calculates total required offsets as follows: 18.19 pounds for TN; 2.64 pounds for TP; and, 1,237.02 pounds for TSS. While the Town is only required to offset 40%, sufficient overall reductions have been made by the Town to offset 100% of these POCs.

Finally, the Town must offset any grandfathered projects that disturb one acre or greater that begin construction after July 1, 2014 and where the project utilizes an average land cover condition greater than 16%. The initial action plan did not identify any grandfathered projects. However, three projects have since been identified. The Town calculates total required offsets as follows: 51.34 pounds for TN; 7.44 pounds for TP; and, 3,491.43 pounds for TSS. While the Town is only required to offset 40%, sufficient overall reductions have been made by the Town to offset 100% of these POCs.

The next step is to identify the BMPs to achieve the required POC reductions. The Town's strategy for achieving the reductions includes a combination of BMPs as detailed in Sections 4 and 5. These include:

- redevelopment since July 1, 2009 that has resulted in a decrease in pollutant loads;
- shared credit projects under the cooperative agreement with Fairfax County;
- street sweeping;
- purchased nutrient credits;
- more stringent regulation of land disturbing activities under one acre; and,
- additional BMPs that may be implemented in accordance with DEQ's Chesapeake Bay TMDL Special Conditions Guidance.

Section 4 summarizes total reductions achieved prior to July 1, 2017. The 2018 MS4 permit requires the Town to report total reductions achieved prior to July 1, 2018 for each POC no later than 12 months after the effective date of the permit. However, since this draft plan is being submitted prior to that date, the Town is presenting reductions achieved prior to July 1, 2017 as the starting point for second permit cycle compliance. The final Phase II Chesapeake Bay TMDL Action Plan will be updated accordingly.

Section 5 describes the BMPs that will be used to meet the required POC reductions from the 2018 MS4 permit (40% reduction from existing sources as of June 30, 2009 plus new source and grandfathered offsets). This includes reductions achieved prior to July 1, 2017 from Section 4, BMPs planned to be implemented during FY18, and BMPs planned to be implemented during the second permit cycle. Note that reductions achieved in Section 4 are actually greater than reductions planned in Section 5. This is because Section 4 includes actual street sweeping data for FY17 (which was relatively high compared to other years), while Section 5 assumes a more conservative figure for planning purposes.

Table 1A provides a summary of the required reductions, the BMPs implemented or planned from Section 5, and the credit that will be applied to the next permit cycle.

Table 1A– Summary of Required Reductions and Planned BMPs to Achieve Required Reductions

	Total Nitrogen (lbs/year)	Total Phosphorus (lbs/year)	Total Suspended Solids (lbs/year)
Required Reductions from Existing Sources to Meet 40% Target	878.86	103.85	86,628.34
+ Required New Source Offsets	18.19	2.64	1,237.02
+ Required Grandfathered Offsets	51.34	7.44	3,491.43
= Total Required Reductions and Offsets	948.40	113.93	91,356.79
- BMPs from Section 5	2,148.01	647.96	212,241.56
= Remainder/(Excess)	(1,199.61)	(534.03)	(120,884.77)
Percent Planned Toward 40% Reduction	226.5%	568.7%	232.3%

1.4 Permit Compliance Crosswalk

Table 1B provides each of the requirements for this action plan from Part II A 11 of the 2018 MS4 permit and the specific sections where the requirements are addressed.

Table 1B – Action Plan and Permit Compliance Crosswalk

Action Plan Section	MS4 Permit	MS4 Permit Requirement
Section 2	Part II A 11 a	Any new or modified legal authorities, such as ordinances, permits, policy, specific contract language, orders, and interjurisdictional agreements, implemented or needing to be implemented to meet the requirements of Part II A 3, 4, and 5.

Action Plan Section	MS4 Permit	MS4 Permit Requirement
Section 3	Part II A 11 b	The load and cumulative reduction calculations for each river basin calculated in accordance with Part II A 3, 4, and 5.
Section 4	Part II A 11 c	The total reductions achieved as of July 1, 2018 for each pollutant of concern in each river basin.
Section 4 and Appendix D	Part II A 11 d	A list of BMPs implemented prior to July 1, 2018 to achieve reductions associated with the Chesapeake Bay TMDL including: (1) The date of implementation; and, (2) The reduction achieved.
Section 5 and Appendix E	Part II A 11 e	The BMPs to be implemented by the permittee prior to the expiration of this permit to meet the cumulative reductions calculated in Part II A 3, 4, and 5, including as applicable: (1) Type of BMP; (2) Project name; (3) Location; (4) Percent removal efficiency for each pollutant of concern; and, (5) Calculation of the reduction expected to be achieved by the BMP calculated and reported in accordance with the methodologies established in Part II A 8 for each pollutant of concern.
Section 6 and Appendix F	Part II A 11 f	A summary of any comments received as a result of public participation required in Part II A 12 below, the permittee’s response, identification of any public meetings to address public concerns, and any revisions made to the Chesapeake Bay TMDL Action Plan as a result of public participation.

2. Program and Legal Authority

The Town has adopted an MS4 Program Plan that documents implementation of all 2013 MS4 permit requirements, including the programmatic and legal authorities required to meet the “Chesapeake Bay TMDL Special Condition.” The full MS4 Program Plan can be found at <https://www.viennava.gov/index.aspx?NID=788>.

Table 2A provides a summary of elements of the six minimum control measures (MCMs) implemented by the Town that relate to controlling total nitrogen, total phosphorus, and total suspended solids. This table will be updated to account for revisions to the MS4 Program Plan in accordance with Part I C of the 2018 MS4 permit when the Town submits its final Phase II Chesapeake Bay TMDL Action Plan.

Table 2A – MS4 Program Plan Components Related to the Chesapeake Bay TMDL

Minimum Control Measure	MS4 Program Plan Elements Related to Controlling TN, TP, and TSS
<p>Public Education and Outreach on Stormwater Impacts</p>	<p>The Town’s MS4 Public Education and Outreach Plan identifies Chesapeake Bay nutrients and sediment and other illicit discharges as two of its three high-priority pollutants for the focus of the Town’s public education program during the permit cycle.</p> <p>Actions specific to nutrients and sediment and their impact on the Chesapeake Bay include:</p> <ul style="list-style-type: none"> • At least one of the stormwater quality related articles to be included annually in the Town’s monthly newsletter will focus on the proper use and application of fertilizer. • At least one of the stormwater quality related messages in the Town of Vienna calendar will focus on the proper use and application of fertilizer. • Each year beginning in FY15, include a message about the proper use and application of fertilizer in at least one of the Town’s social media platforms. • In FY15, include a message in one of the Town’s quarterly residential water bills about the proper use and application of fertilizer. • Each year beginning FY15, mail information to 25% of HOA and condominium contacts about proper use and application of fertilizer and how to ensure contractors are using water quality friendly practices. • Participate in the NVRC Clean Water Partners program effort to reduce water quality impacts from nutrients in fertilizers. <p>Actions specific to sediment include:</p> <ul style="list-style-type: none"> • Maintain the “Report a Concern” function on the Town’s web site with a specific option for reporting an illicit discharge to the storm sewer system.

Minimum Control Measure	MS4 Program Plan Elements Related to Controlling TN, TP, and TSS
	<ul style="list-style-type: none"> • At least one of the stormwater quality related articles to be included annually in the Town’s monthly newsletter will focus on how to identify and report an illicit discharge, including erosion and sediment control issues. • In FY16, include a message in one of the Town’s quarterly residential water bills about how to identify and report an illicit discharge, including erosion and sediment control issues.
Public Involvement and Participation	The Town has designed a program to involve the public in the decision-making process by meeting all public notice requirements and sponsoring at least four watershed management activities annually.
Illicit Discharge Detection and Elimination	The Town has integrated into its MS4 Program Plan an Illicit Discharge Detection and Elimination Program. This program includes preventing, identifying, and eliminating sources of pollutants, including total nitrogen and total phosphorus as well as total suspended solids.
Construction Site Stormwater Runoff Control	The Town’s construction site stormwater runoff control program is designed to be fully consistent with the water quality control requirements of the Virginia Erosion and Sediment Control Act and the Virginia Stormwater Management Act, and their attendant regulations.
Post-Construction Stormwater Management	The Town’s construction site stormwater runoff control program is designed to be fully consistent with the water quality control requirements of the Virginia Stormwater Management Act and its attendant regulations.
Pollution Prevention and Good Housekeeping for Municipal Operations	The Town has included in its MS4 Program Plan actions to meet the pollution prevention and good housekeeping requirements for municipal operations. This includes developing a SWPPP for the Northside Property Yard, employee training, and ensuring proper staff and contractor certifications for erosion and sediment control.

The Town has reviewed its existing MS4 Program Plan and legal authorities and finds that no additional legal authorities are required for compliance with the “Chesapeake Bay TMDL Special Condition” at this time.

3. Load and Cumulative Reduction Calculations

The following sections describe the methodology used by the Town to determine the load and cumulative reduction calculations in accordance with Part II A 3, 4, and 5 of the 2018 MS4 permit.

3.1 MS4 Service Area Delineation Methodology

Reductions and offsets are calculated based on the extent of the MS4 service area within the 2010 Census Urbanized Area.

Storm sewer pipes, outfall locations, and elevation data were analyzed in 2015 and then again in 2017 by qualified engineers in a GIS environment to delineate the watershed boundaries of the Town’s regulated storm sewer system. Artificial conveyances and natural drainage features were thoroughly reviewed to accurately account for storm sewer drainage areas and determine break points between the manmade and natural hydrologic systems. Sheet flow crossing the Town boundary was also considered and analyzed. This approach rendered a delineation of regulated and unregulated areas within the Town. With the exception of two natural stream valleys, the vast majority of Vienna’s total land area consists of regulated impervious and pervious cover. Note that much of the area comprising Westwood Country Club drains directly to a tributary of Wolftrap Creek without going through the Town’s MS4.

In accordance with Part II.2 of the Chesapeake Bay TMDL Special Conditions Guidance, the Town of Vienna and Fairfax County have cooperatively agreed to utilize the following methodology for allocating pollutant loadings where drainage flows across jurisdictional boundaries:

- *Town MS4 Draining to the County MS4 Through a Pipe:* Any pollutant loading from the Town’s MS4 that drains through a pipe or other conveyance to the County’s MS4 is the responsibility of the Town up-flow of the interconnection.
- *County MS4 Draining to the Town MS4 Through a Pipe:* Any pollutant loading from the County’s MS4 that drains through a pipe or other conveyance to the Town’s MS4 is the responsibility of the County up-flow of the interconnection.
- *Town Sheetflow Draining to the County MS4:* Any pollutant loading from an area of the Town that sheet flows across jurisdictional boundaries to the County’s MS4 is the responsibility of the Town within the Town’s boundary.
- *County Sheetflow Draining to the Town MS4:* Any pollutant loading from an area of the County that sheet flows across jurisdictional boundaries to the Town’s MS4 is the responsibility of the County within the County’s boundary.

- *Fairfax County Public Schools Property*: Any pollutant loading from property owned by Fairfax County Public Schools within the Town is not the responsibility of the Town. The County has a separate memorandum of understanding with Fairfax County Public Schools addressing Chesapeake Bay TMDL requirements.

The Virginia Department of Transportation's MS4 service area, identified as its right-of-way in the VDOT Chesapeake Bay TMDL Action Plan, is excluded from the Town's MS4 service area. This represents only a very small area of the Town.

In accordance with DEQ's Chesapeake Bay TMDL Special Guidance, the Town may exclude from its MS4 service area land regulated under any general VPDES permit that addresses industrial stormwater and forested land one half contiguous acre or more that meets specific criteria. The Town does not have within its boundary any property with a VPDES industrial stormwater permit. The Town has identified 13.2 acres of potential forested area within the MS4, which is less than one percent of the total MS4 area. Further analysis would be required to determine whether these acres meet the requirements for exclusion in accordance with the DEQ guidance. Since this amount is *de minimis*, the Town has opted not to exclude these areas for this plan, but may choose to conduct the additional analysis at a later date.

The Town's MS4 service area map is presented in Appendix B. Based on the above analysis, the Town has determined that a total of 2,395.40 acres is served by the regulated MS4.

3.2 Pervious and Impervious Surface Delineation Methodology

A GIS approach was used to determine the Town's regulated urban impervious and regulated urban pervious acres. Planimetric impervious cover GIS data was developed by Fairfax County from 2009 aerial imagery. This impervious cover dataset contains the entire Town as well as areas within the County. Impervious cover surfaces include buildings, roads, parking lots, sidewalks, recreational surfaces, and other similar features. To calculate the 2009 impervious regulated area, the 2009 planimetric impervious cover features were clipped using the MS4 boundary polygon layer and the resulting acres were totaled. Regulated pervious acres were calculated by subtracting the regulated impervious acres from the total MS4 acres.

Based on the above analysis the Town's MS4 service area of 2,395.40 acres is divided into 821.10 impervious acres and 1,574.30 pervious acres.

3.3 Reduction Requirements

The Town is located within the Potomac River Basin. Therefore, reduction requirements are calculated in accordance with Part II A 3, Table 3b of the 2018 MS4 permit.

Table 3A presents the estimated existing source loads in accordance with the MS4 permit and the Chesapeake Bay TMDL Special Conditions Guidance.

Table 3A – Calculation Sheet for Estimating Existing Source Loads and Reduction Requirements for the Potomac River Basin

Pollutant	Subsource	A. Loading Rate (lbs/ac/yr)	B. Existing Developed Land 2009 (acres)	C. Loading (lbs/yr)	D. MS4 Required Bay Total L2 Loading Rate Reduction	E. Percentage of L2 Required Reduction by 2023	F. 40% Cumulative Reduction Required by 2023	G. Sum of 40% Cumulative Reduction (lbs/yr)
TN	Imp.	16.86	821.10	13,843.75	0.09	0.40	498.38	878.86
TN	Perv.	10.07	1,574.30	15,853.20	0.06	0.40	380.48	
TP	Imp.	1.62	821.10	1,330.18	0.16	0.40	85.13	103.85
TP	Perv.	0.41	1,574.30	645.46	0.07	0.40	18.72	
TSS	Imp.	1171.32	821.10	961,770.85	0.20	0.40	76,941.67	86,628.34
TSS	Perv.	175.8	1,574.30	276,761.94	0.09	0.40	9,686.67	

3.4 New Source Offset

Part II A 4 of the 2018 MS4 permit requires the Town to offset 40% of increases 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.

During the period of July 1, 2009 and June 30, 2014, one project with a land disturbance of one acre or greater resulted in increases in pollutant loadings. The Town calculates total required offsets as follows: 18.19 pounds for TN; 2.64 pounds for TP; and, 1,237.02 pounds for TSS. While the Town is only required to offset 40%, sufficient overall reductions have been made by the Town to offset 100% of these POCs. Detailed calculations are located in the initial action plan submitted to and approved by DEQ.

3.5 Grandfathered Projects Offset

Part II A 5 of the 2018 MS4 permit requires the Town to offset any grandfathered projects that disturb one acre or greater that begin construction after July 1, 2014 and where the project utilizes an average land cover condition greater than 16%. Since the initial action plan, the Town has identified three grandfathered projects that were not included in the original calculations. Table 3B provides a summary of required grandfathered project offsets. Calculations are located in Appendix C. While the Town is only required to offset 40%, sufficient overall reductions have been made by the Town to offset 100% of these POCs.

Table 3B – Required Grandfathered Project Offset

Pollutant	Conversion Factor from Table 4 of DEQ Guidance	Offset Required (lbs/year)
TN	6.9	51.34
TP	1	7.44
TSS	469.2	3,491.43

3.6 Total Reduction and Offset Requirements

Table 3C presents the total reduction and offset requirements that the Town must achieve during the second MS4 permit cycle.

Table 3C – Total Reduction and Offset Requirements

Reductions and Offsets	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Required Reductions from Existing Sources to Meet 40% Target	878.86	103.85	86,628.34
Required New Source Offsets	18.19	2.64	1,237.02
Required Grandfathered Offsets	51.34	7.44	3,491.43
Total Reductions and Offsets	948.40	113.93	91,356.79

4. BMPs Implemented During the First Permit Cycle

The Town’s overall strategy for achieving POC reductions includes a combination of BMPs as described below:

- redevelopment since July 1, 2009 that has resulted in a decrease in pollutant loads;
- shared credit projects under the cooperative agreement with Fairfax County;
- street sweeping;
- purchased nutrient credits;
- more stringent regulation of land disturbing activities under one acre; and,
- additional BMPs that may be implemented in accordance with DEQ’s Chesapeake Bay TMDL Special Conditions Guidance.

The Town has already exceeded the 5% POC reduction requirement for the first permit cycle. Part II A 4 of the 2018 MS4 permit requires the Town to provide a list of the BMPs implemented prior to July 1, 2018 to achieve these reductions. Because this draft plan is due before the close of the first permit cycle, this section presents progress documented prior to July 1, 2017. The final Phase II Chesapeake Bay TMDL Action Plan will update this section to reflect all progress prior to July 1, 2018.

Table 4A summarizes the reductions achieved by the Town during the first permit cycle. As noted previously, the figures presented in Table 4A are different from those presented in Section 5 due to the changes in annual street sweeping credits. A list of BMPs, including the date of implementation and the reductions achieved, is included in Appendix D as required in Part II A 4 of the 2018 MS4 permit.

Table 4A – Summary of BMPs Implemented During the First Permit Cycle

BMPs	Time Period	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Redevelopment	Calculated through FY17.	-	-	-
Shared Credit Projects	Calculated through FY17.	975.18	208.01	82,450.28
Street Sweeping	Calculated for FY17 (varies slightly from year to year)	1,532.72	613.09	183,926.40

BMPs	Time Period	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Purchased Nutrient Credits	Calculated through FY17.	-	-	-
More Stringent Development.	Calculated through FY17.	89.79	9.40	-
Additional BMPs	Calculated through FY17.	-	-	-
Total BMPs		2,597.69	830.50	266,376.68

5. BMPs Planned for FY2018 and the Second Permit Cycle

This section describes the BMPs that have been or will be implemented in FY2018 and will be implemented during the second permit cycle to achieve the cumulative 40% POC reduction target as required in Part II A 11 e of the 2018 MS4 permit.

5.1 Redevelopment

In accordance with the Chesapeake Bay TMDL Special Condition Guidance, the Town will continue to take credit for pollutant reductions from redevelopment regardless of the initial land cover condition of the site. This includes any redevelopment project initiated after July 1, 2009. Redevelopment prior to July 1, 2017 is reported in Section 4. Any redevelopment after that date will be included in the final Phase II Chesapeake Bay TMDL Action Plan and in subsequent MS4 annual reports submitted to DEQ.

The Town is currently aware of one redevelopment project implemented in FY2018. This is the renovation of the Vienna Community Center. The credit calculations are included in Appendix E.

Note that for any portion of redevelopment that results in a direct impervious surface reduction, Table 4 from the 2018 MS4 permit will be used to determine the equivalent credit for TN and TSS associated with the TP reduction. For the portion of redevelopment that results in a reduction due to a stormwater management facility, the methodology described in Appendix V.E of the DEQ guidance will be utilized.

Table 5A – Summary of Reductions from Redevelopment

	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Prior to July 1, 2017	-	-	-
During FY2018	12.04	2.15	1,271.28
During Second Permit Cycle	To be determined.	To be determined.	To be determined.
Total	12.04	2.15	1,271.28

5.2 Shared Credit Projects

In accordance with the cooperative agreement with Fairfax County, the Town receives 3.5% credit for any project funded by the County’s Stormwater Service District Fee starting July 1, 2009. This is regardless of the project’s location in Vienna, Herndon, or Fairfax County. These projects include Structural Retrofits, Stream Restoration, and In-Lake Forebay Retrofits. The County’s FY2017 MS4 Annual Report documents the following total shared credit: 27,862.17 pounds of TN; 5,943.23 pounds of TP; and, 2,355,722.18 pounds of TSS. At 3.5% credit, this results in the following reductions for the Town of Vienna: 975.18 pounds of TN; 208.01 pounds of TP; and, 82,450.28 pounds of TSS. Details are found in Fairfax County’s annual reports to DEQ and are summarized in Appendix D.



Wolftrap stream restoration during construction.

Three shared credit projects have been implemented in the Town. These include Wolftrap Stream Restoration Phase I and Phase II and Hunter’s Branch Stream Restoration. The Town is also in the design stage of the Piney Branch Stream Restoration using funding from Fairfax County and a Stormwater Local Assistance Fund (SLAF) grant.

Table 5B – Summary of Reductions from Shared Credit Projects

	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Prior to July 1, 2017	975.18	208.01	82,450.28
During FY2018	To be determined.	To be determined.	To be determined.
During Second Permit Cycle	To be determined.	To be determined.	To be determined.
Total	975.18	208.01	82,450.28

5.3 Street Sweeping

The Town will take credit for its street sweeping program to meet the required POC reductions. DEQ’s Chesapeake Bay TMDL Special Conditions Guidance provides the specific steps required for determining credit for street sweeping programs as well as efficiencies for reducing TN, TP, and TSS. The Town measures street sweeping spoils in cubic yards. Since efficiencies are based on pounds collected, and there is no standard methodology for converting cubic yards to pounds, the Town developed a conversion factor of 0.34 ton per cubic yard based on an analysis of Arlington County’s street sweeping program. Arlington County measured street sweeping spoils in cubic yards from FY 2001 through FY 2009, and then switched to pounds. The 0.34 ton per cubic yard figure is derived by comparing the average cubic yards collected from FY 2001 through FY 2009 against the average tons collected from FY 2010 through FY 2014.

During the past three fiscal years, the Town documented that it swept an average of 773,387 pounds of debris annually (786,080 pounds in 2015, 658,240 pounds in 2016, and 875,840 pounds in 2017). The Town anticipates maintaining this level of effort in the future. For second permit cycle planning purposes, the Town is conservatively assuming 612,000 pounds annually (note that this is less than the actual amount collected in FY17 reported in Section 4). Table 5C summarizes the planned annual reductions. Actual reductions will be reported annually to DEQ.



One of the Town’s street sweepers.

Table 5C – Summary of Reductions from Street Sweeping

Pollutant	Cubic Yards Collected	Pounds Collected	Dry Weight Factor	Dry Pounds Collected	Removal Efficiency	Pollutant Reduction (lbs)
TN	900	612,000	0.7	428,400	0.0025	1,071.00
TP	900	612,000	0.7	428,400	0.001	428.40
TSS	900	612,000	0.7	428,400	0.3	128,520.00

5.4 Purchased Off-Site Nutrient Credits

The Town has the option of purchasing off-site nutrient credits under the provisions of §62.1-44.15:35 of the Code of Virginia. Any off-site nutrient credits purchased by the Town will be documented to DEQ in the Town’s annual report.

5.5 More Stringent Regulation of Land Disturbing Activities

The Town has adopted stormwater quality requirements for single family residential development under one acre that are more stringent than the minimum VSMP requirements. While the Virginia Stormwater Management Regulations and the Chesapeake Bay Preservation Act regulate land disturbing activities 2,500 square feet and greater, localities may exempt single family residential development under one acre not part of a common plan of development. Town Code Chapter 23, Article 3 “Stormwater Management” applies the 0.41 pounds of phosphorus per acre per year standard to single family residential development 2,500 square feet and greater. In accordance with the Chesapeake Bay TMDL Special Condition Guidance the Town will take credit for the difference between the pollutant load that could have been allowed for single family residential property under the state’s minimum water quality criteria and the pollutant load that was actually allowed for the property under the Town’s more stringent requirements. These include reductions from structural retrofits and credit purchased by the developer.

Table 5D provides a summary of reductions from more stringent regulation of land disturbing activities. A list of projects implemented prior to July 1, 2017 is provided in Appendix D. Additional reductions achieved will be documented to DEQ in the Town’s annual reports.

Table 5D – Summary of Reductions from More Stringent Regulation of Land Disturbing Activities

	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Prior to July 1, 2017	89.79	9.40	-
During FY2018	To be determined.	To be determined.	To be determined.
During Second Permit Cycle	To be determined.	To be determined.	To be determined.
Total	89.79	9.40	-

5.6 Additional BMPs

The Town reserves the right to implement and take credit for additional creditable facilities or practices as provided for in the Chesapeake Bay TMDL Special Condition Guidance. The guidance document specifically references the work of the Chesapeake Bay Urban Stormwater Workgroup, which includes credits for urban nutrient management and homeowner best management practices such as rainwater harvesting, downspout disconnection, permeable hard-scapes, tree planting, and impervious cover removal. Reductions achieved will be documented to DEQ in the Town’s annual reports.

5.7 Compliance Summary

Tables 5E demonstrate how the Town will meet the required reductions from Section 3 for each POC with the BMPs described in Sections 5.1 through 5.6.

Table 5E – Compliance Summary

	TN (lbs/year)	TP (lbs/year)	TSS (lbs/year)
Required Reductions from Existing Sources to Meet 40% Target	878.86	103.85	86,628.34
+ Required New Source Offsets	18.19	2.64	1,237.02
+ Required Grandfathered Offsets	51.34	7.44	3,491.43
= Total Required Reductions and Offsets	948.40	113.93	91,356.79
- BMPs from Section 5	2,148.01	647.96	212,241.56
<i>Redevelopment</i>	12.04	2.15	1,271.28
<i>Shared Credit Projects</i>	975.18	208.01	82,450.28
<i>Street Sweeping</i>	1,071.00	428.40	128,520.00
<i>Purchased Nutrient Credits</i>	-	-	-
<i>More Stringent Development</i>	89.79	9.40	-
<i>Additional BMPs</i>	-	-	-
= Remainder/(Excess)	(1,199.61)	(534.03)	(120,884.77)
Percent Planned Toward 40% Reduction	226.5%	568.7%	232.3%

6. Public Comments

In accordance with Part II A 11 f of the 2018 MS4 permit, this section will be updated in the final Phase II Chesapeake Bay TMDL Action Plan to reflect the requirement that the public have an opportunity to provide comment on proposed BMPs not previously included in the initial plan. At a minimum, a 15 day comment period must be provided. This section will include a summary of any comments received as a result of the public participation process, the Town’s response, identification of any public meetings to address public concerns, and any revisions made to the plan as a result of public participation. Appendix F is reserved for any detailed information related to public comments received by the Town.

Appendix A

Cooperative Agreement with Fairfax County and the Town of Herndon

Appendix B

Town of Vienna MS4 Service Area Delineation

Appendix C

Grandfathered Project Offset Calculations

All calculations are made in accordance with DEQ's Chesapeake Bay TMDL Special Guidance Document. These grandfathered projects were not included in the initial action plan. Therefore the calculations are included in their entirety.

Pollutant => FY	Conversion from Table 4 of Guidance	Offset
TN	6.9	51.34
TP	1	7.44
TSS	469.2	3,491.43

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Onondio Cove		
Information	Input	Using Redevelopment VSMP Scenario 3
Date Completed	Construction Start 2015; Complete 2016	
Rainfall	40	
Site Area (SF)	154202.4	
Site Area (AC)		3.54
Pre-2014 Watershed I %		16
Pre-I Area (SF)	63223.0	
Pre-I Area (AC)		1.45
Pre-I Area (%)		41.00
Pre C Value		1.08
Pre-TP Load		13.07
Post-I Area (SF)	78643.224	
Post-I Area (AC)		1.81
Post-I Area (%)		51.00
Post C Value		1.08
Post-TP Load		15.88
Increase/Decrease		2.81
Stormwater Controls		
BMP 1	Purchased Credits (Ches Bay Nutrient Land Trust 3/23/15)	
Efficiency	0	
I Area (AC)	0	
TP Removed		1.11
BMP 2		
Efficiency	0	
I Area (AC)	0	
TP Removed		0.00
BMP 3	-	
Efficiency	0	
I Area (AC)	0	
TP Removed		0.00
Final Load		14.77
Total Increase/Decrease		1.70
VSMP Situation 3: Land disturbing activities where the existing percent impervious cover (41%) is greater than the average land cover condition (16%).		
Requirement: The pollutant discharge after disturbance shall not exceed the pollutant discharge based on existing conditions less 10%.		
Initial Amount to be Made Up: Difference between existing load less 10% and post load, plus reductions achieved by the BMP.		3.00
Offset Required: Offset is only the net increase per discussion with Virginia DEQ.		1.70

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Andrew Minor Subdivision		
Information	Input	Using Redevelopment VSMP Scenario 2
Date Completed	Construction Start 2014; Complete July 2017	
Rainfall	40	
Site Area (SF)	82676.88	
Site Area (AC)		1.90
Pre-2014 Watershed I %		16
Pre-I Area (SF)	7405.2	
Pre-I Area (AC)		0.17
Pre-I Area (%)		8.96
Pre C Value		.26
Pre-TP Load		0.53
Post-I Area (SF)	24393.6	
Post-I Area (AC)		0.56
Post-I Area (%)		29.50
Post C Value		1.08
Post-TP Load		5.28
Increase/Decrease		4.75
Stormwater Controls		
BMP 1		
Efficiency	0	
I Area (AC)	0	
TP Removed		0.00
BMP 2		
Efficiency	0	
I Area (AC)	0	
TP Removed		0.00
BMP 3	-	
Efficiency	0	
I Area (AC)	0	
TP Removed		0.00
Final Load		5.28
Total Increase/Decrease		4.75
VSMP Situation 2: Land disturbing activities where the existing percent impervious cover is less than or equal to the average land cover condition (16%) and the proposed improvements will create a total percent impervious cover which is greater than the average land cover condition (29.5%).		
Requirement: The pollutant discharge after disturbance (5.28) shall not exceed the existing pollutant discharge based on the average land cover condition (0.53).		
Initial Amount to be Made Up: $5.28 - 0.53 = 4.75$.		4.75
Amount to be Made Up After BMP: $4.75 - 0.00 = 4.75$		4.75
Required Offset = 4.75		4.75

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120 Church Street		
Information	Input	Using Redevelopment VSMP Scenario 3
Date Completed	Construction Start 2015; Complete October 2016	
Rainfall	40	
Site Area (SF)	23827.32	
Site Area (AC)		0.55
Pre-2014 Watershed I %		16
Pre-I Area (SF)	17641.8	
Pre-I Area (AC)		0.41
Pre-I Area (%)		74.04
Pre C Value		1.08
Pre-TP Load		3.45
Post-I Area (SF)	23086.8	
Post-I Area (AC)		0.53
Post-I Area (%)		96.89
Post C Value		1.08
Post-TP Load		4.44
Increase/Decrease		0.99
Stormwater Controls		
BMP 1		
Efficiency	0	
I Area (AC)	0	
TP Removed		0.00
BMP 2		
Efficiency	0	
I Area (AC)	0	
TP Removed		0.00
BMP 3	-	
Efficiency	0	
I Area (AC)	0	
TP Removed		0.00
Final Load		4.44
Total Increase/Decrease		0.99
VSMP Situation 3: Land disturbing activities where the existing percent impervious cover (74.04%) is greater than the average land cover condition (16%).		
Requirement: The pollutant discharge after disturbance shall not exceed the pollutant discharge based on existing conditions less 10%.		
Initial Amount to be Made Up: Difference between existing load less 10% and post load, plus reductions achieved by the BMP.		1.34
Offset Required: Offset is only the net increase per discussion with Virginia DEQ.		0.99

Appendix D

List of BMPs Implemented During the First Permit Cycle

All calculations and supporting documentation were included in the initial Chesapeake Bay TMDL Action Plan and/or MS4 annual reports provided to DEQ.

Shared Credit Projects

Shared credit projects include projects constructed prior to July 1, 2016 from Tables 5.A (Structural Retrofits), 5.B (Stream Restoration), and 5.F (In-Lake Forebay Retrofits) of the Fairfax County Chesapeake Bay TMDL Action Plan approved by DEQ on August 15, 2017. Note that Table 5.F (In-Lake Forebay Retrofits) indicated that all retrofits had been completed. The Royal Lake project is still under construction. As a result, the table below shows In-Lake Forebays without Royal Lake. In-Lake Forebay Retrofits will be updated once the project is complete.

Shared credit projects also include projects constructed from July 1, 2016 to prior to July 1, 2017 as reported in Fairfax County's FY2017 MS4 Annual Report.

Total Cumulative Town Credit								
Pollutant	FY17 and Prior	FY18	FY19	FY20	FY21	FY22	FY23	
TN	975.18	975.18	975.18	975.18	975.18	975.18	975.18	975.18
TP	208.01	208.01	208.01	208.01	208.01	208.01	208.01	208.01
TSS	82450.28	82450.28	82450.28	82450.28	82450.28	82450.28	82450.28	82450.28
Total Cumulative County-Wide Credit								
Pollutant	FY17 and Prior	FY18	FY19	FY20	FY21	FY22	FY23	
TN	27862.17	27862.17	27862.17	27862.17	27862.17	27862.17	27862.17	27862.17
TP	5943.23	5943.23	5943.23	5943.23	5943.23	5943.23	5943.23	5943.23
TSS	2355722.18	2355722.18	2355722.18	2355722.18	2355722.18	2355722.18	2355722.18	2355722.18
Implemented Structural Retrofits								
Pollutant	FY17 and Prior	FY18	FY19	FY20	FY21	FY22	FY23	
TN	6363.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TP	609.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TSS	745721.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Implemented Stream Retrofits								
Pollutant	FY17 and Prior	FY18	FY19	FY20	FY21	FY22	FY23	
TN	16851.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TP	5057.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TSS	1502573.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Implemented In-Lake Forebays								
Pollutant	FY17 and Prior	FY18	FY19	FY20	FY21	FY22	FY23	
TN	4647.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TP	275.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TSS	107427.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Street Sweeping

Fiscal Year	Pounds	TN Credit	TP Credit	TSS Credit
2015	786,080	1375.64	550.26	165076.80
2016	658,240	1151.92	460.77	138230.40
2017	875,840	1532.72	613.09	183926.40

More Stringent Development

FY2017 Structural Facilities

More Stringent Single Family Residential Development -- Structural Facilities																	
The following table demonstrates pollutant reductions achieved as a result of more stringent regulation of single family residential development under one acre as required by the Town's Stormwater Management Ordinance. Reductions are from structural facilities designed in accordance with the VRRM.																	
DATE	INSTA	BMP_NAM	IMPERVIO	TOTAL_AC	RUNOFF_C	MEASURE	AMOUNT_	LATITUDE	LONGITUD	LIFESPAN	NITROGEN	REMAININ	HUC	Watershed	Public or	VRRM Nitrogen	VRRM Phosphorous
		E	US	RE	AP	MEN	APP		E		L	G			Private	Load Reduction	Load Reduction
																Achieved	Achieved
8/19/2016	Urban Bior		0.0400	0.0400	51	CF	51	38.8976	-77.2643	20	0.00	0.00	PL22	Piney Branch	Private	0.37	0.04
8/25/2016	Urban Bior		0.0600	0.0600	83	CF	83	38.9047	-77.2720	20	0.00	0.00	PL22	Piney Branch	Private	0.81	0.1
8/25/2016	Infiltration		0.4800	0.7300	116	CF	116	38.8910	-77.2591	20	0.00	0.00	PL30	Bear Branch	Private	0.00	0.2
8/26/2016	Infiltration		0.0542	0.0880	108	CF	108	38.8856	-77.2670	20	0.00	0.00	PL30	Hunters Branch	Private	0.56	0.09
9/16/2016	Soil Amend		0.0200	0.1200	97	CF	97	38.8928	-77.2572	20	0.00	0.00	PL30	Bear Branch	Private	0.44	0.06
9/26/2016	Urban Bior		0.0170	0.0170	43	CF	0	38.8852	-77.2662	20	0.00	0.00	PL30	Hunters Branch	Private	0.28	0.04
9/28/2016	Urban Bior		0.0200	0.0200	25	CF	2	38.9058	-77.2542	20	0.00	0.00	PL22	Wolftrap Creek	Private	0.18	0.02
10/18/2016	Soils Amen		0.0700	0.0000	91	CF	91	38.9063	-77.2514	20	0.00	0.00	PL22	Wolftrap Creek	Private	0.58	0.08
10/18/2016	Infiltration		0.0600	0.3600	240	CF	240	38.9071	-77.2448	20	0.00	0.00	PL22	Wolftrap Creek	Private	1.24	0.19
10/18/2016	Infiltration		0.1100	0.4000	321	CF	321	38.9011	-77.2731	20	0.00	0.00	PL22	Piney Branch	Private	1.66	0.31
10/26/2016	Urban Bior		0.0400	0.0400	55	CF	55	38.8881	-77.2587	20	0.40	2.99	PL30	Bear Branch	Private	0.4	0.05
12/1/2016	Soil Amend		0.0200	0.0200	41	CF	41	38.8932	-77.2644	20	0.19	0.00	PL22	Piney Branch	Private	0.19	0.03
12/1/2016	Urban Bior		0.0400	0.0400	61	CF	61	38.8949	-77.2482	20	0.00	0.00	PL30	Bear Branch	Private	0.17	0.05
12/9/2016	Amended S		0.0580	0.0580	125	CF	125	38.8932	-77.2663	20	0.56	1.69	PL30	Hunters Branch	Private	0.56	0.08
12/15/2016	Bioretentio		0.0260	0.0720	74	CF	74	38.9098	-77.2518	20	0.47	3.28	PL22	Wolftrap Creek	Private	0.47	0.06
12/19/2016	Infiltration		0.0200	0.0300	55	CF	55	38.8974	-77.2629	20	0.00	0.19	PL22	Piney Branch	Private	0.00	0.04
1/5/2017	Urban Bior		0.0600	0.0600	109	CF	109	38.8948	-77.2617	20	0.64	1.14	PL22	Piney Branch	Private	0.64	0.08
1/24/2017	Urban Bior		0.0100	0.0100	20	CF	20	38.8992	-77.2542	20	0.14	1.46	PL22	Wolftrap Creek	Private	0.14	0.02
1/26/2017	Infiltration		0.0900	0.1600	187	CF	187	38.9130	-77.2641	20	0.97	3.54	PL22	Wolftrap Creek	Private	0.97	0.15
2/2/2017	Infiltration		0.1300	0.3000	299	CF	299	38.8901	-77.2515	20	1.43	2.97	PL30	Bear Branch	Private	1.43	0.22
2/3/2017	Urban Bior		0.0400	0.0400	55	CF	55	38.9084	-77.2535	20	0.40	2.60	PL22	Wolftrap Creek	Private	0.40	0.05
2/7/2017	Permeable		0.0400	0.0000	60	CF	60	38.8929	-77.2597	20	0.35	0.00	PL30	Bear Branch	Private	0.35	0.05
2/8/2017	Infiltration		0.0400	0.0400	63	CF	63	38.9055	-77.2732	20	0.33	1.62	PL22	Piney Branch	Private	0.33	0.05
3/3/2017	Amended S		0.1010	0.1010	261	CF	261	38.9042	-77.2527	20	1.17	2.32	PL22	Wolftrap Creek	Private	1.17	0.16
3/3/2017	Infiltration		0.0296	0.0920	93	CF	93	38.8891	-77.2571	20	0.48	1.22	PL30	Bear Branch	Private	0.48	0.07
3/13/2017	Bioretentio		0.0300	0.0900	103	CF	103	38.8880	-77.2628	20	0.58	1.30	PL30	Hunters Branch	Private	0.58	0.08
3/13/2017	Urban Bior		0.0500	0.0500	65	CF	65	38.8974	-77.2656	20	0.47	1.48	PL22	Piney Branch	Private	0.47	0.06
3/21/2017	Bioretentio		0.0476	0.0996	85	CF	85	38.9038	-77.2532	20	0.00	0.00	PL22	Wolftrap Creek	Private	0.00	0.07
3/23/2017	Urban Bior		0.0800	0.0800	282	CF	282	38.9066	-77.2477	20	0.00	0.00	PL22	Wolftrap Creek	Private	0.00	0.09
3/27/2017	Infiltration		0.1700	0.4200	337	CF	337	38.9083	-77.2663	20	0.00	0.00	PL22	Piney Branch	Private	0.00	0.26
3/30/2017	Infiltration		0.0500	0.0700	98	CF	98	38.8919	-77.2557	20	0.51	1.26	PL30	Bear Branch	Private	0.51	0.08
4/10/2017	Soil Amend		0.1200	0.2900	293	CF	293	38.9076	-77.2620	20	1.32	3.00	PL22	Piney Branch	Private	1.32	0.18
4/24/2017	Disconnect		0.0400	0.1600	118	CF	118	38.8824	-77.2538	20	0.53	1.35	PL30	Bear Branch	Private	0.53	0.07
5/3/2017	Planter Box		0.0460	0.0460	63	CF	63	0.0000	0.0000	20	0.00	0.00	PL30	Bear Branch	Private	0.46	0.05
6/15/2017	Urban Bior		0.0450	0.2147	62	CF	62	38.8862	-77.2574	20	0.45	1.06	PL30	Bear Branch	Private	0.45	0.05
6/15/2017	Bioretentio		0.0300	0.0400	103	CF	103	38.8927	-77.2537	20	0.53	0.00	PL30	Bear Branch	Private	0.53	0.07
6/15/2017	Dry Well		0.0500	0.0500	169	CF	169	38.8953	-77.2495	20	0.77	0.99	PL30	Bear Branch	Private	0.77	0.11
6/15/2017	Infiltration		0.0700	0.2700	221	CF	221	38.9033	-77.2742	20	1.14	1.44	PL22	Piney Branch	Private	1.14	0.17
6/15/2017	Urban Bior		0.0200	0.0200	28	CF	28	38.8875	-77.2546	20	0.20	1.52	PL30	Bear Branch	Private	0.2	0.02
6/15/2017	Urban Bior		0.0600	0.0600	25	CF	25	38.9052	-77.2565	20	0.57	0.57	PL22	Wolftrap Creek	Private	0.57	0.07
6/26/2017	Dry Swale		0.0300	0.1400	81	CF	81	38.8870	-77.2674	20	0.50	1.68	PL30	Hunters Branch	Private	0.5	0.07
6/26/2017	Bioretentio		0.0500	0.1000	82	CF	82	38.9052	-77.2736	20	0.59	1.05	PL22	Piney Branch	Private	0.59	0.07
6/26/2017	Urban Bior		0.0400	0.0400	49	CF	49	38.8816	-77.2471	20	0.35	0.20	PL30	Bear Branch	Private	0.35	0.04
6/26/2017	Infiltration		0.0300	0.0400	107	CF	0	38.8957	-77.2638	20	0.49	0.49	PL22	Piney Branch	Private	0.49	0.07
6/26/2017	Infiltration		0.0400	0.0500	104	CF	104	38.8855	-77.2480	20	0.56	0.10	PL30	Bear Branch	Private	0.56	0.05
6/26/2017	Bioretentio		0.0200	0.0600	40	CF	40	38.9119	-77.2710	20	0.28	2.54	PL22	Piney Branch	Private	0.28	0.03
6/26/2017	Urban Bior		0.0500	0.0500	69	CF	69	38.9119	-77.2676	20	0.50	2.34	PL22	Piney Branch	Private	0.5	0.06

Draft Phase II Town of Vienna Chesapeake Bay TMDL Action Plan
 DEQ Submittal – May 30, 2018

FY2017 Purchased Credit

More Stringent Single Family Residential Development -- Purchased Credit							
The following table demonstrates pollutant reductions achieved as a result of more stringent regulation of single family residential development under one acre as required by the Town's Stormwater Management Ordinance. All reductions consist of purchased off-site nutrient credits.							
Street	Unit #	Redevelopment Load (lbs)	New Impervious Load (lbs)	Total Reduction Needed (lbs)	Credit Purchase Date	Purchased TN (lbs)	Purchased TP (lbs)
Echols St SW	904	0.03	0.09	0.12	7/5/2016	0.89	0.12
Pleasant St SW	227	0.05	0.21	0.26	7/28/2016	3.48	0.26
Battle St SW	122	0.03	0.06	0.09	8/11/2016	0.52	0.07
Moore Ave SW	105	0.02	0.02	0.04	8/19/2016	0.30	0.04
Desale St SW	908	0.02	0.04	0.06	8/22/2016	0.45	0.06
Wilmar Pl NW	109	0.01	0.04	0.05	8/25/2016	0.37	0.05
George St SW	304	0.03	0.03	0.06	9/21/2016	0.37	0.05
Mashie Dr SE	504	0.04	0.10	0.14	9/28/2016	0.30	0.04
Kelley St SW	1212	0.01	0.00	0.01	10/6/2016	0.13	0.01
Plum St SW	403	0.03	0.01	0.04	10/21/2016	0.30	0.04
Courthouse Rd SW	369	0.04	0.06	0.10	11/23/2016	1.56	0.10
Creek Crossing Rd NE	435	0.07	0.16	0.23	1/12/2017	2.01	0.27
Druid Hill NE	438	0.03	0.14	0.17	1/27/2017	0.22	0.03
Ross St SW	1211	0.02	0.00	0.02	2/13/2017	0.15	0.02
Church St NE	248	0.04	0.00	0.04	6/7/2017	0.30	0.04
Park St SE	400	0.01	0.00	0.01	6/13/2017	0.07	0.01

Draft Phase II Town of Vienna Chesapeake Bay TMDL Action Plan
 DEQ Submittal – May 30, 2018

FY2016 Purchased Credit

Street Address	Unit Number	Redevelopment Load	New Impervious Load lbs	Total Load Reduction	Credit Purchase Date	Nitrogen	Phosphorus
Patrick St SW	303	0.02	0.04	0.05	1-Jul-15	0.67	0.05
Olympian Cir SW	908	0.02	0.04	0.06	10-Jul-15	0.54	0.04
Desale St SW	922	0.02	0.04	0.06	15-Jul-15	0.8	0.06
Dogwood St SW	108			0.04	24-Jul-15	0.63	0.04
Oak St SW	207	0.02	0.05	0.07	14-Aug-15	1.2	0.09
Valley Dr SE	517	0.02	0.02	0.05	18-Aug-15	0.67	0.05
Albrecht Cir SW	314	0.04	0.02	0.05	29-Aug-15	0.27	0.02
Cottage St SW	1115	0.02	0.04	0.06	1-Sep-15	0.8	0.06
Johnson St SW	306	0.03	0.01	0.04	1-Sep-15	0.53	0.04
Moore Ave SW	104	0.02	0.02	0.04	9-Sep-15	0.53	0.04
Nelson Dr NE	405	0.03	0.1	0.11	9-Sep-15	1.47	0.11
Johnson St SW	307	0.03	0.05	0.08	22-Sep-15	1.07	0.08
Ware St SW	1203	0.02	0.03	0.05	25-Sep-15	0.67	0.05
Nelson Dr NE	517	0.04	0.02	0.06	2-Oct-15	0.8	0.06
Hillcrest Dr SW	705	0.03	0.13	0.16	5-Oct-15	2.14	0.16
Orrin St SE	505	0.02	0	0.02	6-Oct-15	0.27	0.02
Berry St SW	308	0.03	0.11	0.14	19-Oct-15	1.87	0.14
Battle St SW	213	0.02		0.02	11-Nov-15	0.4	0.03
Delano Dr SE	509	0.03	0.02	0.05	19-Nov-15	0.67	0.05
Glyndon St SE	301	0.03	0.07	0.11	30-Nov-15	1.72	0.11
Park St NE	331	0.03	0.09	0.12	9-Dec-15	1.6	0.12
Alma St SE	507			0.2	22-Dec-15	0.27	0.02
Cottage St SW	1404	0.02	0.05	0.06	4-Jan-16	0.8	0.06
Park St SE	609	0.04	0.06	0.09	5-Jan-16	1.2	0.09
Cottage St SW	926	0.03	0.05	0.09	8-Jan-16	1.2	0.09
Melody Lane SW	120	0.02	0	0.02	8-Jan-16	0.27	0.02
Battle St SW	119	0.02	0	0.02	20-Jan-16	0.4	0.03
Drake St SW	1202	0.02	0.05	0.07	5-Feb-16	0.94	0.07
Johnson St SW	401	0.02	0.06	0.08	5-Feb-16	1.07	0.08
Kibler Cir SW	501	0.02	0.03	0.06	5-Feb-16	0.8	0.06
Hillcrest Dr SW	504	0.03	0.04	0.07	8-Feb-16	1.1	0.07
Hickory Cir SW	119	0.02	0.01	0.03	21-Mar-16	0.33	0.03
Plum St SW	511	0.02	0.02	0.04	21-Mar-16	0.44	0.04
Orchard St NW	343	0.02	0.08	0.09	31-Mar-16	0.98	0.09
Yeonas Dr SW	415	0.02	0.05	0.07	14-Apr-16	0.76	0.07
Yeonas Dr SW	100	0.02	0.05	0.08	28-Apr-16	0.87	0.08
Center St S	710	0.02	0	0.02	20-May-16	1.47	0.11
Niblick Dr SE	607	0.04	0.06	0.11	25-May-16	1.72	0.11
Lakewood Dr SW	1105	0.02	0.03	0.05	1-Jun-16	0.37	0.05

Draft Phase II Town of Vienna Chesapeake Bay TMDL Action Plan
 DEQ Submittal – May 30, 2018

FY2015 Purchased Credit

Street Address	Unit Number	Redevelopment Load lbs	New Impervious Load lbs	Total Load Reduction lbs	Credit Purchase Date	Nitrogen	Phosphorus
Windover Ave NW	428	0.01	0.17	0.18	9-Oct-14	2.42	0.18
Birch St SW	602	0.02	0.05	0.07	27-Oct-14	0.68	0.05
Timber Lane SW	904	0.02	0.04	0.06	3-Dec-14	0.54	0.04
Walker St SW	510	0.02	0.04	0.07	5-Dec-14	0.94	0.07
Druid Hill NE	512	0.04	0.07	0.11	8-Dec-14	2.42	0.18
Battle St SW	214	0.02	0.07	0.09	8-Dec-14	1.21	0.09
John Marshall Dr NE	302	0.03	0.02	0.04	18-Dec-14	0.54	0.04
Kingsley Rd SW	131	0.04	0.05	0.09	26-Jan-15	1.21	0.09
Orchard St NW	449			0.07	28-Apr-15	1.1	0.07
West St NW	331			0.07	28-Apr-15	1.1	0.07
Berry St SE	416	0.04	0.07	0.11	9-Jun-15	0.44	0.1
Cottage St SW	800	0.02	0.05	0.07	11-Jun-15	0.94	0.07
Westbriar Ct NE	1110	0.04	0.14	0.18	19-Jun-15	2.42	0.18
Mashie Dr SE	405	0.04	0.07	0.11	23-Jun-15	1.48	0.11
Desale St SW	922	0.02	0.04	0.06	15-Jul-15	0.8	0.06
Oak St SW	207	0.02	0.05	0.07	14-Aug-15	1.2	0.09

Appendix E

Calculations and Supporting Documents for BMPs Planned for FY2018 and the Second Permit Cycle

Summary of BMPs Planned for FY2018 and the Second Permit Cycle

	Cumulative Reductions from Worksheets						
	FY17 Actual	FY18	FY19	FY20	FY21	FY22	FY23
Redevelopment							
TN	-	12.04	12.04	12.04	12.04	12.04	12.04
TP	-	2.15	2.15	2.15	2.15	2.15	2.15
TSS	-	1,271.28	1,271.28	1,271.28	1,271.28	1,271.28	1,271.28
Shared Credit Projects							
TN	975.18	975.18	975.18	975.18	975.18	975.18	975.18
TP	208.01	208.01	208.01	208.01	208.01	208.01	208.01
TSS	82,450.28	82,450.28	82,450.28	82,450.28	82,450.28	82,450.28	82,450.28
Street Sweeping							
TN	1,532.72	1,071.00	1,071.00	1,071.00	1,071.00	1,071.00	1,071.00
TP	613.09	428.40	428.40	428.40	428.40	428.40	428.40
TSS	183,926.40	128,520.00	128,520.00	128,520.00	128,520.00	128,520.00	128,520.00
Purchased Nutrient Credits							
TN	-	-	-	-	-	-	-
TP	-	-	-	-	-	-	-
TSS	-	-	-	-	-	-	-
More Stringent Development							
TN	89.79	89.79	89.79	89.79	89.79	89.79	89.79
TP	9.40	9.40	9.40	9.40	9.40	9.40	9.40
TSS	-	-	-	-	-	-	-
Additional Means and Methods							
TN	-	-	-	-	-	-	-
TP	-	-	-	-	-	-	-
TSS	-	-	-	-	-	-	-
Total Reductions							
TN	2,597.69	2,148.01	2,148.01	2,148.01	2,148.01	2,148.01	2,148.01
TP	830.50	647.96	647.96	647.96	647.96	647.96	647.96
TSS	266,376.68	212,241.56	212,241.56	212,241.56	212,241.56	212,241.56	212,241.56

Redevelopment

One redevelopment project, the Vienna Community Center, was implemented in FY2018. Additional redevelopment projects will be reported annually with the Town’s MS4 annual report.

Vienna Community Center		
Information	Input	As Developed
Date Completed	Under Development	
Rainfall		
Site Area (SF)	211701.6	
Site Area (AC)		4.86
Watershed I %		
Pre-I Area (SF)	121968	
Pre-I Area (AC)		2.80
Pre-I Area (%)		
Pre C Value		
Pre-TP Load (VRRM)		7.86
Post-I Area (SF)	163350	
Post-I Area (AC)		3.75
Post-I Area (%)		
Post C Value		
Post-TP Load (VRRM)		9.38
Increase/Decrease		1.52
Stormwater Controls		
BMP 1	StormTech(2)	
Efficiency	0.411	
I Area (AC)	1.83	
TP Removed		1.88
BMP 2	Permeable Pavers	
Efficiency	0.59	
I Area (AC)	1.21	
TP Removed		1.79
BMP 3	NA	
Efficiency	0	
I Area (AC)	0	
TP Removed		0.00
Total BMP TP Removed		3.67
Net Change in TP		(2.15)

Creditable Reductions for TN and TSS Per Guidance Appendix V.E			
TP Decrease for Impervious Reduction			-
TP Decrease for BMPs (Proportion of BMP Applied to TMDL Reduction)			
	0.59		(2.15)
Total Creditable TP Decrease			(2.15)
Total Associated TN Load	6.9		64.72
TN Decrease from Impervious Reduction			-
TN Decrease for BMPs	Efficiency	Proportion IA Treated by BMP	
BMP 1	0.261	0.488	(8.24)
BMP 2	0.59	0.322666667	(12.32)
BMP 3	0	0	-
TN Decrease for BMPs (Decrease * Prop. Applied to TMDL)			-12.04063158
Total Creditable TN Decrease (Imp. Reduction + BMPs)			(12.04)
Total Associated TSS Load	469.2		4,401.10
TSS Decrease from Impervious Reduction			-
TSS Decrease for BMPs	Efficiency	Proportion IA Treated by BMP	
BMP 1	0.523	0.488	(1,123.27)
BMP 2	0.738	0.322666667	(1,048.02)
BMP 3	0	0	-
TSS Decrease for BMPs (Decrease * Prop. Applied to TMDL)			(1,271.28)
Total Creditable TSS Decrease (Imp. Reduction + BMPs)			(1,271.28)
BMP Efficiency Methodology Description:			
Pre-TP Load and Post-TP Load taken from Virginia Runoff Reduction Method Redevelopment Worksheet revised 3/16/2015. Methodology confirmed by email from Kelsey Brooks at DEQ received 5/18/2016. StormTech: TP, TN, and TSS efficiencies calculated using Chesapeake Bay Program Retrofit Equations based on Runoff Depth Treated of 0.5 per email from Kelsey Brooks received 8/7/2015. Permeable Pavers: TP and TN efficiency taken from Virginia BMP Clearinghouse for Permeable Pavement Design #1; TSS efficiency calculated using Chesapeake Bay Program Retrofit Equations based on Runoff Storage of 0.09579904 AF, 1.21 AC IA, and Runoff Treatment Depth of 0.95.			

Shared Credit Projects

Additional shared credit projects will be reported annually with the Town’s MS4 annual report based on projects documented by Fairfax County.

Street Sweeping

Notes:	Actual from FY17. Anticipate a minimum of 900 cubic yards/year for planning purposes.						
Dry Weight Factor	0.7	Entered by user as decimal.					
Cubic Yards to Tons	0.34	Entered by user as decimal.					
Tons to Pounds	2000	Entered by user as decimal.					
TN Efficiency	0.0025	Entered by user as decimal.					
TP Efficiency	0.001	Entered by user as decimal.					
TSS Efficiency	0.3	Entered by user as decimal.					
Accotink Creek %	0.384	Percent of total impervious area entered by user as decimal.					
Difficult Run %	0.616	Percent of total impervious area entered by user as decimal.					
Conversion	FY17	FY18	FY19	FY20	FY21	FY22	FY23
	1288	900	900	900	900	900	900
	875840	612000	612000	612000	612000	612000	612000
Town Wide Reductions							
Pollutant	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Collected (lbs)	875840	612000	612000	612000	612000	612000	612000
TN	1532.72	1071.00	1071.00	1071.00	1071.00	1071.00	1071.00
TP	613.09	428.40	428.40	428.40	428.40	428.40	428.40
TSS	183926.40	128520.00	128520.00	128520.00	128520.00	128520.00	128520.00

Purchased Nutrient Credits

Purchased nutrient credits, if any, will be reported annually with the Town's MS4 annual report.

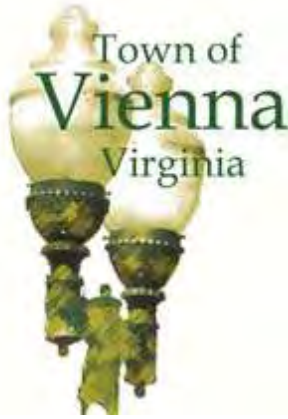
More Stringent Development

Additional more stringent single family residential development credits, if any, will be reported annually with the Town's MS4 annual report.

Appendix F

Public Comments

Reserved for public comments on the final plan due to DEQ no later than 12 months after the effective date of the permit.



Town of Vienna

Bacteria TMDL Action Plan for Difficult Run and Accotink Creek

Prepared in compliance with General Permit No. VAR040066

Submittal to DEQ

Original submittal September 27, 2016

Amended November 21, 2016

Approved by DEQ December 2, 2016

Amended to include Accotink Creek December 15, 2016

Department of Public Works
127 Center Street, South
Vienna, Virginia 22180

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."

Name

Title

Date

Town of Vienna, Virginia

Bacteria TMDL Action Plan for Difficult Run and Accotink Creek

December 15, 2016

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Town of Vienna, Virginia

Bacteria TMDL Action Plan for Difficult Run and Accotink Creek

December 15, 2016

1. Introduction

1.1 Purpose

This Bacteria TMDL Action Plan for Difficult Run and Accotink Creek documents how the Town of Vienna intends to meet the “Special conditions for approved total maximum daily loads (TMDLs) other than the Chesapeake Bay TMDL” in Section I, Part B of the General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). The Town of Vienna’s most recent MS4 permit (VAR040066) was issued by the Virginia Department of Environmental Quality (DEQ) effective July 1, 2013 and will expire June 30, 2018.

The Town’s MS4 permit requires the development of action plans for impaired streams where a TMDL approved by the State Water Control Board assigns a waste load allocation (WLA) to the Town. A TMDL establishes the maximum amount of a pollutant that can enter a water body without violating water quality standards. The “Bacteria TMDL for the Difficult Run Watershed” was approved by the State Water Control Board on April 28, 2009. It affects MS4 regulated areas of the Town draining to Difficult Run and is referenced as the Difficult Run Bacteria TMDL in this plan. The “Fecal Coliform TMDL for Accotink Creek, Fairfax County, Virginia” was approved by the State Water Control Board on June 17, 2004. It affects MS4 regulated areas of the Town draining to Accotink Creek and is referenced as the Accotink Creek Bacteria TMDL in this plan.

Contamination by fecal coliform bacteria is the most common cause of water quality violations in Virginia streams. According to DEQ and the United States Geologic Survey “Although fecal coliform bacteria are not necessarily dangerous to humans, their presence in streams indicates that the water is contaminated with fecal waste from warm-blooded animals... For this reason, fecal coliform bacteria are known as ‘indicator organisms;’ their presence in recreational waters indicates an increased risk to human health.”¹ In Virginia, water quality standards for bacteria were changed in 2003 from more general fecal coliform bacteria to *E. coli* (*Escherichia coli*). *E. coli* is a subset of fecal coliform bacteria and is considered a better indicator of the pathogenic potential of contamination.

This plan addresses the requirements of the Town’s MS4 permit by evaluating significant sources of bacteria, assessing the adequacy of existing programs and legal authorities, identifying new action items and associated schedules and milestones, and determining how the effectiveness of the plan will be assessed.

¹ “Identifying Sources of Fecal Coliform Bacteria in Accotink Creek,” USGS and Virginia DEQ, undated.

1.2 Cooperative Approach with Fairfax County

As allowed by Section I.C.2.b(3) of the Town’s MS4 permit, the Town has entered into an agreement with Fairfax County to cooperate in the development of TMDL action plans. The agreement, included as Appendix A in the Town’s Chesapeake Bay TMDL Action Plan, was originally adopted by the Town on October 28, 2013 and amended on November 7, 2016. In accordance with the agreement, the Town coordinated with Fairfax County in the development of strategies included in this plan.

1.3 Permit Compliance Crosswalk

DEQ published draft guidance in April 2015 for MS4s to use in the development of TMDL action plans. Table 1A provides an overview of the organization of this plan and how each section addresses the Town’s MS4 permit and the draft guidance.

Table 1A – Action Plan and Permit Compliance Crosswalk

Action Plan	Action Plan Element	DEQ Draft Local TMDL Action Plan Guidance	MS4 Permit
Section 1	Introduction		
Section 2.1	TMDL Report	1. The name(s) of the final TMDL report(s)	Section I.B
Section 2.2	Pollutant of Concern	2. The pollutant(s) causing the impairment(s)	Section I.B.2.a
Section 2.3	Waste Load Allocation	3. The WLA(s) assigned to the MS4 as aggregate or individual WLAs	Section I.B.2.b
Section 2.4	Evaluation of Significant Sources of Bacteria	4. Significant sources of POC(s) 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(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;	Section I.B.2.d
Section 2.5	Existing and Planned Management Controls	5. Existing or new management practices, control techniques, and system design and engineering methods that have been or will be implemented as part of the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA;	Section I.B.2.b
Section 2.6	Legal Authorities	6. Legal authorities such as ordinances, state and other permits, orders, specific contract language, and inter-jurisdictional	Section I.B.2.a

Action Plan	Action Plan Element	DEQ Draft Local TMDL Action Plan Guidance	MS4 Permit
		agreements applicable to reducing the POCs identified in each respective TMDL;	
Section 2.7	Enhanced Education, Outreach, and Training	7. Enhancements to public education, outreach, and employee training programs to also promote methods to eliminate and reduce discharges of the POC(s) for which a WLA has been assigned;	Section I.B.2.c
Section 2.8	Schedule and Milestones	8. A schedule of interim milestones and implementation of the items in 5, 6, and 7;	Section I.B.2.e
Section 3	Assessment of Effectiveness	9. Methods to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs; and	Section I.B.2.e
Section 4	Measurable Goals	10. Measurable goals and the metrics that the permittee and Department will use to track those goals (and the milestones required by the permit). Evaluation metrics other than monitoring may be used to determine compliance with the TMDL(s).	Section I.B.2.e

2. Bacteria TMDL Action Plan

2.1 TMDL Reports

This TMDL action plan addresses the “Bacteria TMDL for the Difficult Run Watershed,” which was approved by the State Water Control Board on April 28, 2009, and the “Fecal Coliform TMDL for Accotink Creek, Fairfax County, Virginia,” which was approved by the State Water Control Board on June 17, 2004. Maps 2A and 2B show the location of the Difficult Run and Accotink Creek watersheds in relation to the Town of Vienna. Together, these watersheds drain the Town’s entire land area.

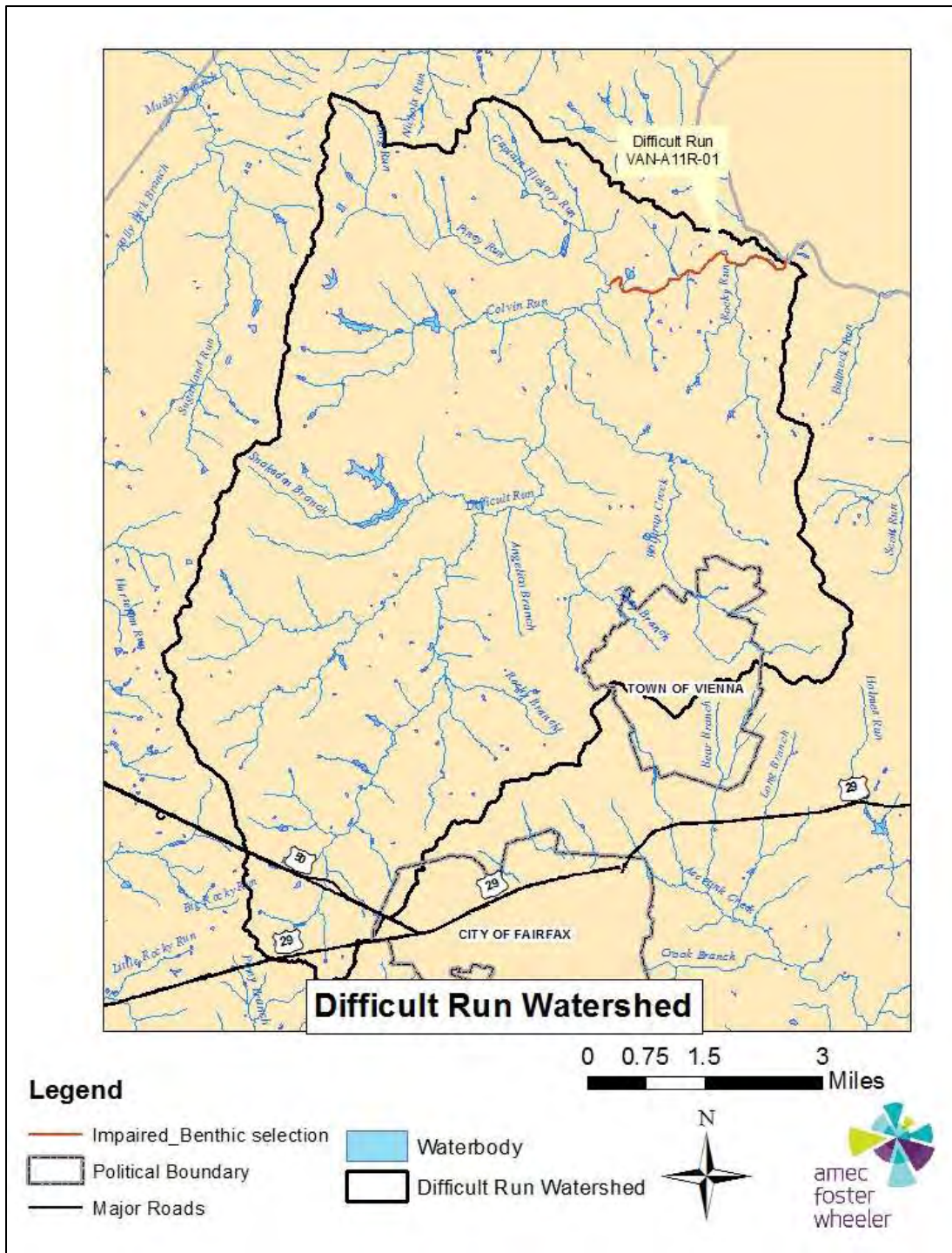
2.2 Pollutant of Concern

Difficult Run was listed as impaired on Virginia’s 303(d) TMDL Priority List and Reports because of violations of the state’s water quality standards for *E. coli* and fecal coliform bacteria. Accotink Creek was listed as impaired due to violations of the state’s water quality standard for fecal coliform bacteria.

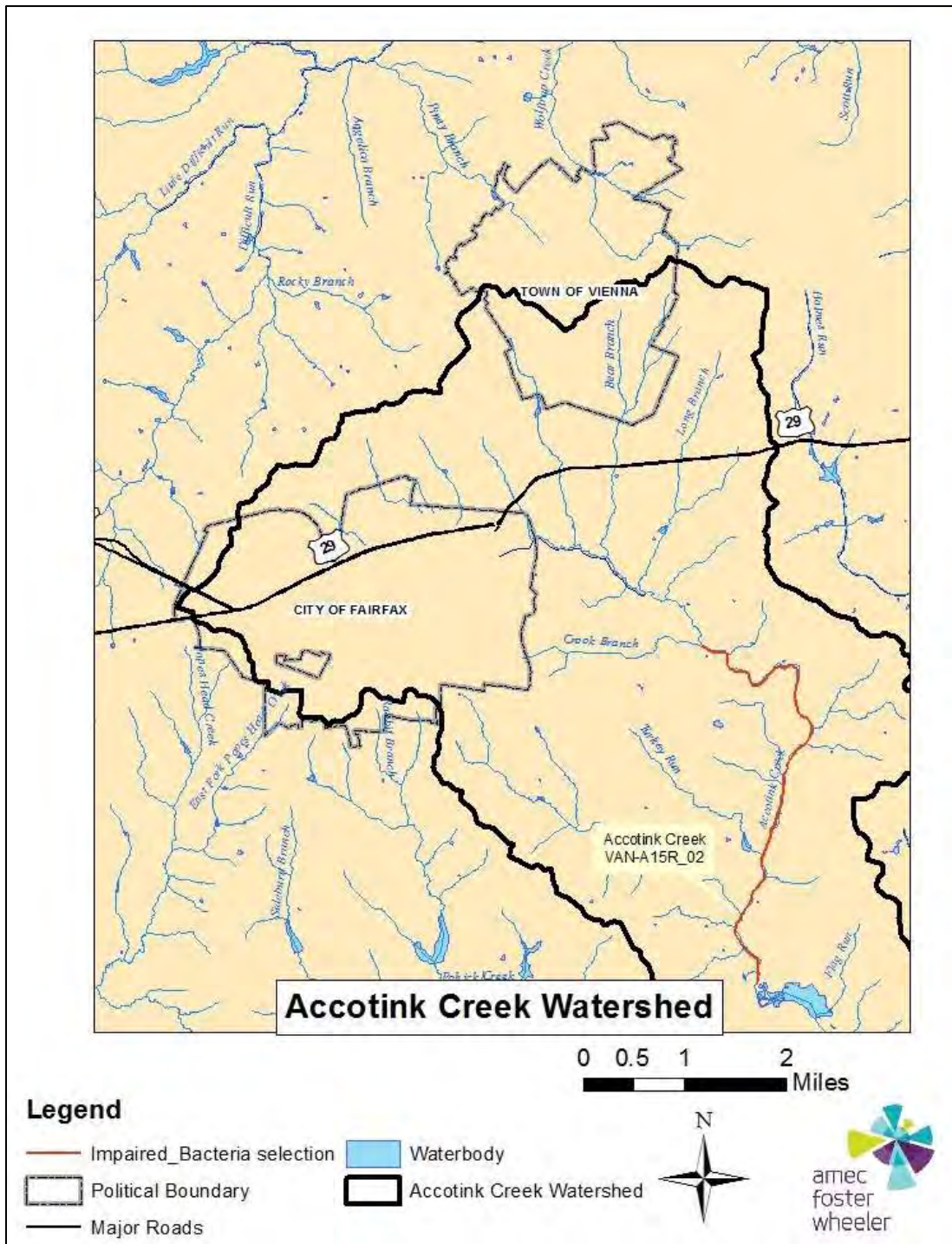
2.3 Waste Load Allocations

This action plan applies to areas of the Town that drain to the regulated MS4. The MS4 regulated area is defined in the MS4 permit as a system that discharges to waters of the state that is owned or operated by the permittee. Map 2C shows the Town of Vienna MS4 area.

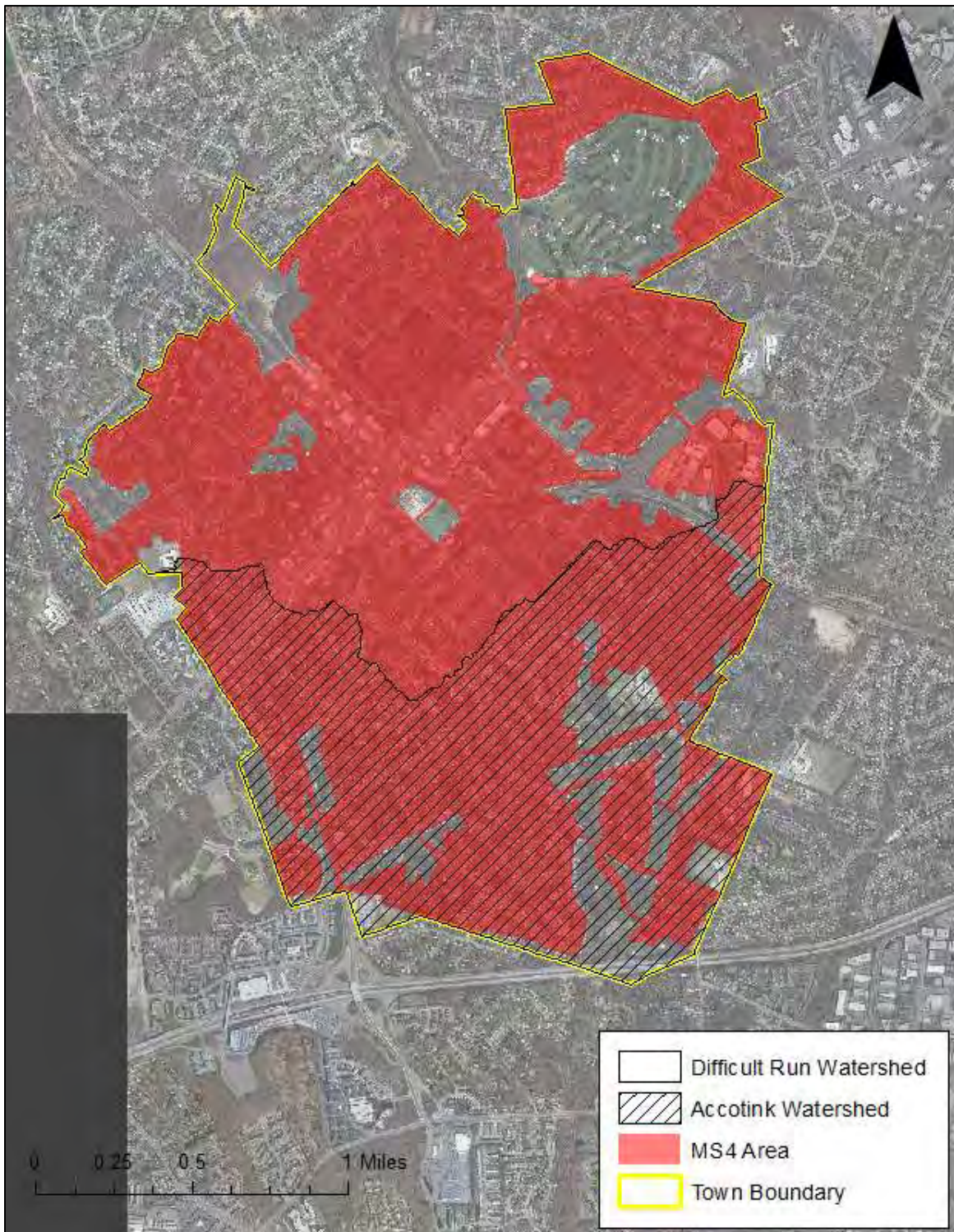
Map 2A – Difficult Run Watershed



Map 2B – Accotink Creek Watershed



Map 2C – Town of Vienna MS4 Service Area



Difficult Run Watershed

The impaired segment of the Difficult Run watershed drains approximately 37,260 acres of Fairfax County, the City of Fairfax, and the Town of Vienna. The Town’s portion of the watershed is 1,683 acres, or approximately 4.5%. Major tributaries of Difficult Run in the Town are Wolftrap Creek and Piney Branch.

The WLA for MS4 permit holders in the Difficult Run watershed is aggregated. The existing load for MS4s is identified as 9.44E+13 cfu/year and the WLA is identified as 9.44E+12 cfu/year. This represents a 90% reduction from existing conditions. Table 2A summarizes existing and allocated bacteria loads from all MS4 sources in the Difficult Run watershed.²

Table 2A – Difficult Run TMDL Aggregate Allocations for MS4s

Aggregated MS4s	Existing Bacteria Load (cfu/year)	Allocated Bacteria Load (cfu/year)	% Reduction	Load Reduction (cfu/year)
Town of Vienna City of Fairfax Fairfax County VDOT Fairfax County Public Schools George Washington Memorial Parkway	9.44E+13	9.44E+12	90%	8.50E+13

The Difficult Run TMDL addresses implementation with the following statement: “For MS4/VSMP general permits, the Commonwealth expects the permittee to specifically address the TMDL wasteload allocations for stormwater through iterative implementation of programmatic BMPs [best management practices]. BMP effectiveness would be determined through permittee implementation of an individual control strategy that includes a monitoring program that is sufficient to determine its BMP effectiveness.” The TMDL also states that “Virginia and EPA are not proposing the elimination of wildlife to allow for the attainment of water quality standards. This is obviously an impractical action. While managing overpopulations of wildlife remains as an option to local stakeholders, the reduction of wildlife or changing a natural background condition is not the intended goal of a TMDL.”³

Accotink Creek Watershed

The impaired segment of the Accotink Creek watershed drains approximately 19,417 acres of Fairfax County, the City of Fairfax, and the Town of Vienna. The Town’s portion of the watershed is 1,133 acres, or approximately 5.8%. Major tributaries of Accotink Creek in the Town are Hunter’s Branch and Bear Branch.

² Table 5-4 of the TMDL.

³ Section 8.3.2 of the TMDL.

Because the City of Fairfax and the Town of Vienna did not yet have MS4 permits when the TMDL was established in 2002, the entire WLA for Accotink Creek is assigned to Fairfax County’s MS4 and is estimated in the TMDL as the loading coming from the impervious land surface in the watershed, including areas of the Town. The existing load estimated for the Fairfax County MS4 is identified as 1.56E+15 col/year and the WLA is identified as 0.13E+15 col/year. This represents a 91.67% reduction from existing conditions. Table 2B summarizes the existing and allocated bacteria load attributed to the MS4 in the Accotink Creek watershed.⁴

Table 2B – Accotink Creek TMDL Allocation to the Fairfax County MS4

MS4	Existing Bacteria Load (col/year)	Allocated Bacteria Load (col/year)	% Reduction	Load Reduction (cfu/year)
Fairfax County	1.56E+15	0.13E+15	91.67%	1.43E+15

The Accotink Creek TMDL addresses implementation with the following statement: “In general, the Commonwealth intends for the required reductions to be implemented in an iterative process that first addresses those sources with the largest impact on water quality. For example in urban areas, reducing the human bacteria loading from failing septic systems and leaking sewer lines could be a focus during the first stage because of its health implications.” The TMDL further states “DEQ acknowledges that it may not be possible to meet the existing water quality standard because of the wildlife issue associated with a number of bacteria TMDLs (see Section 7.4 below). At some future time, it may therefore become necessary to investigate the stream’s use designation and adjust the water quality criteria through a Use Attainability Analysis. Any changes to the TMDL resulting from water quality standards change on Accotink Creek would be reflected in the MS4/VPDES permit.”⁵

2.4 Evaluation of Significant Sources of Bacteria

The Difficult Run Bacteria TMDL examined several potential sources of bacteria within the watershed. These included permitted point sources, failed septic systems, forests, cropland, pasture, cattle through direct deposition, wildlife through direct deposition, and MS4s. The primary source of bacteria assigned to the MS4 is pet waste (wildlife sources were assigned to forest and pasture land uses). In addition, all human sources of bacteria are expected to be eliminated, including those to the MS4. The Accotink Creek Bacteria TMDL approached identification of potential bacteria sources through the use of bacteria source tracking (BST), and specifically the use of a genetic fingerprinting analysis known as ribotyping. Dominant sources of bacteria identified in the Accotink Creek watershed included geese, humans, and dogs.

Pet waste can enter the MS4 when it is left on a surface that drains to a storm sewer. Off-leash dog parks are an example of a specific land use with a potential high risk for bacteria to enter into the MS4. The Town has one dog park (Vienna Dog Park/Moorefield Park), which is located in the Accotink Creek watershed. Other potential areas where bacteria from pet waste could be concentrated include those areas where owners are likely to walk their pets. This includes walking trails, public parks and open space, and private open space such as community association common areas.

⁴ Table 3 and Table 4 of the TMDL.

⁵ Section 6 and Section 7 of the TMDL.

Potential human sources of bacteria include failing septic systems and sanitary sewer cross-connections, spills, or leaks. The vast majority of the Town is connected to public sanitary sewer. All new construction must connect to the sanitary sewer in accordance with Chapter 14 “Sewers and Sewage Disposal” of the Town Code. Any remaining septic systems must meet the maintenance and pump out requirements of the Virginia Chesapeake Bay Preservation Area Designation and Management Regulations. Further, the Town has the authority under Chapter 14 of the Town Code to condemn and require conversion to public sanitary sewer any septic system that becomes a threat to health or public safety. With regard to the sanitary sewer system, the Town Department of Public Works maintains approximately 95 miles of pipe. DPW crews inspect and clean each sanitary sewer main every four years. The Town has also enacted a rigorous dry weather outfall monitoring program designed to detect illicit connections. The Town’s program is described in its MS4 Program Plan, BMP 3.4. Any leaks or cross-connections are dealt with immediately.

As required in the MS4 permit, the Town conducted a review of Town owned or operated properties within the regulated MS4 service area to assess risk factors associated with bacteria. No Town owned or operated properties have individual septic systems. Therefore, the primary risk factor is with pet waste.

Town properties within the MS4 identified by staff as popular dog walking or exercise areas were designated as “medium risk.” Medium risk sites were then evaluated in the field for visible signs of dog waste (May 18, 2016 for sites in the Difficult Run watershed and December 7, 2016 for sites in the Accotink Creek watershed). If significant dog waste was observed, the property was designated as a “priority site.” Significant is defined in the MS4 permit as “a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL.” While visible signs of dog waste were not observed at any of the sites, Vienna Dog Park/Moorefield Park was designated as a priority site based on the dog-focused nature of activities at the facility. Table 2C presents the results of the evaluation. Properties with no risk factors are indicated in green, medium risk properties are identified in yellow, and priority sites are identified in orange.

Table 2C – Evaluation of Potential Bacteria Sources from Town Property

Property	Known Walking Area?	Waste Observed?	Designated Specifically for Dog Activity?
Glyndon Park	Yes	No	No
Meadow Lane Park	Yes	No	No
Northside Property Yard	No	NA	No
Salisbury Spring Park	No	NA	No
Town Hall	No	NA	No
Vienna Community Center	Yes	No	No
Vienna Dog Park/Moorefield Park	Yes	No	Yes
Vienna Town Green	Yes	No	No

In addition to Town owned and operated property, the Northern Virginia Regional Park Authority (NOVA Parks) operates the Washington and Old Dominion (W&OD) Trail within the Town. This trail is heavily used by bikers and walkers, including pet owners. According to NOVA Parks, several “mutt-mitt” boxes have been installed along the trail, including in the Vienna area, along with signage encouraging people to clean up after their pets. Although the W&OD Trail is not Town owned or operated property, the Town will continue to work with NOVA Parks should dog waste be a problem.

2.5 Existing and Planned Management Controls

The Town has in place a rigorous program aimed at preventing the discharge of bacteria from the MS4. The program is described in the Town’s MS4 Program Plan, which was updated to incorporate the Town’s Stormwater Pollution Prevention Public Education and Outreach Plan in 2014. Both documents identify bacteria as a high-priority water quality issue and contain strategies to reach at least 20% of target audiences with a pollution prevention message annually. The Town also has in place several mechanisms to prevent the discharge of bacteria to the MS4 from human sources. Table 2D summarizes the Town’s current bacteria management controls.

Table 2D – Town of Vienna Current Bacteria Reduction Program

Source Document	Description	Implementation and Schedule
MS4 Program Plan BMP 1.5 “Bacteria Education”	The purpose of this BMP is to reduce bacteria pollution by educating residents in general, and pet owners specifically, on the impacts of pet waste on water quality and the importance of picking up after pets.	The Town has identified all residents as the target audience for pet waste related education, with a specific focus on dog owners. The following actions are contained in the MS4 Program Plan: <ul style="list-style-type: none"> • At least one of the stormwater quality related articles to be include annually in the Town’s monthly newsletter will focus on the importance of picking up after pets. • At least one of the stormwater quality related messages in the Town of Vienna calendar will focus on the importance of picking up after pets. • Each year beginning in FY15, include a message about the importance of picking up after pets in at least one of the Town’s social media platforms. • In FY17, include a message in one of the Town’s quarterly residential water bills about the importance of picking up after pets. • In FY17, provide information about the importance of picking up after pets in all dog license renewals.

Source Document	Description	Implementation and Schedule
		<ul style="list-style-type: none"> Participate in the NVRC Clean Water Partners program effort to reduce water quality impacts from bacteria caused by pet waste.
MS4 Program Plan BMP 1.6 “Targeted Business Outreach for Illicit Discharges”	The purpose of this BMP is to engage business in general, and restaurants in particular, as partners in protecting water quality and preventing stormwater pollution. The BMP has been updated to include potential bacteria sources in education provided to restaurants.	The following action is contained in the MS4 Program Plan: <ul style="list-style-type: none"> During FY17, send a letter and any other information to all restaurants about the importance of pollution prevention and the legal ramifications for dumping or illicit discharges. Include specific reference to potential sources of bacteria and how to prevent bacteria from being introduced into the storm sewer system.
MS4 Program Plan BMP 3.2 “Prohibition of Illicit Discharges”	The purpose of this BMP is to prohibit illicit discharges in general and to require pet owners to clean up after their pets specifically. Both Code sections include enforcement authority.	Town Code Section 3-10.1 and Town Code Section 16-2.2. Ongoing implementation.
MS4 Program Plan BMP 3.3 “Written Procedures for Illicit Discharges and Dumping”	The purpose of this BMP is to establish procedures to identify and address unauthorized discharges and illegal dumping. The Town adopted an Illicit Discharge Detection and Elimination (IDDE) Manual that contains information about bacteria pollution.	The following actions are contained in the MS4 Program Plan: <ul style="list-style-type: none"> Beginning FY15, implement the IDDE Manual. Beginning FY15, relevant portions of the IDDE Manual will be incorporated into field personnel training in BMP 6.3.
MS4 Program Plan BMP 3.4 “Dry Weather Outfall Screening”	The purpose of this BMP is to identify and eliminate illicit discharges as soon as possible through a dry weather outfall screening program. The program includes bacteria pollution.	The following action is contained in the MS4 Program Plan: <ul style="list-style-type: none"> Beginning FY15, perform dry weather screening on at least 50 outfalls annually. Outfalls will be prioritized based on the IDDE Manual.
MS4 Program Plan BMP 6.3 “Employee Training”	The purpose of this BMP is to ensure that employees are aware of pollution prevention goals and trained to recognize and correct potential sources of pollution. Prevention of bacteria pollution is an element of the Town’s training.	Department of Public Works and Parks Maintenance staff are trained in general pollution prevention, including bacteria, every other year in accordance with the MS4 Program Plan.

Source Document	Description	Implementation and Schedule
Town Code Section 3-10.1	The Town has enacted a “pooper-scooper” ordinance to reduce the incidence of pet owners leaving pet waste on surfaces where it can enter the storm drain. This section states “It shall be unlawful for any owner, keeper or walker of a dog to immediately remove the dog’s excrement from any property other than the dog owner’s property on which such dog had defecated. Any first violation of this section shall result in a warning of possible future penalty. Any conviction of a second or subsequent violation of this section shall be punishable as a Class 4 misdemeanor.” A Class 4 misdemeanor is punishable with a fine of not more than \$250. This is equal to that of surrounding Fairfax County and nearby City of Fairfax, and greater than that of Arlington County, the City of Alexandria, and the City of Falls Church.	Ongoing
Town Code Chapter 14	The Town Code requires new construction to connect to the sanitary sewer system and provides the Town with the authority to require conversion of a septic system to the sanitary sewer system if the septic system is a threat to public health or safety.	Ongoing.
Town DPW Sanitary Sewer Inspection Program	The Town DPW routinely inspects approximately 95 miles of sanitary sewer pipe for leaks and cross connections.	Every sanitary sewer main is inspected and cleaned once every four years.
Chesapeake Bay Preservation Area Designation and Management Regulations	All septic systems in Fairfax County, including the Town of Vienna, must be pumped out at least once every five years.	Ongoing.

Source Document	Description	Implementation and Schedule
Pet Waste Stations	The Town has installed and actively maintains two pet waste stations at the Vienna Dog Park/Moorefield Park. In addition, the facility is equipped with rakes and shovels to facilitate proper disposal of dog waste.	Ongoing.

In reviewing the remainder of the Town’s program against the sources identified in Section 2.4, the Town has identified the following program enhancements:

- Review of Town Code Section 3-10.1 – While the Town’s “pooper-scooper” ordinance contains penalties that match or exceed those of surrounding localities, Vienna is the only locality that provides a blanket warning for a first offense. The Town Manager will assess the pros and cons of this provision and make a recommendation to the Town Council for their consideration.
- Signage at Medium Risk and Priority Sites – The Town will install signage at medium risk sites and any future priority sites. The purpose of the signage will be to encourage pet owners to clean up pet waste and to alert them of the fines that may be imposed for non-compliance.
- Pet Waste Stations at Priority Sites – The Town will install pet waste stations at any additional priority sites that are identified in the future. The purpose of the stations will be to provide a convenient place to dispose of pet waste in areas where concentrated levels of pet waste are expected or observed.
- Annual Site Assessment – The Town will conduct an annual walk through of medium risk and priority sites. Medium risk sites will be assessed for whether they need to be reclassified as priority sites. The walk through for priority sites will be used to assess the effectiveness of implemented management strategies and make adjustments to this action plan as appropriate. To provide a consistent basis from which to measure the effectiveness of the Town’s efforts, the Town will establish for each site a representative segment or area that will be used to measure dog waste deposits. Further, the site assessments will be conducted between April 1 and June 30 of each year.



Example Pet Waste Signage



Pet Waste Station at Vienna Dog Park

The schedule and milestones for implementing these program enhancements are provided in Section 2.8.

2.6 Legal Authorities

The Town prohibits all illicit discharges to the storm sewer system in Section 16.2.2 of the Town Code. This includes both pet sources and human sources of bacteria. With regard to pet sources, failure to remove dog excrement is specifically addressed in Section 3-10.1 of the Town Code. A Class 4

misdeemeanor is punishable with a fine of not more than \$250. With regard to septic systems, the Town Code Chapter 14 prohibits new septic systems and provides the Town with the authority to convert septic systems to the sanitary sewer system if the septic system presents a threat to health or safety.

2.7 Enhanced Education, Outreach, and Training

The Town’s education, outreach, and training program has been developed over time in an iterative manner based on periodic assessments of potential sources and the effective means of reducing these sources. As previously noted, bacteria from pets was identified as a high-priority water quality issue in the Town’s Stormwater Pollution Prevention Public Education and Outreach Plan, which was developed as a requirement of Section II.B.1.c of the MS4 permit. The MS4 Program Plan was updated accordingly. Further, the Town’s training program (BMP 6.3) addresses all potential sources of illicit discharges, including bacteria. Implementation is documented in annual reports to DEQ. The Town believes that the updated education and outreach efforts meet the requirements for an enhanced program.

2.8 Schedule and Milestones

The Town will continue the existing program in accordance with Table 2D and the MS4 Program Plan. Additional actions identified in Section 2.5 will be implemented and documented in the MS4 annual report in accordance with Table 2E.

Table 2E – Schedule and Milestones for Program Enhancements

Program Element	Description	Implementation Mechanism and Schedule	Responsible Party
Restaurant Education	The Town updated the MS4 Program Plan (BMP 1.6) to include potential sources of bacteria in its education and outreach efforts to restaurants on preventing illicit discharges to the MS4.	Information to restaurants, including bacteria prevention, will be sent during FY17.	Public Works
Review of Town Code	Review Town Code Section 3-10.1 to determine whether the Town should keep blanket provisions for a warning on a first offense of violating the “pooper scooper” ordinance.	The Town Manager will make an assessment by June 30, 2017. Any recommended change would be at the discretion of Town Council.	Town Manager/Town Attorney
Signage at Medium Risk and Priority Sites	The Town will install signage at medium risk sites (as well as any priority sites that were not first identified as medium risk sites) to encourage pet walkers to clean up pet waste and to alert them of the fines that may be imposed for non-compliance.	Signage will be installed by June 30, 2018. After that date, the Town will install signage within one year of the identification of a property as medium risk or a priority site.	Parks and Recreation

Pet Waste Stations at Priority Sites	The Town will install pet waste stations at priority sites to provide a convenient place to dispose of pet waste in areas where concentrated levels of pet waste are expected or observed.	The Town will install pet waste stations within one year of the identification of a property as a priority site.	Parks and Recreation
Annual Site Assessment	The Town will conduct an annual walk through of medium risk and any future priority sites. The walk through will be used to determine whether medium risk sites should be re-classified as priority sites and to assess the effectiveness of implemented management strategies. During the first year of implementation, the Town will establish for each site a representative segment or area that will be used to measure dog waste deposits.	Assessments will occur annually, between April 1 and June 30, beginning in FY17. The results of each assessment will be provided in the next MS4 annual report.	Parks and Recreation

3. Assessment of Effectiveness

Unlike structural stormwater management controls, the practices put in place to reduce bacteria pollution do not have assigned reduction efficiencies. Further, ambient in-stream water quality monitoring programs, while effective at measuring overall progress toward bacteria reduction targets, are not appropriate indicators of MS4 permit compliance.

The Town will assess the effectiveness of its efforts based on the field assessments of medium risk and priority sites as described in Section 2.8. The results of the field assessments will document the effectiveness of the Town’s efforts over time and guide the implementation of additional control measures. The measure of effectiveness will be that any particular property should not be a significant source of bacteria. In accordance with the MS4 permit, a significant source of bacteria means “...a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL.” Should a field assessment indicate that waste deposits are higher on a Town owned or operated property than what would be expected for similar land use (for example, a similarly situated parkland or institutional use), then the Town will designate the property as a priority site and implement incrementally more aggressive bacteria reduction controls.

The effectiveness of public education and outreach measures will be assessed based on progress toward meeting the goal of reaching 20% of target audiences for bacteria annually as described in the MS4 Program Plan and Stormwater Pollution Prevention Public Education and Outreach Plan. In addition, the Town will utilize annual surveys conducted by the Clean Water Partners program to assess the overall effectiveness of regional public education and outreach efforts.

4. Measurable Goals

The Town's measurable goal will be to reduce bacteria loads to the Difficult Run and Accotink Creek watersheds in accordance with their respective TMDLs through implementation of the existing and planned management controls in Section 2.5 in accordance with the schedule and milestones provided in Section 2.8. Progress toward implementing the actions in this plan will be reported annually to DEQ in each MS4 permit annual report.



Town of Vienna

Sediment TMDL Action Plan for Difficult Run

Prepared in compliance with General Permit No. VAR040066

Submittal to DEQ

September 27, 2016

Department of Public Works
127 Center Street, South
Vienna, Virginia 22180

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."

Name

Title

Date

Town of Vienna, Virginia

Sediment TMDL Action Plan for Difficult Run

September 27, 2016

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Appendix A.....Vienna Community Center Sediment Reduction Calculations

Town of Vienna, Virginia

Sediment TMDL Action Plan for Difficult Run

September 15, 2016

1. Introduction

1.1 Purpose

This Sediment TMDL Action Plan for Difficult Run demonstrates how the Town of Vienna intends to meet the “Special conditions for approved total maximum daily loads (TMDLs) other than the Chesapeake Bay TMDL” in Section I, Part B of the General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). The Town of Vienna’s most recent MS4 permit (VAR040066) was issued by the Virginia Department of Environmental Quality (DEQ) effective July 1, 2013 and will expire June 30, 2018.

The Town’s MS4 permit requires the development of action plans for impaired streams where a TMDL approved by the State Water Control Board assigns a waste load allocation (WLA) to the Town. A TMDL establishes the maximum amount of a pollutant that can enter a water body without violating water quality standards. The “Benthic TMDL for the Difficult Run Watershed” was approved by the State Water Control Board on April 28, 2009. It affects MS4 regulated areas of the Town draining to Difficult Run and is referenced as the Difficult Run Benthic TMDL in this plan. The TMDL identifies sediment as the primary stressor impacting biologically impaired segments of Difficult Run.

Sediment pollution is a leading cause of stream degradation and has been identified as one of the major stressors associated with the decline of aquatic habitats. While some sediment is a natural part of the water environment, too much sediment can smother bottom dwelling organism and block sunlight to underwater plants. These plants serve as habitat to many aquatic species. In addition, other pollutants such as phosphorus and PCBs may be attached to sediment particles.

This plan addresses the requirements of the Town’s MS4 permit by evaluating significant sources of sediment, assessing the adequacy of existing programs and legal authorities, identifying new action items and associated schedules and milestones, and determining how the effectiveness of the plan will be assessed.

1.2 Chesapeake Bay TMDL Action Plan

This Sediment TMDL Action Plan is designed to work in conjunction with the Chesapeake Bay TMDL Action Plan developed by the Town and approved by DEQ on December 28, 2015. A TMDL was developed for the Chesapeake Bay by the U.S. Environmental Protection Agency (EPA) in 2010. Pollutants of concern (POCs) for the Chesapeake Bay include nitrogen, phosphorus, and sediment. The Town’s MS4 permit requires specific reductions in sediment over three five-year permit cycles in accordance with the following: 5% of the required reductions by the end of the first permit cycle (June 30, 2018); 40% of required reductions by the end of the second permit cycle; and 100% of required reductions at the end of the third permit cycle. The Chesapeake Bay TMDL Action Plan includes

measures designed to reduce sediment loads from the entire Town including those portions in the Difficult Run watershed. These measures are discussed in Section 2.5.

1.3 Cooperative Approach with Fairfax County

As allowed by Section I.C.2.b(3) of the Town’s MS4 permit, the Town has entered into an agreement with Fairfax County to cooperate in the development of TMDL action plans. The agreement, included as Appendix A in the Town’s Chesapeake Bay TMDL Action Plan, was adopted by the Town on October 28, 2013 and by Fairfax County on April 1, 2014.

In accordance with the agreement, the cooperating localities jointly receive credit for each stormwater management project funded through the County’s Stormwater Service District Fee.¹ The Stormwater Service District Fee is assessed in the County and the Town. Credit is provided regardless of the facility’s location within the cooperating localities and in proportion to the percentage of the total load reductions that are established for each locality. For the larger Chesapeake Bay TMDL, Vienna is credited 2.4% of the pollutant reduction for each eligible stormwater facility. For the Difficult Run TMDL, Vienna is credited 11.7% of the pollutant reduction for each eligible facility located within the Difficult Run watershed. These figures may shift slightly as the County continues to refine its MS4 service area. Any changes will be documented to DEQ in the Town’s MS4 annual reports.

1.4 Permit Compliance Crosswalk

DEQ published draft guidance in April 2015 for MS4s to use in the development of TMDL action plans. Table 1A provides an overview of the organization of this plan and how each section addresses the Town’s MS4 permit and the draft guidance.

Table 1A – Action Plan and Permit Compliance Crosswalk

Action Plan	Action Plan Element	DEQ Draft Local TMDL Action Plan Guidance	MS4 Permit
Section 1	Introduction		
Section 2.1	TMDL Report	1. The name(s) of the final TMDL report(s)	Section I.B
Section 2.2	Pollutant of Concern	2. The pollutant(s) causing the impairment(s)	Section I.B.2.a
Section 2.3	Waste Load Allocation	3. The WLA(s) assigned to the MS4 as aggregate or individual WLAs	Section I.B.2.b
Section 2.4	Evaluation of Significant Sources of Sediment	4. Significant sources of POC(s) 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(s) from a facility of concern means a discharge where the	Section I.B.2.d

¹ The agreement covers projects brought on-line as of the date of the agreement’s ratification. An amended agreement is currently being considered that would extend joint credit to projects brought on-line starting July 1, 2009. If the amended agreement is ratified, additional credit will be reflected in the annual reports to DEQ.

Action Plan	Action Plan Element	DEQ Draft Local TMDL Action Plan Guidance	MS4 Permit
		expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL;	
Section 2.5	Existing and Planned Management Controls	5. Existing or new management practices, control techniques, and system design and engineering methods that have been or will be implemented as part of the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA;	Section I.B.2.b
Section 2.6	Legal Authorities	6. Legal authorities such as ordinances, state and other permits, orders, specific contract language, and inter-jurisdictional agreements applicable to reducing the POCs identified in each respective TMDL;	Section I.B.2.a
Section 2.7	Enhanced Education, Outreach, and Training	7. Enhancements to public education, outreach, and employee training programs to also promote methods to eliminate and reduce discharges of the POC(s) for which a WLA has been assigned;	Section I.B.2.c
Section 2.8	Schedule and Milestones	8. A schedule of interim milestones and implementation of the items in 5, 6, and 7;	Section I.B.2.e
Section 3	Assessment of Effectiveness	9. Methods to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs; and	Section I.B.2.e
Section 4	Measurable Goals	10. Measurable goals and the metrics that the permittee and Department will use to track those goals (and the milestones required by the permit). Evaluation metrics other than monitoring may be used to determine compliance with the TMDL(s).	Section I.B.2.e

2. Sediment TMDL Action Plan

2.1 TMDL Report

This TMDL action plan addresses the “Benthic TMDL for the Difficult Run Watershed,” which was approved by the State Water Control Board on April 28, 2009. Map 2A shows the Difficult Run watershed and the location of the Town of Vienna.

2.2 Pollutant of Concern

Difficult Run was first listed as being impaired on Virginia’s 303(d) TMDL Priority List in 1998 for not supporting the aquatic life use due to poor health in the benthic biological community. The TMDL identifies sediment as the primary stressor impacting biologically impaired segments of Difficult Run. Sources of the sediment loading identified in the TMDL include urban stormwater runoff, stream bank erosion, and sediment loss from habitat degradation associated with urbanization.

2.3 Waste Load Allocation

This action plan applies to those areas of the Town’s regulated MS4 that drain to the Difficult Run watershed. The MS4 regulated area is defined in the MS4 permit as a system that discharges to waters of the state that is owned or operated by the permittee. Map 2B shows the Town of Vienna MS4 area within the Difficult Run watershed.

The Difficult Run watershed drains approximately 37,260 acres of Fairfax County, the City of Fairfax, and the Town of Vienna. The Town’s portion of the watershed is 1,683 acres, or approximately 4.5%. Major tributaries of Difficult Run in the Town are Wolftrap Creek and Piney Branch.

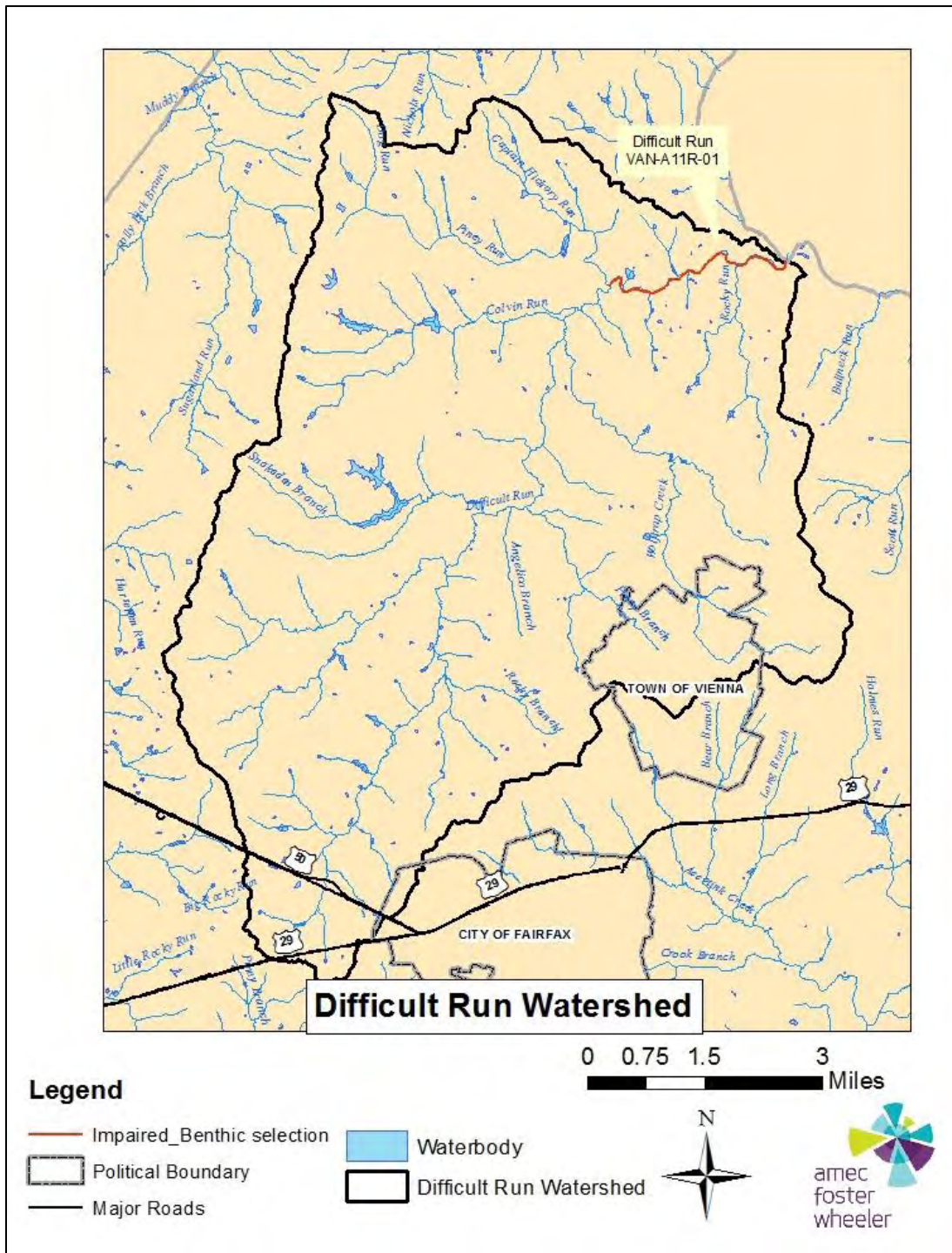
The WLA for MS4 permit holders in the Difficult Run watershed is aggregated. The existing load for MS4s is identified as 5,316.6 tons/year and the WLA is identified as 3,595.0 tons/year. This represents a 32% reduction from existing conditions. Table 2A summarizes existing and allocated sediment loads from all MS4 sources in the Difficult Run watershed.²

Table 2A – Difficult Run TMDL Aggregate Allocations for MS4s

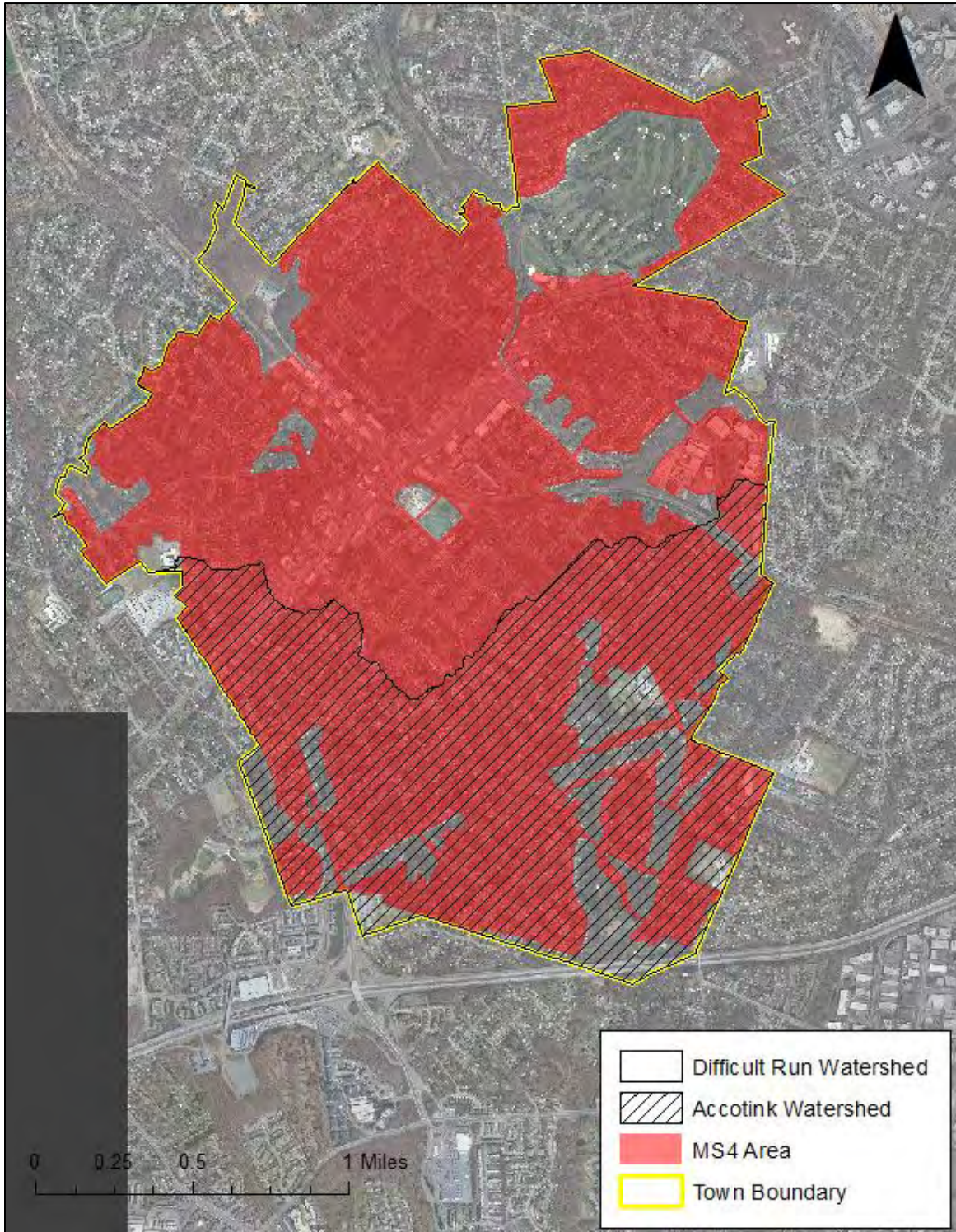
Aggregated MS4s	Existing Sediment Load	Allocated Sediment Load	% Reduction	Load Reduction
Town of Vienna City of Fairfax Fairfax County VDOT Fairfax County Public Schools George Washington Memorial Parkway	10,633,200 lbs/yr (5,316.6 tons/yr)	7,190,000 lbs/yr (3,595.0 tons/yr)	32%	3,443,200 lbs/yr (1,721.6 tons/yr)

² Table 7-2 of the TMDL. The loading unit from the TMDL is tons/year. This has been converted to lbs/year for consistency in this action plan.

Map 2A – Difficult Run Watershed



Map 2B – Town of Vienna MS4 Service Area within Difficult Run Watershed



2.4 Evaluation of Significant Sources of Sediment

The Difficult Run TMDL describes significant sources of sediment from MS4s as being associated with overland stormwater runoff and stream bank erosion. Sediment from overland stormwater runoff is caused by erosion of exposed or poorly stabilized soils. In urban areas, soils are often subject to compaction or frequent disturbance (such as vehicle wheel ruts, pedestrian traffic, sports activities, etc.) where stabilization with vegetation is difficult. Soil stockpiles that are not protected from precipitation can also be a source of sediment. Finally, land disturbing activities (development, utility installation, roadwork, etc.) can be a source of sediment if not properly controlled. It is noted that erosion from construction activities one acre and greater is considered separate from the MS4 allocation since these activities are subject to separate VPDES construction general permits.

Stream bank erosion is caused by the volume and velocity of the flow within the stream, which may be increased during storm events as a result of runoff from impervious areas such as parking lots, roadways, and rooftops.

As required in the MS4 permit, the Town conducted a review of Town owned or operated properties within the regulated MS4 service area to assess risk factors associated with sediment. Risk factors identified by the Town include the existence of soil stockpiles, playing fields where high intensity use may lead to exposed soil, property with large areas of exposed soil ($\geq 2,500$ square feet), and property with large (≥ 1 acre) uncontrolled impervious surfaces. The threshold of $\geq 2,500$ square feet was chosen for exposed soil since that is the threshold at which land disturbing activities are subject to the Town's erosion and sediment control program. The threshold of ≥ 1 acre was chosen for impervious surface area since that is the threshold at which land disturbing activities are required to obtain a state stormwater management permit. Table 2B shows the results of this evaluation. Negative risk factors are indicated in orange.

Table 2B – Evaluation of Potential Sediment Sources from Town Property

Property	Soil Stockpiles?	High Intensity Fields?	Exposed Soil ($\geq 2,500$ SF)?	Impervious Area (≥ 1 Acre)
Glyndon Park	No	No	No	No
Northside Property Yard	Yes	No	No	Yes
Salisbury Spring Park	No	No	No	No
Town Hall	No	No	No	Yes
Vienna Community Center	No	No	No	Yes
Vienna Town Green	No	No	No	No
Waters and Caffi Fields ³	No	Yes	Yes	No

Risk factors associated with private properties are generally the same as those associated with Town owned or operated properties. The Town has adopted Town Code, Chapter 23 “Environmental Controls” to minimize soil erosion during construction and to reduce sediment pollution and water quantity from impervious surfaces as a result of new development and redevelopment. The Town is fully compliant with the Virginia Erosion and Sediment Control Regulations and the Virginia Stormwater Management Program Regulations. There are no known private playing fields or soil stockpiles (other than small, intermittent stockpiles such as those associated with landscaping). There are also no known private

³ Owned by Fairfax County Public Schools. Fields maintained by Town of Vienna.

properties with large amounts of exposed soil. However, if a stockpile or bare area became a source of pollution, Chapter 23 of the Town Code allows the Town to require the property owner to establish mitigation measures. The provisions of Chapter 23 are further discussed in Section 2.6.

2.5 Existing and Planned Management Controls

The Town has in place a rigorous program aimed at preventing new sources of sediment and reducing the discharge of existing sources of sediment to the MS4. This program, which is described in the sections below, includes the Town’s MS4 Program Plan and the Chesapeake Bay TMDL Action Plan.

MS4 Program Plan

The Town of Vienna has adopted an MS4 Program Plan that documents implementation of all MS4 permit requirements, including the programmatic and legal authorities required to meet the “Special condition for approved TMDLs other than the Chesapeake Bay TMDL.” The full MS4 Program Plan can be found at <http://www.viennava.gov/index.aspx?NID=788>. Table 2C provides a summary of elements of the six minimum control measures (MCMs) implemented by the Town under the MS4 that relate to meeting the sediment TMDL.

Table 2C – Town of Vienna MS4 Program Plan Components Related to Meeting the Sediment TMDL

Source Document	Description	Implementation and Schedule
MS4 Program Plan BMP 1.4 “Sediment and Other Illicit Discharges”	The purpose of this BMP is to reduce illicit discharges, with a particular focus on sediment pollution, by educating residents on how to recognize and report a suspected illicit discharge.	The Town has identified all residents as the target audience for sediment and illicit-discharge education. The following actions are contained in the MS4 Program Plan: <ul style="list-style-type: none"> • Maintain the “Report a Concern” function (see BMP 2.3) on the Town’s web site with a specific option for reporting an illicit discharge to the storm sewer system. • At least one of the stormwater quality related articles to be included annually in the Town’s monthly newsletter will focus on how to identify and report an illicit discharge, including erosion and sediment control issues. • In FY16, include a message in one of the Town’s quarterly residential water bills about how to identify and report an illicit discharge, including erosion and sediment control issues. • Participate in the NVRC Clean Water Partners program effort to reduce water quality impacts from illicit discharges.
MS4 Program Plan BMP 3.2 “Prohibition of Illicit Discharges”	The purpose of this BMP is to prohibit illicit discharges in general and to provide the Town with adequate enforcement authority.	Town Code Section 16-2.2. Ongoing implementation.

Source Document	Description	Implementation and Schedule
MS4 Program Plan BMP 3.3 “Written Procedures for Illicit Discharges and Dumping”	The purpose of this BMP is to establish procedures to identify and address unauthorized discharges and illegal dumping. The Town adopted an Illicit Discharge Detection and Elimination (IDDE) Manual that contains information about sediment pollution.	The following actions are contained in the MS4 Program Plan: <ul style="list-style-type: none"> Beginning FY15, implement the IDDE Manual. Beginning FY15, relevant portions of the IDDE Manual will be incorporated into field personnel training in BMP 6.3.
MS4 Program Plan BMP 3.4 “Dry Weather Outfall Screening”	The purpose of this BMP is to identify and eliminate illicit discharges as soon as possible through a dry weather outfall screening program. The program includes sediment pollution.	The following actions are contained in the MS4 Program Plan: <ul style="list-style-type: none"> Beginning FY15, perform dry weather screening on at least 50 outfalls annually. Outfalls will be prioritized based on the IDDE Manual.
MCM #4: “Construction Site Stormwater Runoff Control Permit”	The Town implements a consistent erosion and sediment control program designed to prevent sediment from leaving a construction site during the development process.	Town Code Chapter 23, Article 2 “Erosion and Sediment Control.” Ongoing implementation.
MCM #5: “Post Construction Stormwater Management”	The Town implements a consistent stormwater management program designed to prevent sediment from leaving a site after development.	Town Code Chapter 23, Article 3 “Stormwater Management.” Ongoing implementation.
MS4 Program Plan BMP 6.1 “Good Housekeeping Standard Operating Procedures for Daily Operations”	The Town has developed a series of standard operating procedures (SOPs) designed to ensure that employees minimize or prevent the discharge of pollution, including sediment, from daily operations.	The following actions are contained in the MS4 Program Plan: <ul style="list-style-type: none"> By the end of PY15, develop written SOPs for daily good housekeeping practices, including: road, street and parking lot maintenance; equipment maintenance; and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. Beginning FY16, implement good housekeeping SOPs. Incorporate good housekeeping SOPs into the pollution prevention and good housekeeping training in BMP 6.3.
MS4 Program Plan BMP 6.2 “Stormwater Pollution Prevention Plans for High-Priority Facilities”	The Town has developed a stormwater pollution prevention plan (SWPPP) for the Northside Property Yard. The SWPPP specifically addresses and establishes BMPs for soil stockpiles and other sources of sediment typical of a property yard.	The SWPPP was adopted June 2015 with implementation ongoing. The Town conducts quarterly site visits to ascertain implementation of the SWPPP.
MS4 Program Plan BMP 6.3 “Employee Training”	The purpose of this BMP is to ensure that employees are aware of pollution prevention goals and trained to recognize and correct potential sources of pollution. Prevention of	Department of Public Works and Parks Maintenance staff are trained in general pollution prevention, including sediment, every other year in accordance with the MS4 Program Plan.

Source Document	Description	Implementation and Schedule
	sediment pollution is an element of the Town's training.	
MS4 Program Plan BMP 6.5 "Proper State Certification for Erosion and Sediment Control"	The purpose of this BMP is to ensure that all responsible staff are properly trained in erosion and sediment control.	Ongoing implementation.
MS4 Program Plan BMP 6.6 "Street Sweeping"	The Town's street sweeping plays a significant role in pollution prevention by keeping trash, particulates, and organic matter from entering the storm system.	In accordance with the MS4 Program Plan, the Town conducts Town-wide street sweeping operations at least once a year, and sweep after major outdoor special events. The Town also relies on the street sweeping program to meet sediment reductions as described in the Chesapeake Bay TMDL Action Plan.

Public Education and Outreach Plan

The Town has adopted a Stormwater Pollution Prevention Public Education and Outreach Plan, which was submitted to DEQ on October 1, 2015 as part of the MS4 permit annual report. The plan specifically identified sediment and other illicit discharges as a priority pollutant of concern and outlined specific actions to reach at least 20% of target audiences annually. This plan has been fully integrated into the MS4 Program Plan. The Town believes that these education and outreach efforts meet the requirements of an enhanced program as specified in the MS4 permit.

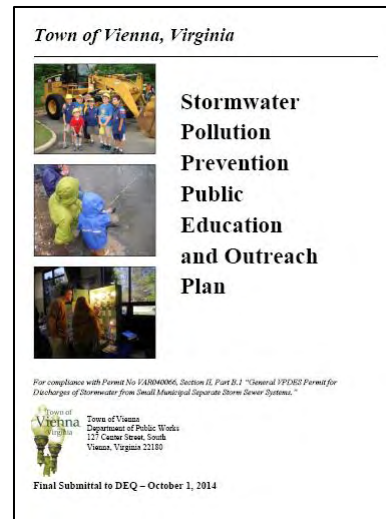
Of additional note, the Town has developed SOPs for Town staff that address sediment reduction. These include: Road, Street, Parking Lot, and Sidewalk Maintenance; Outdoor Material Storage; and, Utility Construction. The Northside Property Yard SWPPP also contains actions to address sediment in general and outdoor material stockpiles specifically. The SOPs and SWPPP have been incorporated into annual training requirements as provided for in the MS4 Program Plan.

The Town will continue to assess whether additional enhancement of education, outreach and training would be beneficial to reducing sediment loads within the Difficult Run watershed.

Town Owned or Operated Properties

The assessment in Section 2.4 identifies four Town owned or operated properties with risk factors for sediment pollution. This includes the Northside Property Yard (high impervious area and exposed soil stockpiles), Town Hall (high impervious area), Vienna Community Center (high impervious area), and Waters and Caffi Fields (high intensity fields).

As noted previously, the Town has adopted a SWPPP for the Northside Property Yard that includes BMPs for sediment reduction. This SWPPP is continuously implemented and includes quarterly site walk-throughs and annual training. The Town has also engaged a consultant to develop a Northside Property Yard Stormwater Design Improvements Conceptual Report. The report will examine the feasibility of installing stormwater control facilities in the



vicinity of material storage areas and the enhancement of vegetated buffer areas adjacent to Piney Branch. The report will be completed in 2017. Recommendations will be considered by the Town as part of the Capital Improvement Program (CIP) process.

The Vienna Community Center is currently undergoing renovation and redevelopment. As part of the redevelopment, the Town is installing stormwater quality and quantity controls, including two StormTech manufactured stormwater treatment devices and porous pavement. Chapter 23 of the Town Code requires redevelopment to achieve at least a 20% reduction in total phosphorus from pre-existing conditions. This also equates to a reduction in sediment. Table 2D summarizes the sediment reduction that is anticipated as a result of the Vienna Community Center redevelopment. Calculations are provided in Appendix A.

Table 2D – Sediment Reductions from Town Owned or Operated Properties

Town Property	Sediment Reduction lbs/year
Vienna Community Center	1,271.28

The Town will continue to look for opportunities to install stormwater quality and quantity controls at the Town Hall, either as part of any future redevelopment or retrofit to meet the sediment reduction targets of the Chesapeake Bay TMDL Action Plan.

The Waters and Caffi Fields are owned by Fairfax County Public Schools but managed by the Town's Department of Parks and Recreation. These fields are continuously monitored for any signs of erosion and any problem areas are quickly addressed. The Town will assess the fields at least once annually from a water quality standpoint to identify and correct any potential sources of sediment pollution.

Chesapeake Bay TMDL Action Plan

The Chesapeake Bay TMDL Action Plan approved by DEQ on December 28, 2015 contains a number of sediment reduction controls that are directly applicable to the Difficult Run Sediment TMDL. These are discussed in the following subsections.

Redevelopment

Sediment loads in the Town will continue to be reduced through improved stormwater management controls as a result of private redevelopment. Town Code Chapter 23, Article 3 "Stormwater Management" requires a reduction in total phosphorus for any redevelopment project. This reduction in phosphorus also results in a reduction in sediment. Starting July 1, 2014 redevelopment over one acre or more must achieve a 20% reduction, while redevelopment under one acre must still achieve a 10% reduction (except for exempted activities per the Code of Virginia). No reductions have come on-line at this time. Reductions from redevelopment will be documented to DEQ in the Town's MS4 annual reports.

Street Sweeping

The Town implements a street sweeping program Town-wide. The DEQ Chesapeake Bay TMDL Special Condition Guidance establishes sweeping programs as a control measure for the reduction of sediment loads. In the Chesapeake Bay TMDL Action Plan, the Town took credit for

13,580.28 lbs/year of sediment removed from the street sweeping program and committed to maintaining that level of effort. Since this plan only applies to the Difficult Run watershed, the Town has calculated the Difficult Run proportion based on the amount of impervious cover within the Difficult Run watershed. The Difficult Run watershed includes approximately 61.6% of the Town’s total impervious area. Therefore it is estimated that approximately 8,365.45 lbs/year are removed from the Difficult Run watershed.

Shared Credit Projects

The Town and the County have both identified stream restoration and stormwater retrofits as key components to reducing sediment pollution. In accordance with the agreement with Fairfax County (see Section 1.3), the Town receives 2.4% of the credit for these projects for the Chesapeake Bay TMDL and 11.7% of the credit for the Difficult Run TMDL. Two shared credit projects within the Difficult Run watershed are contained in the Town’s Chesapeake Bay TMDL Action Plan. These include Wolftrap Stream Restoration Phase 1, completed in October 2013, and Wolftrap Stream Restoration Phase 2, currently under construction. Details about these projects can be found in the Chesapeake Bay TMDL Action Plan. Table 2E summarizes the sediment reductions from these shared credit projects. The County is currently developing its Chesapeake Bay TMDL Action Plan, which will include a more comprehensive list of shared credit projects in the entire Difficult Run watershed.⁴ These projects will be included in future annual reports to DEQ.

Table 2E – Sediment Reductions from Shared Credit Projects

Status	Sediment Reduction (lbs/year)
Wolftrap Stream Restoration Phase 1	88,998.44
Wolftrap Stream Restoration Phase 2	41,955.43
Total Sediment Reductions	130,953.87
Town Share (11.7%)	15,321.60

Summary of Progress

The actions and projects outlined above will result in an anticipated, documentable reduction in annual sediment loads of 15,321.60 lbs/year from the Difficult Run portion of the Town’s regulated MS4. This does not include intangible reductions associated with implementation of the Northside Property Yard SWPPP, public education and outreach, and Town SOPs and training.

⁴ The Town is currently exploring whether stream restoration projects should be provided more credit for local TMDLs than the Chesapeake Bay TMDL as expressed in Section 2.5 and Table G-1 of the Chesapeake Bay Program Expert Panel report. If an increase in local sediment credit is warranted, that will be included in future annual reports.

Table 2F – Summary of Implemented and Planned Sediment Reductions

	Sediment Reductions (lbs/year)
Vienna Community Center Retrofit	1,271.28
Street Sweeping	8,365.45
Shared Credit Projects	15,321.60
Total Reductions	24,958.33

The Town, in cooperation with the County, will continue to assess additional opportunities to implement sediment reductions within the Difficult Run watershed during the current permit cycle and will update this action plan in accordance with MS4 permit requirements for the next permit cycle.

2.6 Legal Authorities

The Town prohibits illicit discharges to the storm sewer system, which includes sediment, in Section 16.2.2 of the Town Code. This section provides: “It shall be unlawful for any person to deposit, or cause to be deposited, in any public storm drainage facility, including gutters, ditches and watercourses, any substance including, but not limited to, trash, accumulations of grass clippings, petroleum products, petroleum waste, or other noxious or flammable substances; provided, however, that leaves may be piled at curbs during such seasons and in such areas as may not or in the future be furnished mechanical leaf collection service.”

The Town Council has also adopted stormwater quality and quantity requirements (Town Code Chapter 23, “Environmental Controls”) that meet or exceed the requirements of the Virginia Stormwater Management Act (§62.1-44.15:24 et seq, Code of Virginia) and the Erosion and Sediment Control Act (§62.1-44.15:51 et seq, Code of Virginia), and their attendant regulations. While phosphorus is the regulated pollutant, the regulations are designed to also control for nitrogen and sediment. The Town’s ordinance applies to any land-disturbing activity 2,500 square feet and greater, which is the threshold required under the Virginia Stormwater Management Regulations (9VAC25-870) for localities subject to the Chesapeake Bay Preservation Act. However, the Town’s requirements are more stringent than the minimum standards since it could have exempted single family residential development under one acre. All new development must meet a standard of 0.41 pounds of phosphorus per acre per year. All redevelopment must reduce the phosphorus load by 20% if the land disturbance is one acre or greater or by 10% if the land disturbance is less than one acre (not to exceed the 0.41 standard for new development). The standard of 0.41 pounds of phosphorus per acre per year is mandated by the Virginia Stormwater Management Program Regulations, and according to DEQ’s guidance, meets the requirement for no-net-increase from phosphorus, nitrogen, and sediment.

While the Town Code generally applies to new development or redevelopment, the Town is authorized in Section 23-5 to require a property owner to develop and implement an erosion and sediment control plan in an “erosion impact area.” An erosion impact area is defined as “an area of land not associated with current land disturbing activity but subject to persistent soil erosion resulting in the delivery of sediment onto neighboring properties or into state waters. This definition shall not apply to any lot or parcel of land of 10,000 square feet or less used for residential purposes or to shorelines where erosion results from wave action of other coastal processes.”

2.7 Enhanced Education, Outreach, and Training

The Town’s education, outreach, and training program for sediment has been developed over time in an iterative manner based on periodic assessments of potential sources and the effective means of reducing these sources. As noted in Section 2.5, illicit discharges, including sediment, was identified as a high-priority water quality issue in the Town’s Stormwater Pollution Prevention Public Education and Outreach Plan, which was developed as a requirement of Section II.B.1.c of the MS4 permit. The MS4 Program Plan was updated accordingly. Further, the Town’s training program (BMP 6.3) addresses all potential sources of illicit discharges, with a focus on sediment. Implementation is documented in annual reports to DEQ. The Town believes that the updated education and outreach efforts meet the requirements for an enhanced program.

2.8 Schedule and Milestones

This Sediment TMDL Action Plan will be implemented in accordance with the following schedule and milestones.

Table 2G – Schedule and Milestones

Implementation Item	Description	Schedule and Milestones
MS4 Program Plan	<p>The Town will continue to implement the MS4 Program Plan, including elements related to sediment, in accordance with the schedule provided for in the MS4 Program Plan.</p> <p>The MS4 Program Plan will be updated to reflect the actions of the Sediment TMDL Action Plan.</p>	<p>See MS4 Program Plan for implementation schedule.</p> <p>MS4 Program Plan update submitted to DEQ by October 1, 2016.</p>
Stormwater Pollution Prevention Public Education and Outreach Plan	<p>The Town will continue to implement the Stormwater Pollution Prevention Public Education Plan, including elements related to sediment. The implementation schedule has been integrated into the MS4 Program Plan.</p>	<p>See MS4 Program Plan for implementation schedule.</p>
Town Owned Property: Northside Property Yard SWPPP	<p>The Town will develop the Northside Property Yard Stormwater Design Improvements Conceptual Report and integrate recommendations, as practical, into the Town’s CIP.</p>	<p>Complete the report during 2017. Integrate recommendations in accordance with the Town’s CIP process and schedule.</p>

Implementation Item	Description	Schedule and Milestones
		Update the MS4 Program Plan as needed to reflect recommendations.
Town Owned Property: Town Hall	The Town will continue to assess opportunities to retrofit the Town Hall property as part of any redevelopment or assessment of retrofit opportunities as part of the Chesapeake Bay TMDL Action Plan.	Consider as part of the next Chesapeake Bay TMDL Action Plan update.
Town Owned Property: Waters and Caffi Fields	The Town will annually assess the condition of the fields and take corrective action, if necessary, to ensure that they are not a source of sediment pollution.	Include in update to MS4 Program Plan due October 1, 2016. Conduct assessment annually with report to DEQ beginning with annual report due October 1, 2017.
Chesapeake Bay TMDL Action Plan	The Town will continue to implement the Chesapeake Bay TMDL Action Plan, including actions to reduce sediment in the Difficult Run.	See Chesapeake Bay TMDL Action Plan for implementation schedule. Update the Chesapeake Bay TMDL Action Plan as part of the next MS4 permit renewal process.

3. Assessment of Effectiveness

The Difficult Run Benthic TMDL establishes a target of reducing sediment loads from all MS4 sources by 1,721.6 tons, or 32%, from the baseline condition. The sediment WLA is aggregated and specific WLAs are not assigned to individual MS4 permit holders. The Difficult Run TMDL addresses implementation with the following statement: “For MS4/VSMP general permits, the commonwealth expects the permittee to specifically address the TMDL wasteload allocations for stormwater through iterative implementation of programmatic BMPs (best management practices). BMP effectiveness would be determined through permittee implementation of an individual control strategy that includes a monitoring program that is sufficient to determine its BMP effectiveness.”⁵

The measure of effectiveness for this Difficult Run TMDL Action Plan is to document sediment load reductions over time. These will be coordinated with the Town’s Chesapeake Bay TMDL Action Plan and computed in accordance with the DEQ Chesapeake Bay Special Condition Guidance. This plan demonstrates actual and planned reductions in sediment loads of 24,958.33 lbs/year (12.5 tons/year).

⁵ Section 8.3.2 of the TMDL.

Further reductions will occur over multiple permit cycles. At the end of this permit cycle (June 30, 2018), the Town will assess progress in sediment reduction and will update the plan with strategies for the next permit cycle based on progress made and the effectiveness of strategies implemented to date.

In addition, several actions in this plan are not associated with specific reduction efficiencies. For these activities, the measure of effectiveness will be to document the completion of the efforts (sign-in sheets for training, results of IDDE dry weather outfall monitoring, documentation of public education and outreach efforts, etc.). This documentation will be provided to DEQ in the annual MS4 permit reports.

4. Measurable Goals

The Town's measurable goal will be to reduce sediment loads to the Difficult Run watershed in accordance with the TMDL through implementation of existing and planned management controls in Section 2.5 in accordance with the schedule and milestones in Section 2.8. Progress toward implementing the actions in this plan will be reported annually to DEQ in each MS4 permit annual report.

Appendix A

Vienna Community Center Sediment Reduction Calculations

For any portion of a redevelopment project that resulted in a direct impervious surface reduction, Table 4 from the permit was used to determine the equivalent credit for TSS associated with the TP reduction. For the portion of a redevelopment project that resulted in a reduction as a result of a stormwater management facility, the methodology described in Appendix V.E of the DEQ guidance was utilized

Vienna Community Center						
Information	Input	As Developed				
Date Completed	Under Development					
Rainfall						
Site Area (SF)	211701.6					
Site Area (AC)		4.86				
Watershed I %						
Pre-I Area (SF)	121968					
Pre-I Area (AC)		2.80				
Pre-I Area (%)						
Pre C Value						
Pre-TP Load (VRRM)		7.86				
Post-I Area (SF)	163350					
Post-I Area (AC)		3.75				
Post-I Area (%)						
Post C Value						
Post-TP Load (VRRM)		9.38				
Increase/Decrease		1.52				
Stormwater Controls						
BMP 1	StormTech(2)					
Efficiency	0.411					
I Area (AC)	1.83					
TP Removed		1.88				
BMP 2	Permeable Pavers					
Efficiency	0.59					
I Area (AC)	1.21					
TP Removed		1.79				
BMP 3	NA					
Efficiency	0					
I Area (AC)	0					
TP Removed		0.00				
Total BMP TP Removed		3.67				
Net Change in TP		(2.15)				

Creditable Reductions for TN and TSS Per Guidance Appendix V.E			
TP Decrease for Impervious Reduction			-
TP Decrease for BMPs (Proportion of BMP Applied to TMDL Reduction)			-
	0.59		(2.15)
Total Creditable TP Decrease			(2.15)
Total Associated TN Load	6.9		64.72
TN Decrease from Impervious Reduction			-
TN Decrease for BMPs	Efficiency	Proportion IA Treated by BMP	
BMP 1	0	0.488	-
BMP 2	0	0.322666667	-
BMP 3	0	0	-
TN Decrease for BMPs (Decrease * Prop. Applied to TMDL)			0
Total Creditable TN Decrease (Imp. Reduction + BMPs)			-
Total Associated TSS Load	469.2		4,401.10
TSS Decrease from Impervious Reduction			-
TSS Decrease for BMPs	Efficiency	Proportion IA Treated by BMP	
BMP 1	0.523	0.488	(1,123.27)
BMP 2	0.738	0.322666667	(1,048.02)
BMP 3	0	0	-
TSS Decrease for BMPs (Decrease * Prop. Applied to TMDL)			(1,271.28)
Total Creditable TSS Decrease (Imp. Reduction + BMPs)			(1,271.28)

BMP Efficiency Methodology Description:
Pre-TP Load and Post-TP Load taken from Virginia Runoff Reduction Method Redevelopment Worksheet revised 3/16/2015. Methodology confirmed by email from Kelsey Brooks at DEQ received 5/18/2016. StormTech: TP and TSS efficiencies calculated using Chesapeake Bay Program Retrofit Equations based on Runoff Depth Treated of 0.5 per email from Kelsey Brooks received 8/7/2015. Permeable Pavers: TP efficiency taken from Virginia BMP Clearinghouse for Permeable Pavement Design #1; TSS efficiency calculated using Chesapeake Bay Program Retrofit Equations based on Runoff Storage of 0.09579904 AF, 1.21 AC IA, and Runoff Treatment Depth of 0.95.



Town of Vienna

Polychlorinated Biphenyl (PCB) TMDL Action Plan

Prepared in compliance with General Permit No. VAR040066

Final

July 15, 2015

Department of Public Works
127 Center Street, South
Vienna, Virginia 22180

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."

Name

Title

Date

Town of Vienna, Virginia

PCB TMDL Action Plan

July 15, 2015

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Town of Vienna, Virginia

PCB TMDL Action Plan

July 15, 2015

1. Introduction

1.1 Purpose

This Polychlorinated Biphenyl (PCB) TMDL Action Plan documents how the Town of Vienna intends to meet the “Special Condition for Approved TMDLs Other Than the Chesapeake Bay TMDL” in Section I, Part B of the General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). The Town’s most recent permit (VAR040066) was issued by the Virginia Department of Environmental Quality (DEQ) effective July 1, 2013 and will expire June 30, 2018.

The Town’s MS4 permit requires the development and implementation of action plans for impaired streams where a Total Maximum Daily Load (TMDL) assigns a waste load allocation (WLA) to the Town that has been approved by the State Water Control Board. A TMDL establishes the maximum amount of a pollutant that can enter a water body without violating water quality standards.

The “Total Maximum Daily Loads of Polychlorinated Biphenyls (PCBs) for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland, and Virginia” (PCB TMDL) was established by the U.S. Environmental Protection Agency in 2007, and adopted by the State Water Control Board on April 11, 2008. The PCB TMDL establishes WLAs for discharges to the tidal Potomac River and tributary waters. The TMDL for the tidal Potomac River is set at an aggregate 1,510 grams per year. The Town of Vienna is part of the aggregated WLA under the Potomac River PCB TMDL.

PCBs are considered a legacy pollutant and were used as a coolant and as an insulator, particularly in transformers, hydraulic equipment, and electrical equipment. The manufacture of PCBs was banned in 1979; however, PCBs are persistent in the environment and do not readily biodegrade under normal conditions. They also tend to settle into the sediment of waterways or adsorb to terrestrial soils. PCBs may still be released by illegal or improper dumping of PCB-containing wastes or leaks from legacy electrical transformers containing PCBs.

1.2 Permit Compliance Crosswalk

Table 1A provides an overview of the organization of this plan and how each section addresses the Town’s MS4 permit and the draft guidance provided DEQ dated April 2015.

Table 1A – Action Plan and Permit Compliance Crosswalk

Action Plan	Action Plan Element	DEQ Action Plan Guidance	MS4 Permit
Section 1	Introduction	1. The name(s) of the Final TMDL report(s)	Section I.B
		2. The pollutant(s) causing the impairment(s)	Section I.B.2.a
		3. The WLA(s) assigned to the MS4 as aggregate or individual WLAs	Section I.B.2.b
Section 2	Evaluation of Significant Sources of PCBs	4. Significant sources of POC(s) 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(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;	Section I.B.2.d
Section 3	Current Program and Legal Authority	5. Existing or new management practices, control techniques, and system design and engineering methods , that have been or will be implemented as part of the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA;	Section I.B.2.b
		6. Legal authorities such as ordinances, state and other permits, orders, specific contract language, and inter-jurisdictional agreements applicable to reducing the POCs identified in each respective TMDL;	Section I.B.2.a
Section 4	Enhanced Education, Outreach, and Training	7. Enhancements to public education, outreach, and employee training programs to also promote methods to eliminate and reduce discharges of the POC(s) for which a WLA has been assigned;	Section I.B.2.c
Section 5	Schedule and Milestones	8. A schedule of interim milestones and implementation of the items in 5, 6, and 7;	Section I.B.2.e
Section 6	Assessment of Effectiveness	9. Methods to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs; and	Section I.B.2.e
		10. Measurable goals and the metrics that the permittee and Department will use to track those goals (and the milestones required by the permit). Evaluation metrics other than monitoring may be used to determine compliance with the TMDL(s).	Section I.B.2.e

2. Evaluation of Significant Sources of PCBs

This action plan is directed at those facilities and activities that are most likely to constitute a significant source of PCBs to surface waters. The first step in implementing this approach was to identify the portion of the Vienna MS4 that is subject to the PCB TMDL and to evaluate whether the facilities and activities subject to the TMDL are considered a significant source of PCBs.

2.1 Identification of Town Facilities within the Tidal Potomac Watershed

The regulated Vienna MS4 service area is shown in Map 2A and a map of the Potomac River PCB Impairment Delineation is shown in Map 2B. The TMDL is limited to the tidal portion of the Potomac, as well as tributary waters. This allocation affects the Accotink Creek watershed portion of the Town (Hunters Branch and Bear Branch). An evaluation of the Vienna regulated MS4 service area was conducted to delineate those areas that discharge to the area impacted by the PCB TMDL. Although there are several Town parks in the watershed, the evaluation identified only one Town operations facility in this watershed – the Nutley Street Yard located at 247 Nutley Street NW. This is the only Town-operated facility considered to be subject to the requirements of this action plan.

2.2 Evaluation of Significant Sources of PCBs

The Town incorporated activities to address PCBs in its previous MS4 program plan (2008-2013). High risk category sites identified by the U.S. Environmental Protection Agency (EPA) for potential sources of residual PCBs includes the following SICs: 26&27 (Paper and Allied Products), 30 (Rubber and Misc. Plastics), 33 (Primary Metal Industries), 34 (Fabricated Metal Products), 37 (Transportation Equipment), 49 (Electrical, Gas, and Sanitary Services), 5093 (Scrap Metal Recycling), and 1221 & 1222 (Bituminous Coal). Activities completed by the Town to assess PCB risk included:

- In FY2013, the Town conducted a review of all businesses and industries within the Town against the SIC codes listed above. No businesses or industries were identified as high risk for PCBs; thus no further action was required.
- In FY2012-FY2013, the Town conducted 21 outfall reconnaissance investigations in the Accotink Creek watershed. This watershed was prioritized for inspection due to the PCB TMDL. No illicit discharges were discovered.
- In FY2012, the Town conducted an evaluation of publicly-owned properties within the Accotink Creek watershed to determine if any were potential sources of PCBs. The assessment did not identify any potential sources of PCBs. As a result, no further action was required.

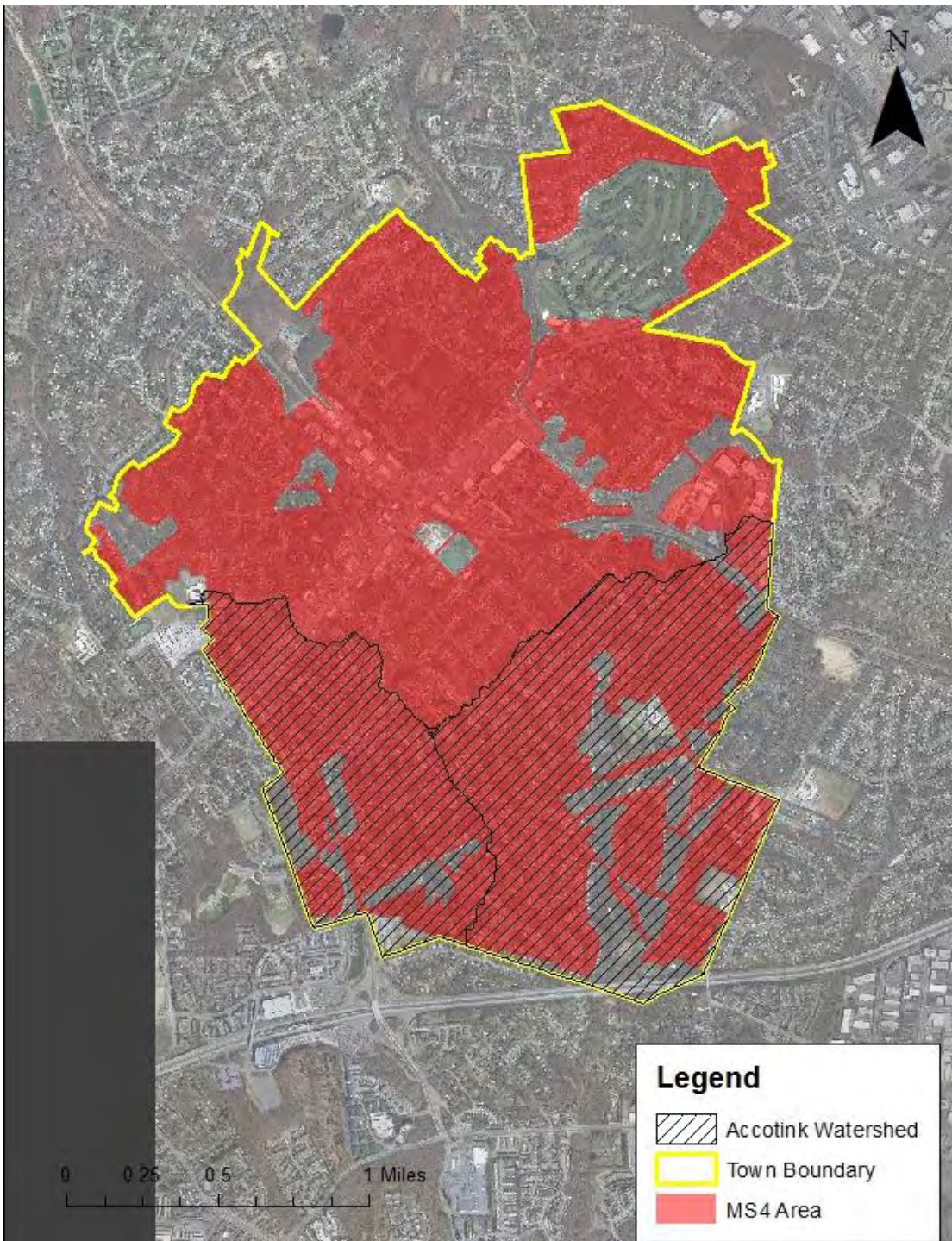
The Town also researched the EPA's PCB Transformer Registration Database at <http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/data.htm> to determine if any property in the Town was registered, indicating the presence and location of PCB-containing transformers that may be located within the Town. No facilities are listed as currently operating a PCB-containing transformer in the Town of Vienna.

Finally, Dominion Virginia Power does operate transformers within the Town limits. Dominion confirmed that transformers associated with their large substation near Town Hall (which,

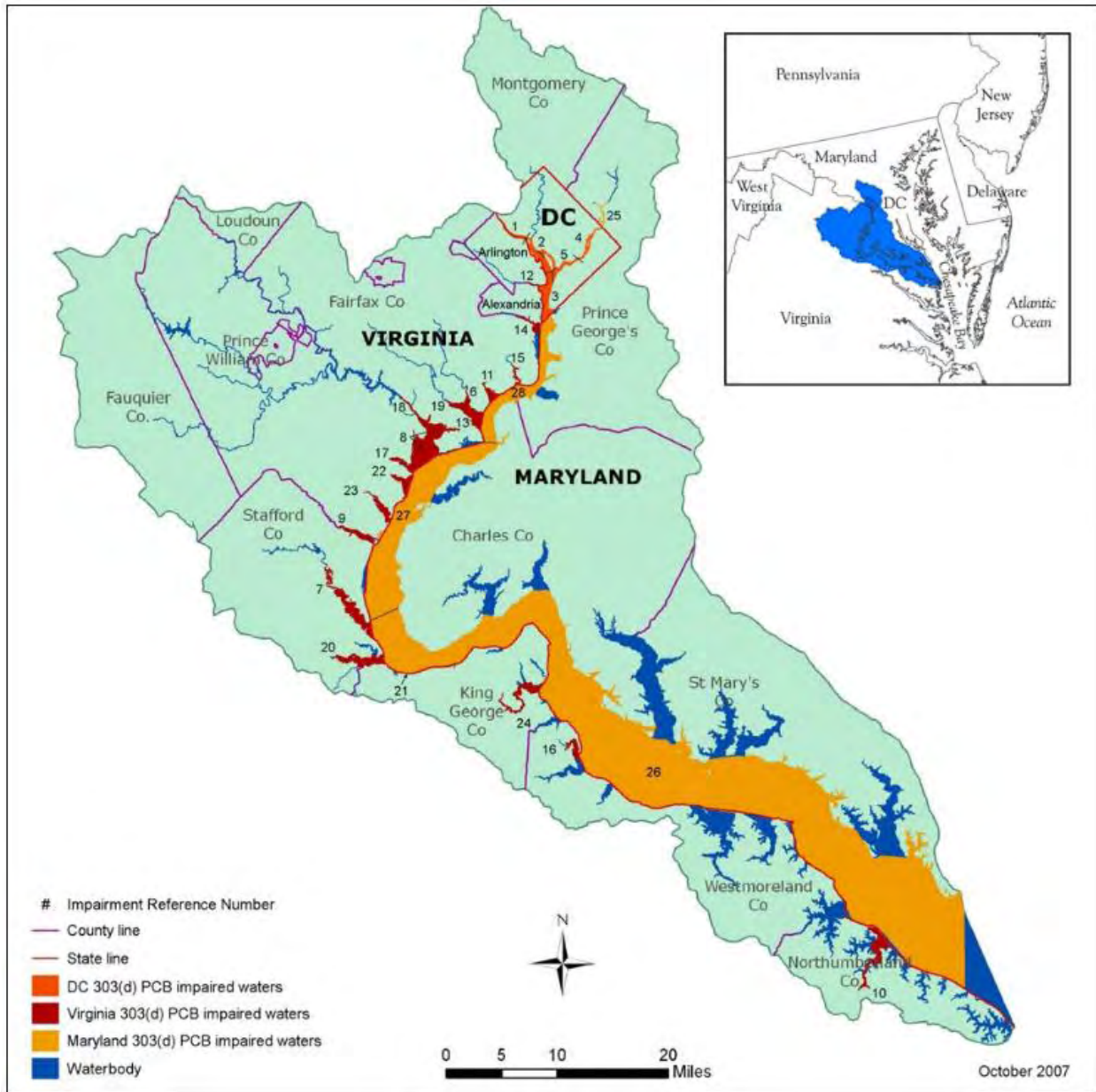
although within the Town is located outside of the Accotink Creek watershed) contain non-PCB mineral oil dielectric fluid. For the smaller transformers providing electric service to residential, commercial, and industrial customers within the Town limits, Dominion confirmed that the majority of these are also filled with non-PCB mineral oil. However, there may be transformers in service that were manufactured prior to July 1979 that could contain detectable levels of PCB. Dominion noted that under normal operating conditions, these facilities are not subject to leaking or spilling. If an incident were to occur, Dominion has in place plans and procedures to promptly respond in accordance with state and federal regulatory requirements.

Based on this evaluation, the Town has determined that no particular site or operation is considered a significant source of PCBs. While transformers operated by Virginia Dominion Power may contain legacy PCBs, Dominion has plans in place to meet all state and federal requirements to prevent leaks and spills and to respond in the case that a leak or spill was to occur. Therefore, the actions proposed in this action plan focus on educating staff on how to recognize and respond to an unexpected potential source of PCBs.

Map 2A – Town of Vienna MS4 Service Area Delineation



Map 0A - Potomac River PCB Impairment Delineation



Source: Total Maximum Daily Loads of PCBs for Tidal Portions of the Potomac and Anacostia Rivers in the District of Columbia, Maryland, and Virginia

3. Current Program and Existing Legal Authority

The Town of Vienna has put into place all necessary programmatic and legal requirements to meet the “Special Condition for Approved TMDLs Other Than the Chesapeake Bay TMDL.” The details of the existing program elements and associated legal authorities required to comply with the PCB TMDL are discussed in this section.

3.1 PCB Stormwater Pollution Control Program

The Town’s primary tool for preventing the discharge of PCBs to the storm sewer system is Section 16.2.2 of the Code of the Town of Vienna, which states “It shall be unlawful for any person, firm or corporation to deposit, or cause to be deposited, in any public storm drainage facility, including gutters, ditches and water courses, any substance including, but not limited to, trash, accumulations of grass clippings, petroleum products, petroleum waste, or other noxious or flammable substance; provided, however, that leaves may be piled at curbs during such seasons and in such areas as may now or in the future be furnished mechanical leaf collection service.”

Because PCBs are primarily a legacy pollutant, with most uses banned since the 1970s, additional legal authority is not necessary to prevent the discharge of new sources of PCBs. Rather, the most effective means identified by the Town for reducing and eliminating residual PCBs is to educate those land owners that have been identified as potential sources of PCBs and to ensure that PCBs are addressed during the redevelopment of any such property. However, with the exception of transformers operated by Virginia Dominion Power, no facilities in the Town have been identified as potential sources of PCBs. Virginia Dominion Power has its own plans in place for preventing or mitigating leaks and spills.

The Town incorporated programs to address PCBs in its previous MS4 program plan (2008-2013) to assess properties and outfalls in the Town for potential PCB risk (see Section 2). The current MS4 Program Plan documents implementation of all MS4 permit requirements, including the necessary programmatic and legal authorities to fully implement the plan. The full MS4 Program Plan can be found at <http://www.viennava.gov/DocumentCenter/Home/View/870>.

2.2 New or Modified Legal Authority

After review of the Town’s existing MS4 Program Plan and legal authorities, the Town finds that no additional legal authorities are required for compliance with the “Special Condition for Approved TMDLs Other Than the Chesapeake Bay TMDL.”

4. Enhanced Education, Outreach, and Training

The Town of Vienna will enhance existing education, outreach, and training programs to heighten awareness of potential PCB sources and how to respond to the discovery of an unexpected source of PCBs.

4.1 Training on Recognition and Reporting Illicit Discharges by Field Personnel

BMP 6.3 of the existing MS4 Program Plan provides for training of field personnel to allow them to accurately recognize and address illicit discharges that can negatively affect surface waters. This training will be modified to include information on PCBs. The training will provide field

personnel with information that will help them identify illicit discharges that may have a potential to include PCBs. This information will include contact information for Dominion in the case of a suspected leak or spill from an electrical transformer.

4.2 Training on PCB Awareness for Maintenance, Public Works, and Recreational Facility Staff

Also through BMP 6.3, Town staff that are engaged in maintenance activities at Town facilities are trained in a variety of good housekeeping and pollution prevention techniques. As part of this action plan, additional training will be provided that includes general information about PCBs. This information may include, but is not limited to:

- Potential sources that may be encountered at Town facilities;
- Legacy activities that could contribute to PCB pollution on historic Town sites; and,
- What to do if you discover equipment, machinery, or contaminated soil that may contain, or had contained PCBs.

5. **Schedule and Milestones**

The education and training actions in Section 4 will be developed and implemented in Permit Year 3 (PY3) of the current permit cycle in the following manner:

- BMP 6.3 – Existing training material will be revised in PY3 to include information relevant to PCB discharges. The training will be implemented in PY4 as part of the ongoing biennial training program.

6. **Assessment of Effectiveness**

The effectiveness of this plan will be measured by ensuring that all targeted field and maintenance personnel have a working understanding of the potential sources of PCBs and what actions must be taken if a potential source is discovered. The Town of Vienna will document training activities on a yearly basis and submit them to DEQ in the Town's annual reports. Training material will be maintained, along with rosters for each training event that include the date of the training along with personnel in attendance.

Appendix C

Stormwater Pollution Prevention Public Education and Outreach Plan

Town of Vienna, Virginia



Stormwater Pollution Prevention Public Education and Outreach Plan

For compliance with Permit No VAR040066, Part I E 1 a “General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems.”



Town of Vienna
Department of Public Works
127 Center Street, South
Vienna, Virginia 22180

April 9, 2019

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Stormwater Pollution Prevention Public Education and Outreach Plan



Original Adoption – October 1, 2014
Revised – April 9, 2019

Preventing stormwater pollution in the first place is the most effective and cost-efficient way to protect the Town’s water resources and meet state and federal stormwater regulations. The foundation of a successful pollution prevention program is an active, engaged public that understands the link between individual behavior and its effect on water quality and aquatic resources. The public includes Town residents and the local business community. An informed public also knows how to identify and report suspected illicit discharges and can help educate their own family members and neighbors about the importance of preventing pollution.

This plan has been developed in compliance with the Town’s “General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems” Permit No VAR040066, Part I E 1 a.

I. Introduction

The Town of Vienna has implemented a comprehensive public education and outreach program under its municipal separate storm sewer system (MS4) permit since the permit was first issued in 2003. Since that time, the program has been enhanced to meet the specific needs of the Town and to leverage regional efforts such as the Northern Virginia Regional Commission’s Clean Water Partners program.

II. Applicable Requirements

The Town’s MS4 permit (Part I E 1) requires the Town to develop and implement a public education and outreach program designed to:

- Increase the public’s knowledge of how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns.
- Increase the public’s knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications.

- Implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts.

To meet those goals, the Town must identify at least three high-priority stormwater issues and design a program that:

- Clearly identifies the high-priority stormwater issues.
- Explains the importance of the high-priority stormwater issues.
- Includes measures or actions the public can take to minimize the impact of the high-priority stormwater issues.
- Provides a contact and telephone number, website, or location where the public can find out more information.

While the Town has broad latitude to design the program, it must use at least two of the communications strategies listed in Table 1 of the MS4 permit annually for each high-priority issue. These include:

Strategies	Examples
Traditional Written Materials	Informational brochures, newsletters, fact sheets, utility bill inserts, or recreational guides.
Alternative Materials	Bumper stickers, refrigerator magnets, t-shirts, or drink koozies.
Signage	Temporary or permanent signage in public spaces or facilities, vehicle signage, bill boards, or storm drain stenciling.
Media Materials	Information disseminated through electronic media, radio, television, movie theaters, or newspapers.
Speaking Engagements	Presentations to school, church, industry, trade, special interest, or community groups.
Curriculum Materials	Materials developed for school-aged children, students at local colleges or universities, or extension classes offered to local citizens.
Training Materials	Materials developed to disseminate during workshops offered to local citizens, trade organizations, or industrial officials.

III. Regional Coordination

The Town participates in the Northern Virginia Regional Commission (NVRC) Clean Water Partners regional outreach program. By pooling resources, Clean Water Partners enables the Town to reach a broader audience through cable television and digital media. In addition to advertising in English, Clean Water Partners includes a focus on Spanish language media. This is important since, according to 2017 Census estimates, 6.7% of Town residents are native Spanish speakers. Clean Water Partners conducts an annual survey of 500 Northern Virginia residents to assess the effectiveness of the program. In 2018, the Clean Water Partners chose three high-priority issues as the focus of outreach efforts. These included

bacteria, nutrients, and illicit discharge of chemical contaminants. Clean Water Partners periodically assesses its focus areas to align with member priorities.

IV. Identification of High-Priority Water Quality Issues

The MS4 permit requires the Town to identify a minimum of three high-priority water quality issues that contribute to stormwater pollution and to provide a rationale for their selection. The permit places priority on reducing impacts to impaired waters and other local water pollution concerns. The Accotink Creek watershed portion of the Town has been designated as impaired by the Virginia Department of Environmental Quality (DEQ) for bacteria, benthic conditions (lack of benthic macroinvertebrates often caused by excess sediment deposition from stream bank erosion and other sources), and polychlorinated biphenyls (PCBs). The Difficult Run watershed portion of the Town has been designated as impaired for bacteria, sediment, PCBs, and heptachlor epoxide. Total maximum daily load (TMDL) wasteload allocations (WLAs) have been assigned to the Town for bacteria, sediment, and PCBs. A TMDL WLA is the maximum amount of a pollutant that can enter the water without violating water quality standards. This means the Town must develop TMDL action plans to identify best management practices and other activities for these pollutants. Finally, the Town is subject to the Chesapeake Bay TMDL for nutrients (phosphorus and nitrogen) and sediment and must develop a Chesapeake Bay TMDL Action Plan.



The Chesapeake Bay and local streams are impaired for sediment. Residents can play a role in reporting sediment from construction.

In addition to these TMDL pollutants, the Town has identified two specific business sectors for targeted education and outreach based on staff observations in the field and resident complaint history. These include automotive supply and service businesses and food service businesses.

Table 1 provides an overview of pollutants of concern in the Town and whether each pollutant is considered a “high priority” for the purpose of additional public education and outreach. While all pollutants of concern are addressed in the Town’s MS4 Program Plan through various best management practices, Table 1 is used to help focus the Town’s outreach activities on those pollutants where public education is most likely to lead to a reduction in those pollutants.

Table 1 –Pollutants of Concern Assessment

Pollutant	Discussion	High Priority?
Nutrients	The Town is subject to the Chesapeake Bay TMDL for nutrients (phosphorus and nitrogen) and must achieve specific reductions in accordance with a Chesapeake Bay TMDL Action Plan. Excess nutrients cause algae blooms, and when the algae die, they consume oxygen in the water, creating dead spots where aquatic life cannot survive. Property owners and managers can play a role in controlling nutrient pollution by reducing the amount of fertilizer that is misapplied to the urban landscape.	Yes
Sediment	Streams in the Town are impaired as a result of excess sediment. Sediment deposited in stream beds can smother aquatic life and harm fish. The majority of sediment in urban areas comes from stream bank erosion and construction activities. The Town plans to achieve reductions primarily through stormwater retrofits to reduce stormwater flow and through enforcement of stormwater management and erosion and sediment control regulations. However, the public can play a role by reporting construction activities where erosion and sediment controls may be malfunctioning.	Yes
Bacteria	Streams in the Town are impaired as a result of excess bacteria. The <i>Bacteria TMDL for the Difficult Run Watershed</i> notes that “direct deposition [from] wildlife as well as loading from residential areas (which includes the fecal load from pets) are the predominant sources of bacteria in Difficult Run watershed.” Public education can play an important role in reducing bacteria by educating pet owners about the human health and legal consequences of not picking up pet waste.	Yes
PCBs	PCBs are considered legacy pollutants and are no longer used by the general public or the business community. PCBs were widely used as a coolant but were banned by the U.S. Congress in 1979 due to its persistent and highly toxic nature. During the last permit cycle, the Town conducted a desktop search for any businesses or industries with an SIC code that is identified as having a high potential risk for PCBs. The search resulted in no business or industries within the Town limits identified as being high risk.	No
Heptachlor epoxide	Heptachlor epoxide was used as an insecticide and is considered a legacy pollutant. The U.S. EPA has significantly limited and highly regulates its use because it is highly persistent in the environment and easily dissolves in water.	No

Pollutant	Discussion	High Priority?
Fats, Oils, and Grease	The Town has identified fats, oils, and grease from restaurant and other food service operations as a problem pollutant through field observations and citizen complaints. This can be mitigated by increasing outreach to businesses on how to prevent pollution and the legal consequences of non-compliance.	Yes
Automotive Fluids	The Town has identified automotive fluids from vehicle-related services as a problem pollutant through field observation and citizen complaints. Pollution can occur through direct dumping, improper spill and leak prevention and response, and illicit car washing. This can be mitigated by increasing outreach to businesses on how to prevent pollution and the legal consequences of non-compliance.	Yes

Based on the above, the Town will focus on nutrients, sediment, and bacteria as the three “high-priority” pollutants subject to the minimum outreach requirements of Part I E 1 d of the MS4 permit. The Town will additionally engage in targeted outreach to restaurants and automotive service centers.

V. Target Audience and Size

The MS4 permit requires the identification of target audiences most likely to have a significant impact on each pollutant of concern for each “high-priority” water quality issue. Table 2 provides an overview of the identified target audiences.

While not linked to a specific pollutant of concern, the Town considers youth-based stormwater education to be an effective outreach tool since students encompass all economic and minority groups. Further, youth education can establish positive behaviors that will last a lifetime. According to 2017 U.S. Census estimates, approximately 26.4% of the Town’s population is under age 18, while approximately 21% of the Town’s population is between ages 5 and 18 (school age population).



Public Works Day is part of the Town’s youth outreach and education efforts.

Table 2 – Discussion of Target Audiences

Pollutant	Discussion	Target Audience and Size
Nutrients	<p>Two target audiences have been identified.</p> <p>The first target audience includes property owners that maintain lawns and therefore may apply fertilizer. According to the “Town of Virginia Profile” (Town of Vienna, March 2015), the vast majority of the residential land use in the Town is either single family or townhouse (only 10% is in multi-family residential). As a result, the Town intends to consider all residential property owners the target audience for this pollutant.</p> <p>The second target audience includes property managers for homeowners associations and condominiums. In these cases, a board or manager is typically responsible for hiring a company to manage the landscape. The Town has contacts for approximately 20 HOAs and condominiums.</p>	<p>Residential Households: ~5,573 households (2017 U.S. Census estimate)</p> <p>HOA/Condominiums: ~20 associations</p>
Sediment	The public at large has been identified as the target audience. The focus of the sediment efforts will be on educating residents to recognize an erosion control issue and to know where to report the issue.	Residential Households: ~5,573 households
Bacteria	Pet owners have been identified as the target audience. While dog owners can be identified through Dog License registrations, there is no practical way to identify pet owners in general. As a result, the Town will target all residential households with a general message, while focusing a more specific message to the Town’s 1,600 dog owners.	<p>Holders of Dog Licenses: ~1,600 households</p> <p>Residential Households: ~5,573 households</p>
Fats, Oils, and Grease	Restaurants in general have been identified as the target audience for education and outreach on preventing fats, oils, and grease from entering the storm drain system.	Restaurants within Town Limits: ~75
Automotive Fluids	Automotive service centers, including car washes and facilities providing car wash services, have been identified as the target audience for education and outreach on preventing automotive fluids from entering the storm drain system.	Automotive Service Centers within Town Limits: ~18

VI. Education and Outreach Tools

The Town has a number of tools at its disposal to engage in public education and outreach. Table 3 provides an overview of tools identified by the Town and the strengths and limitations of each when considering how to deliver an effective message.

Table 3 – Discussion of Education and Outreach Tools

Tool	Reach	Strengths	Limitations
Brochure Distribution at Events	Varies depending on the size of the event.	The Town has a number of existing brochures (for example, brochures have been created for restaurants and automotive service centers). In addition, there are a number of brochures from DEQ, U.S. EPA, and various non-profits that address specific pollutants of concern.	The distribution universe is relatively limited. It is unknown whether the target audience actually reads the brochure.
Giveaways at Events	Varies depending on the size of the event.	The Town has a number of existing giveaways, such as rulers, magnets, and key rings. The message is simple and has a higher chance of being absorbed by the recipient. These materials may also be kept longer by the recipient (for example, magnets on refrigerators).	The distribution universe is relatively limited. It is unknown whether the target audience actually responds to the message.
Press Releases	Varies depending on media that may pick up the release.	A press release may get picked up by a local newspaper or otherwise be distributed to a larger audience at no cost to the Town.	There is no guarantee that the release will be picked up by the media and delivered to the intended audience.
Town Calendar	Mailed to all Town residents.	The message reaches a defined audience. The calendar reaches all Town households. These materials may also be kept longer by the recipient since they contain specific information on Town services and events.	Not all residents will keep the calendar or read the water quality message.

Tool	Reach	Strengths	Limitations
Storm Drain Markers	Varies, but generally those who live near or walk past a storm drain inlet.	The Town has a vigorous storm drain marker program with decals stating “Only Rain Down the Storm Drain.” Markers are placed where it is most likely that an illicit discharge due to dumping may occur.	Markers may become dislodged or require maintenance over time. It is unknown whether the target audience actually responds to the message.
Vienna Happenings	Delivered weekly by email. ~1,600 subscribers as of 4/4/2019.	Vienna Happenings provides residents information about upcoming events. The message reaches a defined audience. Audience is self-selected, indicating a willingness to receive the information.	Not all residents sign up for the email or will read the message. Scope of topics is more limited than other potential tools.
Vienna Voice Newsletter	Mailed to all Town residents and businesses on a monthly basis. The electronic version is released on social media and the website.	Vienna Voice provides a forum for disseminating information on a wide variety of topics of interest. The newsletter reaches all Town residents and businesses.	Not all residents will read the message.
Town Business Matters	Delivered monthly by email. ~1,000 local business subscribers.	Town Business Matters provides an opportunity to focus on business-specific items. Audience is self-selected, indicating a willingness to receive the information.	Not all businesses sign up for the email or will read the message.
Town Website	Available to all Town residents.	According to 2017 Census data, ~92% of Town residents have access to broadband internet. The Town’s existing stormwater page is accessible and contains large amounts of information.	The web page is passive and not generally accessed unless a resident is looking for something specific.
Social Media	The Town’s Facebook has 5,114 “likes” as of 4/4/2019. The Town’s Twitter feed has 5,285 followers as of 4/4/2019.	The message reaches a defined audience. Audience is self-selected, indicating a willingness to receive the information.	Messages can be missed depending on frequency of social media use by resident. Some recipients may not be Town residents.

Tool	Reach	Strengths	Limitations
Direct Mail	Varies depending on targeted universe, but can reach 100% provided addresses are available.	The message reaches a defined audience. Stand-alone nature of a direct mailing from the Town may increase the chance of being read.	Not all recipients will read the message. This option is more expensive since it is not “piggybacking” on existing means of distribution.
Water and Sewer Bill	Delivered quarterly by mail to all Town residents.	The message reaches a defined audience. Inclusion with a bill increases likelihood that the message will be read. Can link pollution prevention message with cost of treating drinking water.	Not all residents will read the message.
Town Drinking Water Report	Delivered annually by mail to all Town residents.	The message reaches all Town residents. Can link pollution prevention message with quality of drinking water.	Not all residents will read the message.
Radio/Digital Media	Varies depending on the station/internet ad purchase.	Can reach a broad audience. Can be designed to target messages to specific demographics. Messages can reach intended audience multiple times to increase chance that the message is absorbed. As noted, the Town participates in the Clean Water Partners Program, which includes radio and digital media.	Cost would be too high for the Town to engage in this effort on its own.

VII. Message Development

The MS4 permit requires the Town to develop relevant pollution prevention messages to be delivered to target audiences. Table 4 provides an overview of pollution prevention actions and associated messages based on a review of existing DEQ and U.S. EPA documents, including but not limited to DEQ’s “Tips on Keeping Your Lawn Green, and the Chesapeake Bay Clean.”

Table 4 – Pollution Prevention Messages

Pollutant	Pollution Prevention Action	Message Highlight
General	Make the connection between individual actions and stormwater pollution.	<ul style="list-style-type: none"> • Piggyback on regional Clean Water Partner’s “Only Rain Down the Drain.”
Nutrients	Mowing high with a sharp blade (2 to 3 inches for cool-season grasses) can keep a law greener without fertilizers.	<ul style="list-style-type: none"> • Protect local streams and the Chesapeake Bay. • Reduce the cost of drinking water treatment. • Healthier lawn. • Saving money (less frequent use of fertilizers). • Saving time (no need to fertilize in the fall).
	Leaving grass clippings on the lawn reduces the need for nitrogen fertilizer by as much as one-third.	
	For cool season grasses, September through November is the best time for fertilizing.	
	The best way to determine if your lawn needs fertilizer is to test it.	
	Never apply fertilizers to sidewalks, driveways or roadways. Sweep or blow fertilizer spilled on hard surfaces.	
Sediment	Report illicit discharges to the Town by contacting the Department of Public Works (703-255-6380) or reporting problems using the Town’s “Report a Concern” function on the website.	<ul style="list-style-type: none"> • Protect local streams and the Chesapeake Bay. • Reduce the cost of drinking water treatment. • Protecting our water resources is everyone’s responsibility.
Bacteria	Pick up after your pet.	<ul style="list-style-type: none"> • Pet waste goes to our drinking water supply and must be cleaned. That is gross. • Pet waste causes illness making streams unsafe for kids and pets. • Picking up pet waste is the law.
Fats, Oils, and Grease	Fats, oils, and grease must be properly recycled – never down the storm drain.	<ul style="list-style-type: none"> • Protecting our environment is part of being a good business. • It is the law – fines of up to \$35,000 per violation.
Automotive Fluids	Automotive fluids must be properly recycled – never down the storm drain.	<ul style="list-style-type: none"> • Protecting our environment is part of being a good business. • It is the law – fines of up to \$35,000 per violation.
	All washing activities must be done inside – no washwater to the storm drain.	

VIII. Public Education and Outreach Strategies

The following public education and outreach strategies will be implemented to meet the requirements of Part I E 1 of the MS4 permit. They are presented in the same format as the best management practices (BMPs) in the Town's MS4 Program Plan.

The strategies were selected taking into account the Town's desire to engage in general outreach, including outreach to the Town's youth population, while also focusing on specific water quality issues and target audiences determined in previous sections. As required in the MS4 permit, the Town has selected at least two strategies from Table 1 of the permit that will be implemented annually for each high-priority issue. Timing and frequency is designed to ensure that a mix of strategies is employed over the five year permit cycle in order to avoid messaging fatigue. The Town also intends to continue its participation in the Clean Water Partners program.

BMP 1 – General Education and Outreach

Objective: The objective of this BMP is to increase general knowledge about the link between individual actions and stormwater pollution and to educate Town residents about how they can change their behavior to have a positive impact on local streams and the Chesapeake Bay.

Best Management Practices:

- Distribute giveaways such as magnets, rulers, and key chains with water quality messages at the Town Hall and during community events.
- At least once annually, include a general pollution prevention message linked to water quality in either: (1) the Town Water Quality Report; or, (2) one of the quarterly residential water bills.
- Host the stormwater web page and update it with new information as appropriate.
- Participate in the NVRC Clean Water Partners program.

Standard Operating Procedures and Policies: This BMP is supported by the MOA between the Town of Vienna and Clean Water Partners.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report: (1) the amount of materials distributed and an estimate of the number of individuals reached; (2) the message included in the Town Water Quality Report or residential water bill; (3) a snapshot of the stormwater web page; and, (4) a summary of the Clean Water Partners program and the results of any surveys or other mechanisms used to determine program effectiveness.

Responsible Party: Public Works and Public Information. NVRC Clean Water Partners will act as the Town's regional partner.

BMP 2 – Youth-Focused Outreach

Objective: The objective of this BMP is to instill positive, pollution prevention behaviors in youth that will last a life-time.

Best Management Practices:

- Host an annual Public Works Day with a focus on activities of interest to school-age children.
- Use the Town’s EnviroScape model at Town events to teach children about watersheds, stormwater, and pollution prevention.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report documentation of efforts to educate youth, including an estimate of the number of youth engaged.

Responsible Party: Public Works.

BMP 3 – Chesapeake Bay Nutrients

Objective: The objective of this BMP is to inform property owners and managers about ways to reduce the impact of nutrients through proper use and application of fertilizers. The Town has identified all households as well as HOAs and condominium associations as the target audiences.

Best Management Practices:

- At least once annually, distribute information on proper fertilizing techniques using one of the following: (1) seasonally-appropriate press release; (2) article in the Vienna Voice newsletter; (3) message in the Town Calendar; or, (4) message in the quarterly residential water bill in addition to BMP 1.
- At least once annually, include a message about the proper use and application of fertilizers using a social media platform.
- In FY21, mail information to HOA and condominium contacts about proper use and application of fertilizers and how to ensure contractors are using water quality friendly practices.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report: (1) documentation that information has been distributed on proper fertilizing techniques; and, (2) a snapshot of the social media post. In FY21, the Town will also provide information mailed to HOA and condominiums.

Responsible Party: Public Works and Public Information.

BMP 4 – Sediment and Other Illicit Discharges

Objective: The objective of this BMP is to reduce illicit discharges, with a particular focus on sediment pollution, by educating residents on how to recognize and report a suspected illicit discharge. The Town has identified all households as the target audience for illicit discharge and sediment-related education.

Best Management Practices:

- At least once annually, promote the means by which the public can report a suspected illicit discharge using one of the following: (1) press release; (2) article in the Vienna Voice newsletter;

(3) message in the Town Calendar; or, (4) message in the quarterly residential water bill in addition to BMP 1.

- At least once annually, include a message about how the public can report a suspected illicit discharge using a social media platform.
- At least once annually, promote the availability of the Fairfax County Hazardous Household Waste Program using one of the following: (1) article in the Vienna Voice newsletter; (2) message in the Town Calendar; or, (3) message using Vienna Happenings.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report: (1) documentation that information has been distributed on how to report a suspected illicit discharge; (2) a snapshot of the social media post; and, (3) documentation of how the HHW program was promoted.

Responsible Party: Public Works and Public Information.

BMP 5 – Bacteria

Objective: The objective of this BMP is to reduce bacteria pollution by educating residents in general, and pet owners specifically, on the impacts of pet waste on water quality and the importance of picking up after pets. The Town has identified all residents as the target audience for pet waste-related education, with a specific focus on dog owners

Best Management Practices:

- At least once annually, distribute information about proper pet waste disposal using one of the following: (1) press release; (2) article in the Vienna Voice newsletter; (3) message in the Town Calendar; or, (4) message in the quarterly residential water bill in addition to BMP 1.
- At least once annually, include a message about the proper pet waste disposal using a social media platform.
- In FY20, mail information to Town residences holding dog licenses about the importance of picking up after pets.
- Maintain signage at medium risk and priority sites identified in the Difficult Run and Accotink Creek Bacteria TMDL Action Plan to encourage pet walkers to clean up pet waste and alert them to fines for non-compliance. Signage for newly identified sites will be installed within one year of identification.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report: (1) documentation that information has been distributed on proper pet waste disposal; and, (2) a snapshot of the social media post. In FY20, the Town will also provide information mailed to pet owners. The Town will confirm maintenance of existing signage and document any newly installed signage.

Responsible Party: Public Works and Parks and Recreation.

BMP 6 – Targeted Business Outreach

Objective: The objective of this BMP is to engage businesses in general as partners in protecting water quality and preventing stormwater pollution. In addition, this BMP aims to reduce the discharge of fats, oils, and grease from restaurants and automotive fluids from automotive service centers.

Best Management Practices:

- At least once annually beginning FY20, include a pollution prevention message in Town Business Matters along with an offer for the Town to present to specific businesses or business associations.
- No later than FY22, send a letter and any other information to all restaurants about the importance of pollution prevention and the legal ramifications for dumping or illicit discharges.
- No later than FY23, send a letter and any other information to all automotive service centers about the importance of pollution prevention and the legal ramifications for dumping or illicit discharges.

Standard Operating Procedures and Policies: No additional SOPs or policies are required to implement this BMP.

Measurable Goals and Evaluation Criteria: The Town will include in each MS4 annual report documentation of the message in Town Business Matters. No later than FY22 and FY23, the Town will provide information sent to restaurants and automotive service centers, respectively.

Responsible Party: Public Works.

IX. Assessment of Strategies

The Town will assess the adequacy of selected public education and outreach strategies at least annually and include this in each annual report to DEQ. If the selected BMPs are determined to not be meeting these goals, the Town will document program changes and submit the documentation to DEQ.

X. Summary Implementation Schedule

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
1	General Education and Outreach						
	Distribute giveaways with water quality messages at events.	▶	▶	▶	▶	▶	Public Works
	Include general pollution prevention article in either: (1) Town Water Quality Report; or, (2) residential water bill.	▶	▶	▶	▶	▶	Public Works; Public Information
	Host stormwater web page.	▶	▶	▶	▶	▶	Public Works; Public Information
	Participate in Clean Water Partners regional program.	▶	▶	▶	▶	▶	Public Works, NVRC
2	Youth-Focused Outreach						
	Host DPW Day with a focus on youth education.	▶	▶	▶	▶	▶	Public Works
	Use the EnviroScope model at Town events.	▶	▶	▶	▶	▶	Public Works
3	Chesapeake Bay Nutrients						
	Distribute information on proper fertilizing techniques through one of the following: (1) press release; (2) Vienna Voice; (3) Town Calendar; (4) water bill.	▶	▶	▶	▶	▶	Public Works; Public Information
	Distribute nutrient-related message using a social media platform.	▶	▶	▶	▶	▶	Public Works; Public Information
	Distribute nutrient-related message to HOAs/condominium associations.			■			Public Works; Public Information
4	Sediment and Other Illicit Discharges						
	Distribute information on illicit discharge reporting through one of the following: (1) press release; (2) Vienna Voice; (3) Town Calendar; (4) water bill.	▶	▶	▶	▶	▶	Public Works; Public Information

BMP	Task	FY19	FY20	FY21	FY22	FY23	Responsibility
	Distribute illicit discharge reporting message using a social media platform.	▶	▶	▶	▶	▶	Public Works; Public Information
	Promote County HHW program through either; (1) the Vienna Voice; (2) Town Calendar; or, (3) Vienna Happenings.	▶	▶	▶	▶	▶	Public Works; Public Information
5	Bacteria						
	Distribute information on proper pet waste through one of the following: (1) press release; (2) Vienna Voice; (3) Town Calendar; (4) water bill.	▶	▶	▶	▶	▶	Public Works; Public Information
	Distribute one bacteria-related message using a social media platform.	▶	▶	▶	▶	▶	Public Works; Public Information
	Distribute bacteria-related message to dog license holders.		■				Public Works; Public Information; Animal Control
	Maintain signage at medium risk and priority sites identified in the Difficult Run and Accotink Creek Bacteria TMDL Action Plan; install signage at newly identified sites within one year.	▶	▶	▶	▶	▶	Public Works
6	Targeted Business Outreach						
	Include pollution prevention message in Town Business Matters.		▶	▶	▶	▶	Public Works; Public Information
	Distribute pollution prevention materials to restaurants.		▶	▶	■		Public Works
	Distribute pollution prevention materials to automotive service centers.		▶	▶	▶	■	Public Works

Appendix D

Public Involvement and Participation SOP



Town of Vienna, Virginia

Public Involvement and Participation Standard Operating Procedure (SOP)

Public Input and Comments	
Date:	April 8, 2019
Purpose of SOP:	<p>To implement procedures for the following:</p> <ul style="list-style-type: none"> • The public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns; • The public to provide input on the Town’s MS4 Program Plan; • Receiving public input or complaints; • Responding to public input received on the MS4 Program Plan or complaints; and, • Maintaining documentation of public input received on the MS4 program and associated MS4 Program Plan and the Town’s response
MS4 Permit Reference	Part I E 2 a.
Responsible Party	Michael Gallagher, PE, Director of Public Works Christine Horner, PE, Water Quality Engineer

The purpose of this SOP is to foster public input and comment on the Town’s MS4 program and to provide a means for the public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns.

1) Responsible Parties

The Department of Public Works (DPW) is responsible for implementing this SOP.

2) Reporting Stormwater Pollution Concerns

The following mechanisms will be maintained for the public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns:

DPW Email:.....DPW@viennava.gov
DPW Phone: (703) 255-6343
On-Line Report a Concern:.....<https://www.viennava.gov/index.aspx?nid=1272>
Emergency:..... 911

The phone, email, and “Report a Concern” function will be prominently displayed on the DPW stormwater webpage.

The Department of Public Works will receive, track, and respond to reports in accordance with MCM #3 of the MS4 Program Plan and the Town’s Illicit Discharge Detection and Elimination (IDDE) Plan.

3) Public Input on the MS4 Program Plan and Complaints

Mechanisms for Input

The Town will provide on its stormwater webpage instructions for how to provide public input on the MS4 Program Plan and/or to register stormwater program-related complaints. This will include the DPW phone number and email, as well as the DPW’s mailing address at 127 Center Street, South, Vienna, Virginia 22180.

Public Notice

The Town will notify the public any time that substantive changes are proposed to the MS4 Program Plan through a social media post. The social media post will include a link to the plan and the directions for providing input. To the extent practical, notification will be provided 30 days before the Town finalizes changes.

Receiving, Tracking, and Responding to Complaints

The Department of Public Works will receive, track, and respond to comments and complaints. Comments and complaints made by Town residents will be answered in writing within 30 days of receipt where the Town has an email or address.

The Department of Public Works will track in an Excel spreadsheet, or similar mechanism, the following for each comment/complaint:

- Details of the complaint (verbatim if by writing or summary if by phone)
- Individual making the comment/complaint
- Date of the comment/complaint
- Date of the Town’s response
- Town response
- Changes to the MS4 Program Plan as a result of the comment/complaint, if any

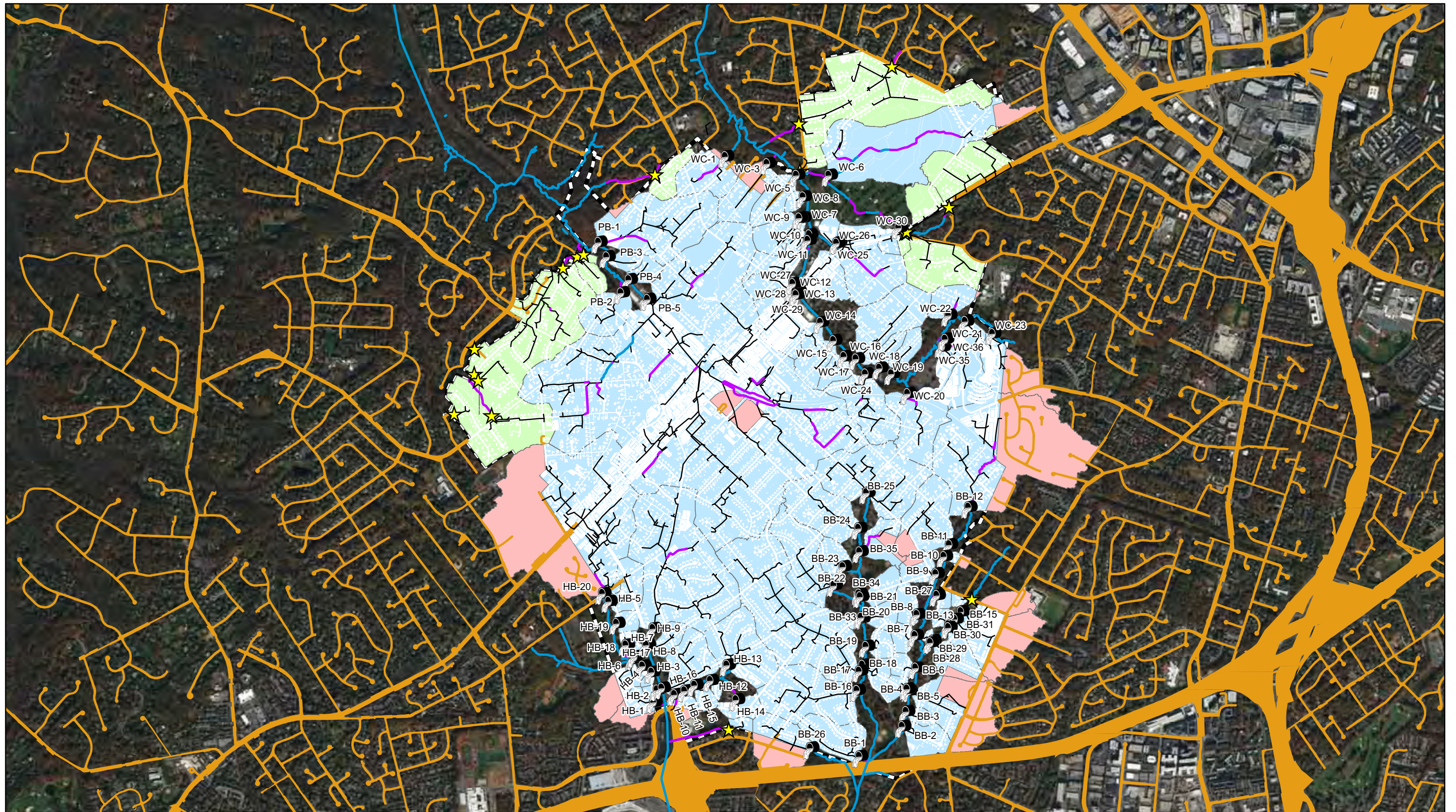
Documentation

Letters, emails, or other documents associated with tracking complaints and comments will be maintained by the Town for a minimum of three years.

The Town's annual report to the Department of Environmental Quality will include a summary of any public input on the MS4 program received (including stormwater complaints) and how the Town responded.

Appendix E

Storm Sewer System Map and Outfall Information Table



Town MS4, Town Responsibility	MS4 Outfalls	Hydrologic connections	<p>0 0.225 0.45 0.9 Miles</p>	<p>Vienna MS4 Area and Storm Sewer Map 2395.40 Total Acres 821.10 Impervious Acres</p>
Flows to County MS4, Town Responsibility	MS4 Interconnection	Stormwater lines		
Other County Responsibility (Schools; Flow from County to Town MS4)	Town boundary	Streams VDOT MS4 Impervious		

HB-4	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	1.03524	1.03524
HB-3	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	1.559546	1.559546
HB-1	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	12.365292	7.079227
HB-13	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	37.657364	37.657364
HB-14	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	8.0878	8.0878
HB-9	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	117.863854	117.863855
HB-8	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	8.072317	8.072317
HB-7	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	1.137873	1.137873
HB-2	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	1.707337	1.707338
HB-10	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	4.114453	3.445233
HB-16	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	23.026883	23.026882
HB-11	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	2.118923	2.118923
HB-15	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	4.697406	4.697406
HB-12	Hunters Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	1.663235	1.663234
BB-26	Bear Branch	2.07001E+12	20700100402	Accotink Creek	POL0062	5/31/2002	http://www.deq.virginia.gov/por	6/17/2004	Fecal Coliform	Total Fecal Colif POL0468	10/31/2007	http://www.deq.virginia.gov/portals	4/11/2008	PCB	PCB in Fish Tissue 3A	28.253169	13.120888
WC-35	Wolftrap Creek	2.07001E+12	20700081004	Difficult Run	POL0557	11/7/2008	http://www.deq.virginia.gov/por	4/28/2009	E. Coli	Escherichia coli POL0558	11/7/2008	http://www.deq.virginia.gov/portals	4/27/2009	Sediment	Benthic-Macroin 3C	5.793288	5.793287
WC-36	Wolftrap Creek	2.07001E+12	20700081004	Difficult Run	POL0557	11/7/2008	http://www.deq.virginia.gov/por	4/28/2009	E. Coli	Escherichia coli POL0558	11/7/2008	http://www.deq.virginia.gov/portals	4/27/2009	Sediment	Benthic-Macroin 3C	2.735774	2.735774

Appendix F

Illicit Discharge Detection and Elimination Plan

Town of Vienna
Illicit Discharge Detection and
Elimination (IDDE) Plan



Department of Public Works
127 Center Street, South
Vienna, Virginia 22180

Original – August 13, 2014

Revised – April 16, 2019

Town of Vienna Illicit Discharge Detection and Elimination (IDDE) Plan

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Attachments

Attachment A: Storm Sewer System Map

Attachment B: Water Quality Incident Report Form

Attachment C: Field Equipment Checklist

Attachment D: Outfall Screening Field Sheet

1. Overview

The Town of Vienna is committed to protecting its water resources and aquatic habitats. The objective of this Illicit Discharge Detection and Elimination Plan (IDDE Plan) is to find, eliminate, and prevent illicit discharges of pollutants to the Town stormwater drain system that could degrade water quality. An illicit discharge is defined as any discharge to the storm drain system that is not composed entirely of stormwater, except for discharges allowed under a separate permit or otherwise authorized by state or federal laws and regulations.

According to the US EPA's 2000 National Water Quality Inventory, 39 percent of assessed river and stream miles, 46 percent of assessed lake acres, and 51 percent of assessed estuarine square miles do not meet water quality standards. Polluted stormwater runoff, including runoff from urban/suburban areas and construction sites, is a leading source of this impairment. Locally, streams in Vienna are impaired for sediment, bacteria, chlorides, and PCBs. The Town is also part of the larger Chesapeake Bay watershed. The Chesapeake Bay is impaired for nitrogen, phosphorus, and sediment. To address this problem, the EPA established the National Pollutant Discharge Elimination System (NPDES) program as part of the federal Clean Water Act to regulate stormwater discharges.

In the Commonwealth of Virginia, EPA has delegated NPDES program administration to the Department of Environmental Quality (DEQ). DEQ originally issued a General Virginia National Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 permit) to the Town of Vienna on July 1, 2013. The permit was re-issued July 2008, July 2013, and November 2018. The current five-year permit will expire October 31, 2023. The MS4 permit requires the Town to implement an MS4 Program Plan establishing how it will meet six minimum control measures (MCMs). One of these MCMs is Illicit Discharge Detection and Elimination.

The Town's IDDE program is managed by the Department of Public Works (DPW).

Maintenance staff and construction site inspectors also play an important role identifying illicit discharge problems and responding to clean-up requests. However, all Public Works, Parks and Recreation, Police, and other staff play a role in locating, identifying and reporting potential illicit discharges.

1.1 Drainage System

The Town of Vienna is located in Fairfax County, Virginia. The primary land use in the Town is residential with a commercial core and some industrial and institutional land uses. Stormwater in the Town flows to four local streams: Piney Branch, Wolftrap Creek, Hunters Branch, and Bear Branch. Piney Branch and Wolftrap Creek are part of the Difficult Run watershed, while Hunters Branch and Bear Branch are part of the Accotink Creek watershed.

1.2 New Requirements

The current MS4 permit includes new requirements affecting the **Town's** IDDE program. These include: (1) describe the legal authorities available to eliminate ongoing discharges, including enforcement authorities; and, (2) include a unique outfall identifier in dry weather screening data tracking. The MS4 permit also qualifies the minimum of 50 outfalls to be screened annually so that no more than 50% are screened in the previous 12-month period except if all outfalls have been screened in the previous three years. This revised IDDE Plan is compliant **with the Town's current MS4 permit.**

1.3 Plan Overview

The MS4 permit requires the Town to develop an IDDE program encompassing the elements listed below. Each element is addressed in the sections of this IDDE Plan as noted:

Section of Part I E 3	Requirement	Plan Section
c (1)	Description of legal authorities	Section 3
c (2)	Dry weather field screening protocols	Section 4.4
c (2) (a)	Prioritization schedule	Section 4.4.1
c (2) (b)(c)	Outfalls to be screened annually	Section 4
c (2) (d)	Tracking mechanism	Sections 4.4.4 and 7.1
c (3)	Timeframe for investigations	Section 5.1
c (4)	Methods to determine sources	Section 5.2
c (5)	Methods for conducting follow up investigations	Section 5.2
c (6)	Tracking investigations	Section 7
e	Annual reporting	Section 7

This IDDE Plan is intended to assist Town staff in implementing the IDDE program. It is to be used as a guidance document for staff in their day-to-day activities related to IDDE. This document can also be used as a training tool for IDDE training as required by the IDDE MCM to ensure that staff are following the same procedures in responding to illicit discharge concerns.

The Center for Watershed Protection's "Illicit Discharge Detection and Elimination – A Guidance Manual for Program Development and Technical Assessment" (2004) was used in the preparation of this plan and will serve as a reference by Town staff in implementing the program. The manual can be downloaded at the following link:

https://www3.epa.gov/npdes/pubs/idde_manualwithappendices.pdf

2. Storm Sewer System Mapping

An accurate storm sewer map and associated outfall information table ensures that the Town has a full understanding of the storm drain system and is essential to an effective IDDE program. A copy of the most recent map is included in Attachment A.

When used in reference to an MS4, an outfall is defined as “a point source at the point where a municipal separate storm sewer discharges to surface waters and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other surface waters and are used to convey surface waters.” **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.**

2.1 Map and Outfall Table Components

The Town conducted a comprehensive update of the storm sewer system map and created the associated outfall table during the last permit cycle. The Town has reviewed and verified that the map and outfall table is in compliance with Part III E 3 (a) of the current MS4 permit. The Town currently has the following stormwater-related information in its GIS:

- Outfalls or applicable points of discharge, with unique identifier
- Receiving waters
- Catch basins and manholes
- Pipes, ditches, and other conduits
- Public stormwater quality management facilities
- Private stormwater quality management facilities

The MS4 permit requires an outfall information table to be maintained with details on each stormwater outfall. The 2018 MS4 permit requires the following components:

- Unique identifier
- Lat/long coordinates
- Estimated MS4 acreage served
- HUC6 Code of the receiving water
- Name of the receiving surface water and indication of impairment per the 2016 303(d)/305(b) Water Quality Assessment and Integrated Report
- Predominant land use for each outfall discharging to an impaired water
- Name of applicable TMDL(s)

New components include the lat/long of each outfall, the HUC6 Code of the receiving water, whether the receiving water is on the 2016 impaired waters list (as opposed to the 2010 list), and the predominant land use. The Town must update the outfall table to include these items by July 1, 2019.

2.2 Map Maintenance

The map is maintained on a continuous basis, and includes updates to account for any new outfalls as a result of development or the identification of previously unknown outfalls during field work. In accordance with the permit, by October 1 of each year the Town is required to update the map and outfall table to include any new outfalls constructed and/or TMDLs approved during the immediate preceding period.

3. Illicit Discharge Prohibition

The MS4 permit requires that the Town prohibit, through ordinance, policy, standard operating procedure, or other mechanism unauthorized non-stormwater discharges into the storm sewer system.

3.1 What is an Illicit Discharge?

An illicit discharge is defined as any discharge that is not composed entirely of stormwater, except discharges pursuant to a separate VPDES or state permit (other than the state permit for discharges from the municipal separate storm sewer), discharges resulting from firefighting activities, and discharges identified by and in compliance with other state and federal regulations.

Examples of illicit discharges include (but are not limited to) the following:

- Disposal of vehicle fluids into a storm drain
- Hosing or washing loading areas in the vicinity of storm drain inlets
- Leaking or overflowing dumpsters
- Leaks or discharges from a sanitary sewer line
- Pouring paints or stains into a storm drain
- Allowing wash water with soaps or detergents into a storm drain inlet
- Washing silt, sediment, concrete, cement, or gravel into a storm drain
- Discharging pool water that has not been properly de-chlorinated
- Applying fertilizers and pesticides on impervious areas
- Improper disposal of pet waste
- Washing restaurant equipment outside
- Spills of used cooking grease or leaking containers

The following allowable exceptions found in 9VAC25-890-20 D may not be considered an illicit discharge unless the Town identifies such discharges as sources of pollutants:

- Water line flushing, managed in a manner to avoid an instream impact;
- Landscape irrigation;
- Diverted stream flows;
- Rising groundwater;
- Uncontaminated groundwater infiltration, as defined at 40 CFR 35.2005(20);
- Uncontaminated pumped groundwater;
- Discharges from potable water sources;
- Foundation drains;
- Air conditioning condensation;
- Irrigation water;
- Springs;
- Water from crawl space pumps;
- Footing drains;

- Lawn watering;
- Individual residential car washing;
- Flows from riparian habitats and wetlands;
- Dechlorinated swimming pool discharges;
- Street wash water;
- Discharges or flows from firefighting activities;
- Discharges from noncommercial fundraising car washes if the washing uses only biodegradable, phosphate-free, water-based cleaners; or
- Other activities generating discharges identified by the department as not requiring VPDES authorization.

3.2 What is an Illicit Connection?

An illicit connection is defined by DEQ as “**Any man-made conveyance that is connected to a municipal separate storm sewer without a permit...**” Examples of illicit connections include (but are not limited to) the following:

- Sanitary sewer piping that is connected directly from a building to the stormwater system
- A basement or shop floor drain that is connected to the stormwater system
- A cross connection between the municipal sanitary sewer and the stormwater system

3.3 Town IDDE Ordinance

Town Code Section 16-2.2 prohibits illicit discharges to the MS4:

Sec. 16-2.2. Storm drainage facilities; maintenance and cleanliness.

It shall be unlawful for any person to deposit, or cause to be deposited, in any public storm drainage facility, including gutters, ditches and watercourses, any substance including, but not limited to, trash, accumulations of grass clippings, petroleum products, petroleum waste, or other noxious or flammable substance; provided, however, that leaves may be piled at curbs during such seasons and in such areas as may now or in the future be furnished mechanical leaf collection service.

4. Illicit Discharge Detection and Elimination Program

4.1 Program Resources

The Town DPW performs or coordinates most of the duties associated with the IDDE program. Fairfax County performs emergency spill response (Fairfax County Fire and Rescue) and household hazardous waste (HHW) services for the Town.

4.2 Incident Reporting and Documentation

The public is often an excellent source of information regarding illicit connections and discharges. Likewise, Town employees whose normal responsibilities require a considerable **amount of time in the field are an important part of the Town's efforts to identify and correct** potential illicit discharges. Field personnel receive training in the recognition and reporting of illicit discharges no less than once per 24 months.

The Town has established the following mechanisms for the public and Town staff to report a suspected illicit discharge or illegal dumping.

DPW Email:DPW@viennava.gov
DPW Phone:(703) 255-6343
On-Line Report a Concern:<https://www.viennava.gov/index.aspx?nid=1272>
Emergency:911

When a water quality incident report is received, the staff person receiving the information will complete a Water Quality Incident Report Form (Attachment B). Staff will follow-up on after-hours calls during the following business day. Once recorded, incident information is referred to the appropriate Town department and/or staff person for follow-up. In most cases, IDDE problems will be referred to the DPW Water Quality Engineer for further investigation. Staff will follow the investigation procedures in Section 5 to identify the source of the problem.

4.3 Hazardous Materials

If a substance discovered or reported is suspected to be hazardous, Fairfax County Fire and Rescue will be notified immediately by dialing 911. Town staff will remain onsite at a safe distance to receive the HAZMAT team and transfer site operations

4.4 Dry Weather Outfall Screening

The MS4 general permit requires the Town to perform dry weather screening on a minimum of 50 outfalls annually such that no more than 50% are screened in the previous 12-month period except if all outfalls have been screened in the previous three years. Outfall inspections conducted during dry weather are used to identify potential illicit discharges when flow is observed or when visual, olfactory, or other indicators are observed.

The Field Equipment Check List (Attachment C) will be used to ensure that field staff have the equipment necessary to conduct dry weather screening safely and efficiently. The Outfall Screening Field Sheet (Attachment D) will be used to document screening results.

4.4.1 Prioritization Schedule

The permit requires the Town to develop a prioritization schedule based on criteria such as age of infrastructure, land use, historical illegal discharges, dumping, or cross connections. The Town's **stormwater conveyance system** has 88 regulated outfall points as of April 2019. This means that each outfall can be inspected at least once every two years.

Outfalls that will be prioritized for annual inspection will be those along the Mill Street corridor, which includes the most commercially and industrially dense area of the Town, as well as any outfall identified from the previous year with a confirmed illicit discharge or a suspected illicit discharge where the source has not been identified.

4.4.2 Timing

Timing is important when scheduling dry weather outfall screening. The preferred conditions for outfall inspections include periods without any antecedent storm events within the previous 72 hours, or seasons with little vegetation or drier weather. These preferred conditions minimize the chance of observing base-flow, and maximize the potential for capturing concentrated, actionable samples if flow is observed.

4.4.3 General Field Assessment Procedures

Prior to conducting field work, crews should assemble all necessary equipment and review records from prior inspections in the same area to become familiar with the outfall locations and any potential inspection challenges. The following general recommendations apply to the dry weather field inspection and water sampling work:

- Notify the public in the vicinity
- Perform field work in teams
- Conduct safety meetings prior to deployment
- Perform biennial training for field staff in identifying potential illicit discharges
- Develop safety protocols and conduct periodic training for field staff
- Utilize GIS and hard copy mapping information
- Perform QA/QC of field data and ensure promptly entered into database

4.4.4 Information Collection for Dry Weather Screening

Field observations and general information shall be collected for routine dry weather screening using the Outfall Screening Field Sheet in Attachment D. General information collected on the Outfall Screening Field Sheet includes:

- Facility ID (unique identifier for the outfall)
- Outfall location

- HUC
- Local Watershed
- Date/time of screening
- Person performing the screening
- Weather conditions
- Time since last precipitation
- Quantity of last precipitation
- Local land use
- Outfall description (material, shape, number of pipes, diameter)
- Visual field observations
 - Observed dry weather flow (Yes or No)
 - Physical indicators for flowing outfalls: odor, color, turbidity, water surface/floatables
 - Physical indicators for both flowing and non-flowing outfalls: structural condition/outfall damage, deposits or stains, and pipe benthic growth
- Flow description (qualitative observation: trickle, moderate or substantial)
- Estimated discharge rate (if flow observed during field screening)

4.4.5 Field Observations for Flowing Outfalls

If screening reveals dry weather flow, the discharge from the outfall and the area around the outfall must be inspected visually for color, turbidity, sheen, floating or submerged solids, adverse effects on plants or animals in proximity to the outfall, and odor. The flow will also be field tested for common parameters that may indicate potential pollution sources. These will typically include pH, chlorine, and detergents.

Staff should then perform source investigation measures in the outfall drainage area to identify and eliminate the source. Field observations are recorded during the initial screening process and used in the investigation to determine and eliminate the source of the dry weather flow. These recorded field observations should be taken in consideration and will assist in focusing on possible sources during the investigative techniques described in Section 5.

4.4.5.1 Estimated Discharge Rate

The estimated discharge rate, or flow rate, of the observed dry weather flow, can be discerned through a simple field method by measuring and recording field measurements of the flow on the Outfall Screening Field Sheet, and performing a simple calculation. Upon identifying a possible source for the illicit discharge, this measurement can be compared to the estimated discharge rate for the source.

- Measure and record the approximate width of the water surface.
- Measure and record the approximate average depth of the discharge.
- Multiply the width of the water surface times the approximate average depth to get the flow area.
- Measure flow velocity by recording the travel time for an object floating near the surface over a known length. If the observed does not contain any observable floating object,

then a leaf or other organic detritus may be introduced.

- Multiply the computed flow area by the flow velocity and record the flow rate.

Additionally, if the duration of the observed illicit discharge is known, then an estimated volume of discharge can be computed (flow rate x duration). The estimated volume of discharge may also comprise a portion of the reporting requirements pursuant to MS4 permit Part III G **"Reports of unauthorized discharges."**

4.4.6 Physical Indicators

The Outfall Screening Field Sheet requires the field crew to list physical indicators for flowing and non-flowing outfalls and rank the relative sensitivity index for each. At flowing outfalls this includes flow, odor, color, turbidity, and floatables. The information that is observed and documented related to these physical characteristics are helpful in determining the possible source, but cannot be fully relied upon by themselves.

4.4.6.1 Odor

An odor can be helpful in identifying the source of the flow or narrowing the area of focus, but not every illicit flow will have a smell. Since smell can be somewhat subjective, given the variability of sensitivities among individuals, the field crew should reach a consensus about the presence and severity. An **investigator's ability to detect odors may change** during the time of exposure, so odors should be noted when first approaching an outfall or storm drain opening during the screening, since investigators can become de-sensitized to a particular odor within minutes of exposure. For investigations involving checking manholes, presence and severity of odor should be assessed immediately upon opening the manhole before de-sensitized, and before the odor is able to dissipate and become more diffuse with the manhole cover removed.

Documenting the severity score is also a group effort. A severity score of one means the odor is faint or the crew cannot agree on its presence or origin. A score of two indicates a moderate odor within the pipe. A score of three is assigned if the odor is so strong that the crew smells it a considerable distance from the outfall. Table 1 shows a list of odors that may be associated with dry weather discharges and their possible sources. This table should be used in conjunction with other field observations and activities (i.e., physical characteristics, investigations and indicator monitoring) in identifying the source of the discharge.

Table 1: Odors and Their Possible Sources

Odor	Possible Sources
Musty	Raw or partially treated sewage, pet waste, or algal growth
Rotten egg / hydrogen sulfide	Raw sewage, sulfuric acid, anaerobic water conditions
Sewage/fecal	Raw sewage
Chlorine	Broken potable water line, sprinkler/irrigation runoff, swimming pool, wastewater treatment plant discharge, industrial process water (including cooling tower discharge)
Sharp, pungent	Chemicals or pesticides
Gasoline, spent petroleum	Industrial discharge, illegal dumping of wastes or waste water, fuel spill/leak

4.4.6.2 Color

The color is a visual assessment that is a measure of the tint or intensity of color observed in the discharge. The color can be clear, slightly tinted, or intense. To measure color, a sample of the discharge is collected in a clear bottle and held up to the light. Field crews should also look for downstream plumes that may be associated with the observed discharge. Color is influenced by the presence or absence of substances in the water. However, the presence of color in the water may not necessarily be an indicator of a water quality problem or illicit discharge and not every illicit discharge will have a color. The color severity should also be documented as faint, clearly visible, or clearly visible in outfall flow. Table 2 provides common discharge colors and their possible sources. This is a helpful guide in determining whether the discharge is potentially illicit, and from what source it may originate.

Table 2: Discharge Colors and Possible Sources

Color	Possible Sources
Tan to brown	Construction or soil erosion
Blue green/brown green	Plankton bloom, sewage, fertilizer (irrigation) runoff, vehicular wash water
Milky white	Paint, grease, milk, lime, excavation dewatering (clayey soils)
Milky or dirty dishwater gray	Gray water or wastewater (coupled with musty odor)
Black	Septic wastewater or a turnover of oxygen depleted water (organics)
Orange-red	Leachate from iron deposits or iron bacteria (oily sheen that breaks into clumps may be present)
Bright yellow green	Anti-freeze, tire cleaner, tracing dye or algal bloom

4.4.6.3 Turbidity

Turbidity is a measure of the cloudiness of the discharge or how easily light can pass through the water. Like color, turbidity is best observed by collecting the sample in a clear bottle and holding it up to the light. Turbidity should also be looked for in the plunge pool below the outfall, and crews should note turbidity plumes below the outfall that may be associated with the discharge.

4.4.6.4 Field Tests for Water Quality

Inspection teams will characterize the samples for pH, chlorine, and detergents, recording these values on the **Outfall Screening Field Sheet**. Concentration of hydrogen ions (pH) is an indicator of wash water or industrial or commercial liquid waste. Chlorine is an indicator of pool water discharge or industrial or commercial liquid waste. Detergents are an indicator of sewage, wash water, or industrial or commercial liquid waste.

4.4.6.5 Documentation and Next Steps

All observations made in the field during screening are documented on the Outfall Screening Field Sheet. Pictures should be taken, whether it is during routine dry weather screening or during an investigation in response to a complaint. Further investigation must be conducted if the results deem that the observed dry weather flow is potential, suspect, or obvious. Table 3 summarizes the results that will necessitate a follow up investigation. A full illicit discharge investigation must then be performed to determine and eliminate the source.

Table 3: Further Investigation Triggers

Measure	Unlikely	Potential	Suspect	Obvious
Physical Indicators	Non-flowing outfalls with no physical indicators of an illicit discharge	Flowing or non-flowing outfalls with presence of two or more physical indicators	Flowing or non-flowing outfalls with any severity rating of 2 or greater	Outfalls where there is an illicit discharge that doesn't even require sample collection for confirmation
Measure	Unlikely	Trigger for Follow-Up Investigation		
pH	<6.5 and >7.2	<6.0 or >9.0 ¹		
Chlorine	Non-detected	>0.02 mg/L		
Detergents	<0.25 mg/L	>0.25 mg/L ²		

¹ Industrial Stormwater Monitoring and Sampling Guide, USEPA, 2009. Table 3 “Parameter Benchmark Values”

² Illicit Discharge Detection and Elimination – A Guidance Manual for Program Development and Technical Assessment, Center for Watershed Protection, 2004

5. Illicit Discharge Investigations

Once an illicit discharge is detected through field observations (either through a report or dry weather outfall screening) the Town will perform an investigation to identify and eliminate the source. Some sources will be easily identified through field investigation techniques discussed below. Other sources may require a combination of field investigations and indicator sampling data for identification.

5.1 Prioritization for Follow Up

Contact Fairfax County HAZMAT immediately if the discharge poses a threat to human health or the environment.

Illicit discharges suspected of being sanitary sewage or significantly contaminated will be prioritized and investigated first, while those suspected of being less hazardous to human health and safety may be delayed until the former has been resolved. Timeframes for initiating an investigation after identifying an actual or suspected illicit discharge are established as follows:

Observed Flow.....	Immediately
Obvious.....	Begin inspection within two business days of report or identification
Suspected	Begin inspection within one week of report or identification
Potential.....	Begin inspection within two weeks of report or identification

5.2 Investigation Techniques

The following investigatory techniques should be considered when a possible illicit discharge is detected either during dry weather screening or during the investigation performed in response to a complaint. Four investigation techniques are recommended:

- Drainage area investigations
- Storm drain network investigations
- On-site investigations
- Indicator monitoring

5.2.1 Drainage Area Investigations

The Town will employ its mapping and land use data to identify potential dischargers in the drainage area based on the characteristics of the illicit discharge detected. This type of investigation is most appropriate when the drainage area is large or complex and will help to allocate resources for further investigation. This involves a parcel by parcel analysis of potential generating sites within the drainage area of the problem outfall. Physical indicators observed in the field should be closely considered alongside land uses and types of possible generating sites in the drainage area.

The drainage area investigation may be done in the field using hard copy maps, but is most effectively done in the office. This may also be accomplished by contacting staff in the office to

do a review in conjunction with review of mapping documents in the field. Office staff and field staff are then able to confer on the best approach to take in identifying the source. Once the probable dischargers have been identified, resources can hone in on specific storm drain networks to investigate, or perform on-site investigations rule out possibilities and verify the source.

5.2.2 Storm Drain Network Investigations

The Town can also perform an investigation of the storm drain network to identify the source of the illicit discharge. At outfalls with a simple drainage network it is recommended that inspectors move upstream from the outfall and test manholes along the way to locate the source of the discharge. However, much of the **Town's storm drain network is complex or** located in traffic areas. In these cases the Town will split the upstream network into equal segments and test manholes at strategic junctions in the storm drain system. The method for splitting the storm drain network is outlined in the Center for Watershed Protection IDDE manual and is summarized below:

1. Review the system map leading to the suspect outfall.
2. Identify smaller pipes that are major contributors to the trunk line.
3. Identify the manhole immediately upstream from the outfall and manholes at the farthest downstream node of each contributing smaller pipe branch.
4. Working up the network, investigate manholes on each contributing branch and the trunk, until the source is narrowed to a specific section.
5. If discharge is narrowed to a specific section of the trunk, select the appropriate onsite investigation method(s) to determine the source.
6. If discharge is narrowed to a contributing branch, move up or split the branch until a specific pipe segment is isolated, and commence the appropriate investigation to determine the source.

5.2.2.1 Manhole Inspections

Manhole inspections can consist of visual observations and/or indicator sampling. Safety precautions should be taken during manhole inspections to ensure the safety of the field crew. Safety factors to consider in manhole inspections are: diversion of road and foot traffic, proper lifting of the manhole covers and testing to determine whether any toxic or flammable fumes exist within the manhole. Manholes may only be entered by properly trained and equipped personnel following all Occupational Safety and Health Administration (OSHA) requirements. In most circumstances, it is not necessary for the field crew to enter the manhole.

5.2.3 Onsite Investigations

Once the location of the illicit discharge has been isolated, yet the source remains undetermined, there are three techniques that are useful to identify the exact source.

1. Dye testing
2. Video testing
3. Smoke testing

The most commonsense approach for the Town will likely be to rely upon visual inspections of the drainage area and the storm drain network. Additional follow-up investigations must be performed for undetermined sources.

5.2.4 Indicator Monitoring

Indicator monitoring in addition to that conducted in accordance with Section 4.4.6.4 may be warranted when other field tests are inconclusive about the potential presence or source of stormwater pollutants. The exact parameters to be tested will depend on other physical indicators. Common parameters include:

- Ammonia
- Boron
- Conductivity
- Bacteria
- Fluorescence
- Fluoride
- Hardness
- Petroleum hydrocarbons
- Potassium
- Turbidity

In these cases, a sample may be collected and tested at a certified laboratory to confirm the presence of contaminants. The Town will utilize the IDDE Flow Chart from the Center for Watershed Protection when considering results from field and laboratory analytical tests.

5.2.5 Additional Follow-Up for Undetermined Sources

If, after performing an investigation, the source of the discharge has not been identified and the discharge has not been detected again after six months, efforts will be documented and the **discharge identified as "non-recurring/source not found."** **At least one additional dry weather screening must occur during the six month period.**

If, after performing an investigation, the source of the illicit discharge has not been identified and the discharge occurs on an intermittent basis, efforts will be documented and the discharge **identified as "non-recurring/source not found."** **At least three additional dry weather screenings must occur during the six month period in an attempt to observe the discharge when it is flowing.**

Any **outfall with a discharge documented as "non-recurring/source not found"** will be added to the list of outfalls for dry weather screening during the next year.

6. Eliminating Illicit Discharges

6.1 Purpose

The Town will respond to identified illicit discharges, illicit connections, or illegal dumping activities using progressive enforcement actions. Corrective actions will focus first on education to promote voluntary compliance and subsequently escalate to more severe enforcement actions if necessary.

6.2 Voluntary Compliance

The preferred approach to address illicit discharge problems is to pursue voluntary compliance through property owner or responsible party education. Business operators and property owners are often unaware of connections or activities on their properties that may constitute an illicit discharge. In these cases, providing the responsible party with information about the offending issue, the environmental consequences, and suggested remedies may be enough to secure voluntary compliance.

Education begins during the site investigation when the operation or connection is first confirmed. Property owners and operators should be notified that the problems must be corrected in a timely manner and that the Town will be conducting a follow-up site visit to verify compliance. Field staff should also provide the property operator with an educational brochure describing illicit discharge violations and a copy of the applicable Town code. Field staff should also remind property owners of their obligation to report discharges to the proper agencies.

6.2.1 Operational Problems

Property owners are responsible for correcting operational problems that produce illicit discharges. This includes moving washing activities indoors or undercover, covering material storage areas, locating an appropriate discharge location for liquid wastes, or other operational modifications. Through site visits and education, the Town can provide technical assistance to aid property owners in achieving compliance.

6.2.2 Structural Problems

Most illicit connection problems will require a structural modification. Structural repairs can redirect discharges such as sewage, industrial, and commercial cross-connections. Cross-connections must be re-routed to an approved sanitary sewer system. Structural problems are the responsibility of the property owner, though the Town may provide technical assistance throughout the process.

6.3 Enforcement Actions

When voluntary compliance does not produce the desired result, the Town is required to pursue follow-up enforcement action. The following steps will be taken to ensure the elimination of an illicit discharge.

Table 4: Illicit Discharge Enforcement Steps

Enforcement Step	Details	Responsibility
Step 1 – Initial Actions	Provide educational materials Encourage voluntary compliance Provide summary letter setting expected compliance date Additional staff support or technical assistance Request evidence of corrected problem (if applicable) Site visit to verify compliance	DPW
Step 2 – Follow-up Actions	Send "notice of violation" letter to property owner regarding unresolved issues Set second compliance date (determined on individual incident basis) Site visit to verify compliance	DPW; Code Enforcement
Step 3 – Final Actions	Send second "notice of violation" letter indicating that unresolved issues will be referred to prosecutor Town may correct problems and send bill to property owner Levy fines as authorized in Town Code	Code Enforcement

7. Reporting and Recordkeeping

An important and required part of the IDDE program is a tracking and reporting system. The Town uses GIS to track dry weather screening and an Excel spreadsheet to track the results of investigations of suspected illicit discharges. Completed forms will be kept on file for the permit cycle and no less than three years.

7.1 Dry Weather Outfall Screening

The MS4 permit requires the following minimum information to be tracked for each outfall screened in Section 4.4. Additional information is collected on the Outfall Inspection Report Form.

- The unique outfall identifier
- Time since last precipitation event
- Estimated quantity of last precipitation event
- Site description (conveyance type and dominant watershed land uses)
- If a discharge was observed:
 - Estimated discharge rate (width and depth of discharge flow rate)
 - Visual characteristics of the discharge (odor, color, clarity, floatables, deposits or stains, vegetation condition, structural condition, and biology)

7.2 Illicit Discharge Investigation Tracking

The MS4 permit requires the Town to track all illicit discharge investigations and document the following:

- The dates that the illicit discharge was initially observed, reported, or both
- The results of the investigation, including the source, if identified
- Any follow up to the investigation
- Resolution of the investigation
- The date that the investigation was closed

7.3 Annual Reporting

The MS4 permit requires the Town to provide in its annual report to DEQ the following:

- Confirmation statement that the MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year.
- Total number of outfalls screened during the reporting period as part of the dry weather screening program.
- A list of illicit discharges to the MS4 including spills reaching the MS4 with information as follows:
 - The source of the illicit discharge.
 - The dates that the discharge was observed, reported, or both.
 - Whether the discharge was discovered by the permittee during dry weather

- screening, reported by the public, or other method.
- How the investigation was resolved.
- A description of follow-up activities.
- The date the investigation was closed.

7.4 Reports of Unauthorized Discharges

In accordance with Part III G of the MS4 permit, the Town must notify DEQ immediately upon discovery, but in no case later than within 24 hours, any 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, 40 CFR Part 302, or § 62.1-44.34:19 of the Code of Virginia 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.

Table 5: Spill Reporting

Regular Business Hours (8:15 a.m. to 4:30 p.m. M-F)	
DEQ Northern Virginia Region Office	(703) 583-3800
	DEQ Pollution Reporting Form https://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/PollutionReportingForm.aspx
Nights, Holidays, and Weekends	
Virginia Department of Emergency Management	1 (800) 468-8892

A written report of the unauthorized discharge shall be submitted to DEQ within five days of discovery of the discharge by mail to 13901 Crown Court, Woodbridge, Virginia 22193 or by sending an email to the Pollution Response Program (PREP) coordinator. The email for the current PREP is located at <https://www.deq.virginia.gov/Locations/NorthernRegionalOffice.aspx>. The written report shall contain:

- A description of the nature and location of the discharge;
- The cause of the discharge;
- The date on which the discharge occurred;
- The length of time that the discharge continued;
- The volume of the discharge;
- If the discharge is continuing, how long it is expected to continue;
- If the discharge is continuing, what the expected total volume of the discharge will be;
- and,
- Any steps planned or taken to reduce, eliminate, and prevent a recurrence of the present discharge or any future discharges not authorized by a permit.

8. Staff Training

Town employees whose normal responsibilities require a considerable amount of time in the field are an important part of the Town's efforts to identify and correct potential illicit discharges. Field personnel receive training in the recognition and reporting of illicit discharges **no less than once per 24 months. The schedule for delivering training is located in the Town's MS4 Program Plan.**

9. Contacts

The following is a list of contacts for the IDDE program:

Michael Gallagher, PE, Director of Public Works

Phone: 703-255-6380

Email: mgallagher@viennava.gov

Christine Horner, PE, Water Quality Engineer

Phone: 703-319-8630

Email: christine.horner@viennava.gov

Attachment A: Storm Sewer System Map

Attachment B: Water Quality Incident Report Form

Town of Vienna

IDDE Reporting Form/Water Quality Incident Report Form

Reference: MS4 General Permit Section III G. Reports of Unauthorized Discharges



1.	Name of the person making the report:			
2.	Title of the person making the report:			
3.	Phone and email contact:			
4.	Today's date:			
5.	Current weather conditions:			
6.	Date and time staff became aware of the discharge:			
7.	Description and nature of the discharge:			
8.	Location of the discharge:			
9.	Cause of the discharge:			
10.	Estimated date/time discharge started:		Estimated date/time discharge ended:	
11.	Estimated volume (gallons):			
12.	If the discharge is continuing, how long is it expected to continue?			
13.	If the discharge is continuing, what is the expected total volume?			
14.	Did the discharge enter the storm system (MS4)?		Did the discharge enter surface water?	
15.	Corrective action taken, or to be taken, to reduce, eliminate, or prevent a recurrence:			
16.	Other information:			

Attachment C: Field Equipment Checklist

Town of Vienna

IDDE Field Equipment Checklist



Field crews should work in no smaller a group than two for safety reasons. In addition to safety gear required for all field operations (including PPE), field crews should bring the following equipment to conduct dry weather outfall screening.

All Dry Weather Screening Activities

- Machete/clippers
- Flashlight or headlamp
- Field notebook and clipboard
- Outfall Screening Field Sheet (digital or hard copy)
- MS4 maps or aerial imagery (digital or hard copy)
- Tool box – hammer, duct tape, zip ties
- Tape measure
- Spray paint or other marker
- First aid kit
- GPS unit
- Clear sample bottles
- Wide mouth container
- Cell phone (fully charged)
- Digital camera (fully charged and with sufficient memory available)
- Rubber boots or waders (optional)

Additional Equipment for Sample Collection and Field Measurements

- Watch with second hand (or stopwatch)
- Latex gloves
- Protective glasses or goggles
- Cooler and ice
- Paper towels
- Sample bottles with preservatives
- Single Analyte Meter for measuring detergents
- Multi-parameter probe to measure temperature, electrical conductivity, and pH
- pH strips or other pH monitor
- Chlorine strips or other chlorine monitor
- Extra batteries for all meters
- Flow measurement equipment (required equipment will depend on method used)
- De-ionized or distilled water in squeeze bottles for rinsing, dilutions, etc. (depending on methods used)
- Waste disposal bottles

Attachment D: Outfall Screening Field Sheet



Town of Vienna Outfall Screening Field Sheet

Outfall ID:		Site Visit Date:		Time of Visit:	
Inspector's Name:				Last Rainfall:	
Nearest Address or Street Intersection:				Temperature:	
Outfall Description:		Watershed:		Current Weather Conditions:	
Land Use Area:	<input type="checkbox"/> Commercial	<input type="checkbox"/> Industrial	<input type="checkbox"/> Open Space	<input type="checkbox"/> High Residential	<input type="checkbox"/> Low Residential

Outfall Physical Indicators						
Outfall Information	Diameter/# of Pipes:	<input type="checkbox"/> Circular	<input type="checkbox"/> Elliptical	<input type="checkbox"/> Box	<input type="checkbox"/> Other:	
	Pipe Condition:	<input type="checkbox"/> Good	<input type="checkbox"/> Average	<input type="checkbox"/> Poor	<input type="checkbox"/> Non-Functional	
	Pipe End Composition:	<input type="checkbox"/> End Section	<input type="checkbox"/> End Wall	<input type="checkbox"/> Projecting Pipe		
	Pipe End Material:	<input type="checkbox"/> RCP	<input type="checkbox"/> PVC	<input type="checkbox"/> CMP	<input type="checkbox"/> HDPE	<input type="checkbox"/> Steel
Downstream Receiving Channel	<input type="checkbox"/> Concrete	<input type="checkbox"/> Rip-Rap	<input type="checkbox"/> Grass	<input type="checkbox"/> Bed/Bank	<input type="checkbox"/> V-Ditch	
	<input type="checkbox"/> Trapezoid	<input type="checkbox"/> Parabolic	<input type="checkbox"/> Other:			
	Notes:					

Illicit Discharge Indicators for Flowing and Non-Flowing Outfalls				Relative Severity Index
Deposits/Stains: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Flow Line	<input type="checkbox"/> Paint	<input type="checkbox"/> Sediment	<input type="checkbox"/> 1 – Faint/old <input type="checkbox"/> 2 – Easily detected/old <input type="checkbox"/> 3 – Easily detected/recent
	<input type="checkbox"/> Oily	<input type="checkbox"/> Rust	<input type="checkbox"/> Other:	
Vegetation: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Normal	<input type="checkbox"/> Inhibited	<input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Possible inhibited growth <input type="checkbox"/> 2 – Clearly inhibited <input type="checkbox"/> 3 – Clearly inhibited by other indicator
	<input type="checkbox"/> Suds	<input type="checkbox"/> Excessive Algae	<input type="checkbox"/> Floatables	
Poor Pool Quality <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Oil Sheen	<input type="checkbox"/> Color	<input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint <input type="checkbox"/> 2 – Easily Detected <input type="checkbox"/> 3 – Noticeable from a distance
	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> Sulfur/Rotten Eggs	
Odor Present: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> Laundry/Wash	<input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint <input type="checkbox"/> 2 – Easily detected <input type="checkbox"/> 3 – Noticeable from a distance
	<input type="checkbox"/> Brown	<input type="checkbox"/> Orange	<input type="checkbox"/> Green	
Pipe Benthic Growth: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Other:			<input type="checkbox"/> 1 – Faint <input type="checkbox"/> 2 – Easily detected <input type="checkbox"/> 3 – Noticeable from a distance

Illicit Discharge Indicators for Flowing Outfalls (Complete if Flow Present)				
Is Flow Present? <input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> Trickle/Light	<input type="checkbox"/> Moderate	<input type="checkbox"/> Heavy	
Estimated Discharge Rate:	A. Width of Water:	B. Approx. Avg. Depth:	A x B = C Flow:	C x D = E Est. Flow Rate:
Color: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Brown	<input type="checkbox"/> Gray	<input type="checkbox"/> Yellow	<input type="checkbox"/> Green
	<input type="checkbox"/> Orange	<input type="checkbox"/> Red	<input type="checkbox"/> Other:	
Turbidity: <input type="checkbox"/> Yes <input type="checkbox"/> No	See Severity			<input type="checkbox"/> 1 – Slight Cloudiness <input type="checkbox"/> 2 – Cloudy <input type="checkbox"/> 3 – Opaque
Floatables: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Suds	<input type="checkbox"/> Sewage (toilet paper, etc.)	<input type="checkbox"/> Petroleum (oil sheen)	<input type="checkbox"/> Dead Fish
	<input type="checkbox"/> Trash	<input type="checkbox"/> Other:		
Field Test Results:	pH:	Chlorine:	Detergents:	Other:
				Further investigation required if: • pH <6.0 or >9.0 s.u. • Chlorine >0.02 mg/L • Detergents >0.25 mg/L

Overall Outfall Illicit Discharge Characterization			
<input type="checkbox"/> Unlikely	<input type="checkbox"/> Potential (presence of two or more indicators)	<input type="checkbox"/> Suspect (one or more indicators with a severity rating of 2 or higher)	<input type="checkbox"/> Obvious
Notes and Site Observations:			
Follow-up Actions Required:			
Signature of Inspector:		Date:	

Appendix G

**Construction and Post-Construction
Stormwater Management Procedures**



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax: 804-698-4019 - TDD (804) 698-4021
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

June 13, 2014

Mercury Payton, Town Manager
Town of Vienna
127 Center Street, S.
Vienna, VA 22180

Dear Mr. Payton:

In accordance with §62.1-44.15:27 G of the Virginia Stormwater Management Act (Act), the Department of Environmental Quality (DEQ) has completed the review of the Town of Vienna's final Virginia Stormwater Management Program (VSMP) application package submitted on April 24, 2014. Based on this review, DEQ has determined that the Town of Vienna's VSMP is consistent with the Act, the VSMP regulation and the General VPDES Permit for Discharges of Stormwater from Construction Activities.

In light of this determination, DEQ approves the Town of Vienna's VSMP; and the Town is authorized to operate a VSMP beginning on July 1, 2014. Please note that this approval is based on the content of the application package. Any changes made to the documents in the package after the approval date, including changes to the adopted ordinance, may necessitate DEQ evaluation as part of its compliance review of your approved VSMP.

Thank you for your cooperation in developing a VSMP. We look forward to continuing to assist the Town with the implementation of its VSMP.

Sincerely,

A handwritten signature in black ink, appearing to read "David K. Paylor", written over a large, stylized, cursive signature.

David K. Paylor

cc: Melanie Davenport, Director, DEQ Water Division
Frederick Cunningham, Director, DEQ Office of Water Permits
Joan Salvati, Manager, DEQ Local Government Stormwater Programs

Town of Vienna, Virginia LAND DISTURBING PERMIT

APPLICANT INFORMATION		

(Full Name)		

(Address)		

(Email)		

(Business Phone)	(Cell Phone)	(Fax Number)

LANDOWNER INFORMATION		

(Full Name)		

(Address)		

(Email)		

(Business Phone)	(Cell Phone)	(Fax Number)

LAND DISTURBER CERTIFICATION/CERIFICATE OF COMPETENCE		
Name: _____	License: _____	Expires: _____
Phone: _____	Cell: _____	Fax: _____
Land Disturber Email: _____		

PROJECT DESCRIPTION		
Project (Name and Description): _____		

Location: _____		
Plan Prepared By: _____		
Tax Map: _____	Parcel: _____	Area (SF): _____

The following must be submitted with the permit application and approved by the Town of Vienna:

Submitted	Approved	
_____	_____	A stormwater management plan that meets the requirements of Town Code Chapter 23, Article 3, including a maintenance agreement in accordance with Section 23-18.
_____	_____	An erosion and sediment control plan that meets the requirements of Town Code Chapter 23, Article 2

Upon approval of the above items, the following must be provided by the applicant:

- _____ \$2,000 performance bond for erosion and sediment control (Section 23-7 of the Town Code).
- _____ \$2,500 performance bond for stormwater management (Section 23-23 of the Town Code).
- _____ Fees in accordance with Section 1-13 of the Town Code.

Town of Vienna Submittal and Review of Stormwater Management and Erosion and Sediment Control Plans

STANDARD OPERATING PROCEDURES

The following are to be submitted to the Town of Vienna Department of Planning and Zoning by an applicant for any proposed land disturbing activity regulated under Town Code Chapter 23 “Environment:”

1. A Land Disturbing Permit Application.
2. A stormwater management plan that meets the requirements of Chapter 23, Article 3, Section 23-14.
3. An erosion and sediment control plan that meets the requirements of Chapter 23, Article 2 “Erosion and Sediment Control.”
4. Plans for meeting the requirements of Chapter 18, Article 21.1 “Chesapeake Bay Preservation Areas.”

The Department of Planning and Zoning distributes items 1 through 4 to the Department of Public Works for review.

The Department of Public Works reviews the stormwater management plan in accordance with Chapter 23, Section 23-15 and the erosion and sediment control plan in accordance with Chapter 23, Section 23-6.

Stormwater Management Plan	Erosion and Sediment Control Plan
15 days for the Town to determine plan completeness and notify the applicant in writing.	45 days for the Town to review and approve the plan if it adequate.
60 days from the time of notification of completeness for the Town to review the plan and notify the applicant in writing.	45 days for the Town to review and provide written notice with an explanation for the plan if it is inadequate.
45 days from the date of any resubmission for the Town to review and respond in writing to a previously disapproved plan.	45 days for the Town to review and respond in writing to a plan that was previously disapproved.
60 days for the Town to review and respond in writing to modifications to the approved plan.	If no action is taken within the time frames specified above, the plan is deemed approved.

The Department of Public Works utilizes the Town of Vienna Stormwater Management Plan Review Checklist and any supplemental review materials in Appendix 3 of the Virginia Stormwater Management Handbook to review the stormwater management plan to verify that minimum standards are met and required elements of the plan have been provided in accordance with Article 3 “Stormwater Management” of Chapter 23.

The Department of Public Works utilizes the Virginia Stormwater BMP Clearinghouse or the Fairfax County Public Facilities Manual, whichever is more stringent unless waived by the Director of Public Works in accordance with Town Code Section 23-17.A.1., to review stormwater management facility design.

The Department of Public Works utilizes Chapter 6 and Chapter 7 of the Virginia Erosion and Sediment Control Handbook to verify that minimum standards are met and required elements of the plan have been provided in accordance with Article 2 “Erosion and Sediment Control” of Chapter 23.

The Department of Public Works provides comments to the Department of Planning and Zoning for communication to the applicant. Revisions and re-submittals are made in accordance with the Town Code until satisfactorily addressed.

The Department of Public Works approves the stormwater management plan and erosion and sediment control plan contingent on the following:

1. The applicant demonstrates that all land clearing, grading, excavating, transporting, and filling of land will be done in conformance with Town Code Chapter 23.
2. The applicant submits fees pursuant to Chapter 1, Section 1-13.
3. The applicant submits performance bonds required in Town Code Section 23-7 and Section 23-23.
4. The Town approves the stormwater management facility maintenance agreement as required in Town Code Section 23-18.

On approval of the stormwater management plan and erosion and sediment control plan by the Department of Public Works, the applicant submits a Registration Statement for a General Permit for Discharges from Construction Activities in accordance with 9VAC25-880.

On obtaining and presenting evidence of General Permit coverage to the Town, the Town finalizes and approves the Land Disturbing Permit.

TOWN OF VIENNA STORMWATER MANAGEMENT PLAN REVIEW CHECKLIST

1. Applicant Information

Submission Date _____

Project Name _____

Site Address _____

Applicant _____ Phone Number _____

Applicant Legal Address _____

Applicant Phone Number _____

Principal Designer Phone Number _____

General Contractor Phone Number _____

2. _____ Signature and stamp of licensed professional consultant and owner certification (for final plan submittal)

3. Plan Status

_____ Approved
_____ Not Approved

Legend: ✓ - Complete
 Inc. - Incomplete/Incorrect
 N/A - Not Applicable

4. _____ Common address and legal description of the site, including the tax reference number(s) and parcel number(s) of the property or properties affected.

5. _____ A narrative that includes a description of current site conditions and proposed development and final site conditions, including proposed use of environmental site design techniques and practices, stormwater control measures, relevant information pertaining to long-term maintenance of these measures (see item #12 below), and a construction schedule.

6. Existing and proposed mapping and plans (recommended scale of 1" = 50', or greater detail), which illustrates the following at a minimum:

- _____ North arrow
- _____ Legend
- _____ Vicinity map
- _____ Existing and proposed topography (minimum of 2-foot contours recommended)
- _____ Property lines
- _____ Perennial and intermittent streams
- _____ Mapping of predominant soils from USDA soils surveys as well as the location of any site-specific test bore hole investigations that may have been conducted and information identifying the hydrologic characteristics and structural properties of soils used in the installation of stormwater management facilities
- _____ Boundaries of existing predominant vegetation and proposed limits of clearing and grading
- _____ Location and boundaries of natural feature protection and conservation areas (e.g., wetlands, lakes, ponds, aquifers, public drinking water supplies, etc.) and applicable setbacks (e.g., stream buffers, drinking water well setbacks, septic drainfield setbacks, building setbacks, etc.)
- _____ Identification of any on-site or adjacent water bodies included on the Virginia 303(d) list of impaired waters
- _____ Current land use and location of existing and proposed roads, buildings, parking lots and other impervious areas
- _____ Location and description of any planned demolition of existing structures, roads, etc.
- _____ Proposed land use(s) with a tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, parking lots, stormwater management facilities, and easements
- _____ Location of existing and proposed utilities [e.g., water (including wells), sewer (including septic systems), gas, electric, telecommunications, cable TV, etc.] and easements
- _____ Earthwork specifications

- _____ Selection, location and design of both structural and non-structural stormwater control measures, including maintenance access and limits of disturbance
- _____ Storm drainage plans for site areas not draining to any BMP(s)
- _____ Location of existing and proposed conveyance systems, such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow, including grades, dimensions, and direction of flow
- _____ Final drainage patterns and flow paths
- _____ Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainage systems
- _____ Location of all contributing drainage areas and points of stormwater discharge, receiving surface waters into which stormwater discharges, the pre-development and post-development conditions for drainage areas, and the potential impacts of site stormwater on adjoining parcels
- _____ Location and dimensions of proposed channel modifications, such as bridge or culvert crossings
- _____ Final stabilization and landscaping plans

7. Hydrologic and hydraulic analysis, including the following:

- _____ Site map with locations of design points and drainage areas (size in acres) for runoff calculations
- _____ Identification and calculation of stormwater site design credits, if any apply
- _____ Estimates of unified stormwater sizing criteria requirements
- _____ Time of concentration (and associated flow paths)
- _____ Imperviousness of the entire site and each drainage area
- _____ NRCS runoff curve numbers or volumetric runoff coefficients
- _____ A hydrologic analysis for the existing (pre-development) conditions, including runoff rates, volumes, and velocities, showing the methodologies used and supporting calculations
- _____ A hydrologic analysis for the proposed (post-development) conditions, including runoff rates, volumes, and velocities, showing the methodologies used and supporting calculations
- _____ Hydrologic and hydraulic analysis of the stormwater management system for all applicable design storms
- _____ Pollution load and load reduction requirements and calculations
- _____ Final good engineering and sizing calculations for stormwater control measures, including contributing drainage areas, storage, and outlet configurations, verifying

- compliance with the water quality and water quantity requirements of the regulations
- Stage-discharge or outlet rating curves and inflow and outflow hydrographs for storage facilities
- Final analysis of the potential downstream impacts/effects of the project, where necessary
- Downstream analysis, where detention is proposed
- Dam safety and breach analysis, where necessary

8. Representative cross-section and profile drawings and details of stormwater control measures and conveyances which include the following:

- Existing and proposed structural elevations (e.g., inverts of pipes, manholes, etc.)
- Design water surface elevations
- Structural details of BMP designs, outlet structures, embankments, spillways, grade control structures, conveyance channels, etc.

9. Applicable construction and material specifications, including references to applicable material and construction standards (ASTM, etc.)

10. Erosion and sediment control plan that, at a minimum, meets the requirements outlined in the Virginia Erosion and Sediment Control Regulations and Handbook

11. Landscaping plans for stormwater control measures and any site reforestation or revegetation

12. Operations and maintenance plan/agreement that includes the following:

- Name, legal address and phone number of the party or parties responsible for long-term maintenance activities
- Description and schedule of maintenance tasks
- Identification/description of the source of funding to support maintenance activities
- Description of access and safety issues
- Procedures for testing and disposal of sediments, if required
- Right-of-entry authorization for local government inspections/repairs, as needed

13. Evidence of acquisition of all applicable local and non-local permits

14. _____ Waiver/exception requests

15. _____ Evidence of acquisition of all necessary legal agreements (e.g., easements, covenants, land trusts, etc.)

16. _____ Applicable supporting documents and studies (e.g., infiltration tests, geotechnical investigations, TMDLs, flood studies, etc.)

17. _____ Other required permits

Town of Vienna Stormwater Management Construction Inspection and Enforcement

STANDARD OPERATING PROCEDURES

The Department of Planning and Zoning provides the approved stormwater management plan and the approved erosion and sediment control plan to the Department of Public Works.

PRIOR TO COMMENCEMENT OF PROJECT WORK, the Department of Public Works sets a meeting with the contractor on the construction site to:

- Verify that a Stormwater Pollution Prevention Plan is in place and on-site.
- Review erosion and sediment control elements.
- Review the stormwater management plan.
- Review the requirements of the Pollution Prevention Plan.
- Review the design specifications for stormwater management controls.
- Identify significant stormwater control installation points where the contractor **MUST** contact the Town for inspection either during or immediately after installation to ensure the practice is installed properly. A **CRITICAL STORMWATER CONTROLS INSTALLATION AND CONSTRUCTION MILESTONES** form will be completed by the Town and the contractor. At least 48 hours notice will be provided by the contractor to allow adequate time for planning by the Department.

The Department of Public Works utilizes Appendix 3 of the Virginia Stormwater Management Handbook and the appropriate sections of the Virginia Stormwater BMP Clearinghouse during construction inspections.

The Department of Public Works will monitor active construction projects on a periodic basis, but at least weekly and to inspect stormwater control installation points as agreed upon with the contractor at the initial on-site visit. Inspections will include:

- Compliance with the approved erosion and sediment control plan
- Compliance with the approved stormwater management plan
- Development, updating, and implementation of the pollution prevention plan
- Development and implementation of any additional control measures necessary to address a TMDL

Inspections will be recorded by the Town using the **CONSTRUCTION INSPECTION REPORT FORM**. If listed violation(s) constitute non-compliance and the corrective actions are not completed by the deadline, a notice to comply, stop work order, or other enforcement action

may be issued by the Town for the project. A stop work order will be lifted upon compliance. If there is a failure to comply with such measures within the time specified, the Land Disturbing Permit may be revoked and the responsible party shall be deemed to be in violation and upon conviction shall be subject to the penalties provided in Town Code Section 23-22.

The stormwater management performance bond will be released upon all stormwater management facilities in the stormwater management plan passing final construction inspection by the Director of Public Works or his designee. A construction record drawing for permanent stormwater management facilities must be submitted to the Director prior to bond release in accordance with Town Code Section 23-14.D.

**Town of Vienna Stormwater Management Construction
Inspection and Enforcement**

**CRITICAL STORMWATER CONTROL INSTALLATION AND
CONSTRUCTION MILESTONES**

Project Name _____

Site Address _____

Contact Name _____ Phone Number _____

**THE CONTRACTOR MUST CONTACT THE TOWN OF VIENNA DEPARTMENT OF PUBLIC
WORKS AT LEAST 48 HOURS PRIOR TO INSTALLATION OF THE FOLLOWING
STORMWATER CONTROL COMPONENTS. FAILURE TO COMPLY MAY RESULT IN
WORK HAVING TO BE RE-DONE AND/OR ENFORCEMENT ACTION.**

Department of Public Works – (703) 255-6380

Component: _____

Component: _____

Component: _____

Component: _____

Component: _____

Signed and Agreed by Contractor

Date

Town of Vienna Stormwater Management Construction Inspection and Enforcement

CONSTRUCTION INSPECTION REPORT FORM

Project Name: _____ Location: _____ Date: _____

Inspector's Name: _____ Weather Conditions: _____

Time Since Last Precipitation: _____ Precipitation Amount: _____

STAGE OF CONSTRUCTION

- | | | |
|--|--|---------------------------------------|
| Pre-Construction Conference <input type="checkbox"/> | Building Construction <input type="checkbox"/> | Demolition <input type="checkbox"/> |
| Clearing & Grubbing <input type="checkbox"/> | Finish Grading <input type="checkbox"/> | Bond Release <input type="checkbox"/> |
| Rough Grading <input type="checkbox"/> | Final Stabilization <input type="checkbox"/> | Other _____ <input type="checkbox"/> |

Reason for Inspection: Qualifying Rainfall Event Bi-weekly Inspection Other
 Stormwater Control Installation _____

Enforcement or Follow-up Action / Inspection Result:

Notice to Comply
 Stop Work Order
 Re-inspection
 N/A

Erosion and Sediment Control Measures						
Ref. No.	BMP Installed & Operating Properly?			Type of BMP / Activity	Location and Corrective Action Needed	Date to complete corrective action
	Yes	No	N/A			
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temporarily or permanently stabilization of exposed areas		
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stabilization of stockpiles		
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adequate stabilization from vegetative cover		
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installation and maintenance of perimeter sediment control		
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stabilization of earthen structures		
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installation of sediment basins and or sediment traps		
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stabilization of slopes		
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installation of proper controls on new disturbed areas		
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adequate catch basin inlet protection		

Town of Vienna Stormwater Management Construction Inspection and Enforcement
 Construction Inspection Report Form

10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Channel lining/outlet protection for storm water conveyance channels		
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Measures used to minimize impact for in-stream construction		
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Non-erodible material for temporary stream crossings		
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Re-stabilization of in-stream construction		
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Underground utilities being installed in accordance with applicable standards		
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction entrance/exit and prevention of offsite tracking		
16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dust control to prevent sediment from leaving the site		

Pollution Prevention Measures						
Ref. No.	BMP Implemented and Maintained?			Type of BMP / Activity	Corrective Action Needed	Date to complete corrective action
	Yes	No	N/A			
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vehicle and equipment fueling, cleaning, storage, and maintenance areas free of spills, leaks, or any other deleterious material		
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Covered dumpster for trash and litter		
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete washout clearly marked and being used		
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sensitive areas (e.g., RPA, streams, mature trees) protected with barriers, flags, or similar		
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Additional control measures to address a TMDL		
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials with potential to impact stormwater stored under cover		

Town of Vienna Stormwater Management Construction Inspection and Enforcement
Construction Inspection Report Form

Stormwater Management Facility								
Ref. No.	SWM Facility Under Construction?			Is Construction Complete?			Type of SWM Facility	Type of work being performed
	Yes	No	N/A	Yes	No	N/A		
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Stormwater Pollution Prevention Plan (SWPPP)			
Yes	No	N/A	SWPPP Check
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is the SWPPP onsite?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Does the SWPPP need to be modified?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has the SWPPP been modified since the last inspection? If so, note the date:

Please use space below if needed for additional instruction:

Verbal / written notification given to: _____

If listed violations are not completed by the deadline(s), enforcement actions **as set forth in Town Code Chapter 23** may be utilized for ensuring compliance on the above project.

Inspector: _____
Signature Date

Town of Vienna Stormwater Management Construction Inspection and Enforcement

CONSTRUCTION INSPECTION REPORT FORM SINGLE FAMILY DEVELOPMENT OR LESS THAN ONE ACRE AND NOT SUBJECT TO VSMP PERMIT

Project Name: _____ Location: _____ Date: _____

Inspector's Name: _____ Weather Conditions: _____

Time Since Last Precipitation: _____ Precipitation Amount: _____

STAGE OF CONSTRUCTION

- | | | |
|--|--|---------------------------------------|
| Pre-Construction Conference <input type="checkbox"/> | Building Construction <input type="checkbox"/> | Demolition <input type="checkbox"/> |
| Clearing & Grubbing <input type="checkbox"/> | Finish Grading <input type="checkbox"/> | Bond Release <input type="checkbox"/> |
| Rough Grading <input type="checkbox"/> | Final Stabilization <input type="checkbox"/> | Other _____ <input type="checkbox"/> |

Reason for Inspection: Qualifying Rainfall Event Bi-weekly Inspection Other
 Stormwater Control Installation _____

Enforcement or Follow-up Action / Inspection Result:

Notice to Comply
 Stop Work Order
 Re-inspection
 N/A

Erosion and Sediment Control Measures						
Ref. No.	BMP Installed & Operating Properly?			Type of BMP / Activity	Location and Corrective Action Needed	Date to complete corrective action
	Yes	No	N/A			
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temporarily or permanently stabilization of exposed areas		
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stabilization of stockpiles		
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adequate stabilization from vegetative cover		
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installation and maintenance of perimeter sediment control		
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stabilization of slopes		
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installation of proper controls on new disturbed areas		
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Adequate catch basin inlet protection		

Town of Vienna Stormwater Management Construction Inspection and Enforcement
 Construction Inspection Report Form – SFD or Less Than One Acre and Not Subject to VSMP Permit

8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Underground utilities being installed in accordance with applicable standards		
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction entrance/exit and prevention of offsite tracking		

Pollution Prevention Measures						
Ref. No.	BMP Implemented and Maintained?			Type of BMP / Activity	Corrective Action Needed	Date to complete corrective action
	Yes	No	N/A			
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Covered dumpster for trash and litter		
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete washout clearly marked and being used		
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sensitive areas (e.g., RPA, streams, mature trees) protected with barriers, flags, or similar		
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials with potential to impact stormwater stored under cover		

Stormwater Management Facility								
Ref. No.	SWM Facility Under Construction?			Is Construction Complete?			Type of SWM Facility	Type of work being performed
	Yes	No	N/A	Yes	No	N/A		
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Please use space below if needed for additional instruction:

Verbal / written notification given to: _____
 If listed violations are not completed by the deadline(s), enforcement actions **as set forth in Town Code Chapter 23** may be utilized for ensuring compliance on the above project.

Inspector: _____
 Signature Date

Town of Vienna Stormwater Facility Maintenance and Inspection

STANDARD OPERATING PROCEDURES

A Stormwater Management Facility Maintenance Agreement (maintenance agreement) must be submitted to the Department of Public Works in a format acceptable to the Town Attorney and approved prior to approval of the stormwater management plan and issuance of the Land Disturbing Permit.

The maintenance agreement must include all components required by the Town Code Section 23-18. Inspection and maintenance frequency by the property owner will be based on the facility type in accordance with the Virginia Stormwater BMP Clearinghouse and site-specific considerations as determined by the Director of Public Works.

The developer or landowner who installs the stormwater facility is responsible for facility maintenance until the time of conveyance to the ultimate property owner and shall provide the successor landowner and the Town with maintenance schedules and maintenance procedures, known as a Stormwater Facility Maintenance Manual, for all facilities used in the development.

The approved maintenance agreement must be recorded in the Fairfax County land records prior to termination of the General Permit, or earlier if required by the Director of Public Works.

The Department of Public Works enters each individual stormwater management facility into an inventory database. The database is utilized to track all facilities and to document maintenance and inspections.

The Town will conduct public and private stormwater management facility inspections on the frequency required in the Town's municipal separate storm sewer system (MS4) permit and MS4 Program Plan. However, the Town will conduct facility inspections no less than once every five years.

The Town will use the following protocol for the Private Stormwater Management Facility Inspection and Maintenance Report that must be submitted by the owner to the Town in accordance with Town Code Section 23-18B.4:

- Six months prior to the deadline for submitting the inspection and maintenance report to the Town, the Department of Public Works will send a letter notifying the owner of the requirement.

- 30 days after due date if no inspection and maintenance report is received, a second letter will be sent via certified mail providing an additional 60 days to comply or face penalties.
- If after 60 days an inspection and maintenance report is not received, the Town will perform the inspection at the land-owners expense and will charge the property owner the full amount of the inspection. The Town may engage in enforcement action in accordance with Town Code Section 23-22.

The following documents and checklists are attached to this SOP: Stormwater Management Facility Maintenance Agreement; Private Stormwater Management Facility Inspection and Maintenance Report.

Town of Vienna Private Stormwater Management Facility Inspection and Maintenance Report

Responsible Party: **Date:**

Property Information:

Owner
 Street
 City, State, ZIP Code

Stormwater Management Facility Type:

General Condition:	Yes	No	N/A
Is the primary outfall pipe/ ditch clear and functioning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the inflow pipes/ ditches clear and functioning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the water quality pool at the correct height or infiltrating into the soil as designed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are water quality pool control weirs, pipes, etc. working properly (if present)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are emergency overflow devices clear and functional (if present)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the structure clear of sediment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the structure clear of trash?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is vegetation being managed in a manner appropriate to the facility?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Certification

This certification must be made in accordance with the requirements of the Stormwater Facility Maintenance Agreement and may require certification by a licensed professional engineer, landscape architect, or other professional accepted by the Town.

Based on a visual survey of the above facility conducted on _____, I certify that the facility is currently functioning as designed.

 Printed Name

 Date

 Signature

 Qualification

 Address

 Phone

Town of Vienna Stormwater Management Facility Maintenance Agreement

THIS AGREEMENT, made this ____ day of _____, _____, by and
between _____

Insert Full Name of Owners(s)

hereinafter called "Landowner," and the Town Council of the Town of Vienna, Virginia, hereinafter called
"Town:"

WITNESSETH:

WHEREAS, the Landowner is the owner of certain real property, more particularly described as:

Insert Full Name of Owners(s)

Plan Name Tax Map Number

As recorded by Deed in the land records of Fairfax County, Virginia, in Deed Book _____ at
Page _____, hereinafter called the "Property;" and

WHEREAS, the Landowner has engaged in a land disturbing activity on the Property that is
regulated under Chapter 23 of the Town Code; and

WHEREAS, Site Plan/Subdivision Plan Number _____, hereinafter
called the "Plan" and expressly made part of this agreement, provides for management of stormwater
within the confines of the Property in accordance with a stormwater management plan approved by the
Town; and

WHEREAS, the Town and the Landowner agree that the health, safety, and welfare of the
residents of the Town of Vienna, Virginia require that stormwater management facilities be constructed
and maintained on the property; and

WHEREAS, the Town requires that stormwater management facilities be constructed and
adequately maintained by the Landowner.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained
herein, and the following terms and conditions, the parties hereby agree as follows:

1. The Landowner shall construct stormwater management facilities in accordance with the Plan, the stormwater management plan, and other plans approved by the Town and in compliance with all applicable laws and regulations promulgated pursuant to the Code of Virginia § 62.1-44.15:27 and 9VAC25-870 (Virginia Stormwater Management Program Regulations).
2. The Landowner shall maintain the stormwater management facilities in good working order so that the facilities are performing their design functions as described and shown on the Plan and in the Virginia Stormwater BMP Clearinghouse and in accordance with the specific maintenance requirements noted in the Stormwater Facility Maintenance Manual attached hereto as Attachment A.
3. The Landowner shall submit a Private Stormwater Management Facility Inspection and Maintenance Report to the Town on a frequency required in the Stormwater Facility Maintenance Manual, but no less than once every five years. The inspection report shall be signed and sealed by a qualified professional engineer or surveyor unless the Stormwater Facility Maintenance Manual explicitly provides otherwise.
4. The Landowner hereby grants permission to the Town, its authorized agents and employees, to enter on the Property to inspect the stormwater management facilities whenever it deems necessary. Except in cases of emergency, the Town shall make a reasonable attempt to notify the Landowner prior to entering the Property.
5. If the Landowner fails to adequately maintain the stormwater management facilities in accordance with the Plan and the Virginia Stormwater BMP Clearinghouse and in accordance with the specific maintenance requirements noted in the Stormwater Facility Maintenance Manual, or if the Landowner fails to submit a Private Stormwater Management Facility Inspection and Maintenance Report when due in accordance with the Stormwater Facility Maintenance Manual or this Agreement, the Town and its agents shall have the right, but not the obligation, to enter onto the Property and perform any inspection, replacement, repair and maintenance as the Town deems necessary. The Landowner shall reimburse the Town the costs of the inspection, replacement, repair, and maintenance of the stormwater management facilities performed by the Town within 10 days of receipt of an invoice by the Town. This provision shall not be construed to allow the Town to erect any building or structure on the Property without obtaining written approval of the Landowner. It is expressly understood and agreed that the Town is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Town.
6. The Landowner shall not alter the stormwater management facilities without prior written approval of the Town.
7. The intent of this Agreement is to ensure the proper maintenance of stormwater management facilities by the Landowner; provided, however, that this Agreement shall not be deemed to create or affect any additional liability on any party for damage alleged to result from or be caused by stormwater drainage.

Town of Vienna Stormwater Facility Maintenance and Inspection Standard Operating Procedures
Stormwater Management Facility Maintenance Agreement

8. The Landowner, its executors, administrators, assigns, and any other successors in interest, shall indemnify and hold harmless the Town and its agents and employees for any and all damages, accidents, casualties, occurrences or claims that might arise or be asserted against the Town from the construction, presence, existence, or maintenance of stormwater management facilities by the Landowner or the Town. In the event a claim is asserted against the Town, its agents or employees, the Town shall promptly notify the Landowner and the Landowner shall defend at his own expense any suit based on such claim. If any judgment or claims against the Town, its agents or employees is allowed, the Landowner shall pay all costs and expenses in connection therewith.

9. This Agreement shall be recorded among the land records of Fairfax County, Virginia, and shall constitute a covenant running with the land and shall be binding on the Landowner, its administrators, executors, assigns, heirs and any other successors in interest.

IN WITNESS of all of which, the parties hereto have caused this Agreement to be executed under seal on their behalf.

_____	_____
Landowner	Landowner
By: _____	_____
Signature	Signature
_____	_____
Print or Type Name and Title	Print or Type Name and Title

Address: (Type or Print): _____

STATE OF _____

COUNTY/CITY OF _____

I, _____, Notary Public in and for the State and County/City aforesaid, do hereby certify that _____ whose name(s) is (are) signed to the foregoing Agreement, this day personally appeared before me in my State and County/City aforesaid and acknowledged the same.

Given under my hand this _____ day of _____, _____.

My commission expires: _____
_____ Notary Public

*Town of Vienna Stormwater Facility Maintenance and Inspection Standard Operating Procedures
Stormwater Management Facility Maintenance Agreement*

TOWN COUNCIL, TOWN OF VIENNA, VIRGINIA

By: _____
Director of Public Works, Town of Vienna

COMMONWEALTH OF VIRGINIA
COUNTY OF FAIRFAX

This _____ day of _____, _____, appeared before me in
my State and County aforesaid, _____ Director of Public Works,
and acknowledged his signature.

My commission expires: _____
Notary Public

Approved to Form

Town Attorney

Town of Vienna Stormwater Management Record Keeping

STANDARD OPERATING PROCEDURES

Documentation to be submitted to the Virginia Department of Environmental Quality:

- The Department of Public Works will document and track in Excel format the number and type of exceptions granted to the Town's stormwater management provisions in accordance with Town Code 23-17.F.
- The Department of Public Works will collect the following information in Excel format on each stormwater management facility newly installed in the Town: geographic coordinates, acres treated, and the surface waters into which the stormwater management facility will discharge.
- The Department of Public works will collect and track in Excel format the number and type of enforcement actions taken on existing stormwater management facility in the Town.
- The Town will submit the above information on a fiscal year basis (July 1 to June 30) to the Virginia Department of Environmental Quality no later than October 1 of each year with the Town's MS4 permit annual report.

Documentation to be maintained by the Town:

- Project records, including approved stormwater management plans, will be kept by the Department of Public Works for at least three years after general permit termination or project completion.
- Stormwater management facility inspection records shall be entered into Excel format by the Department of Public Works and retained for at least five years from the date of inspection.
- Stormwater management facility inspection certifications submitted by property owners will be repainted by the Department of Public Works for at least five years from the date of inspection.
- Construction record drawings submitted in accordance with Town Code 23-14.D will be maintained by the Department of Public Works in perpetuity or until a stormwater management facility is removed.

Appendix H

**Operation and Maintenance Pollution Prevention
Standard Operating Procedures**



Town of Vienna, Virginia

Stormwater Pollution Prevention Standard Operating Procedure (SOP)

Vehicle and Equipment Maintenance and Cleaning	
Date:	July 16, 2015; Revised April 8, 2019
Purpose of SOP:	To establish standard, consistent stormwater pollution prevention procedures for vehicle and equipment maintenance and washing activities to prevent the discharge of pollutants related to these activities.
MS4 Permit Reference	Part I E 6 a
Responsible Party	Michael Gallagher, PE, Director of Public Works Christine Horner, PE, Water Quality Engineer

Vehicles and equipment can become sources of pollution as a result of leaks and spills during operation and maintenance if proper measures are not implemented. Further, vehicle and equipment wash water is prohibited from being discharged into the MS4 without authorization under a separate VPDES permit.

Pollutants may include, but are not limited to, petroleum products, antifreeze, solvents, battery acid, detergents, and heavy metals. This SOP has been designed to minimize or prevent pollutant discharges from these activities.

1) Responsible Parties

- a) Town Staff. Preventive vehicle and equipment maintenance is primarily performed by the Vehicle Maintenance Division of the Department of Public Works. Minor repair and response to spills may also be conducted by the Parks Maintenance Division of the Department of Parks and Recreation.
- b) Contractors. This SOP must be adopted by reference or otherwise incorporated into all contracting agreements dealing with vehicle and equipment maintenance and cleaning. The requirements of this SOP will be discussed with contractors in project contract discussions or other appropriate venues to ensure a complete understanding of the details of this SOP.

2) Equipment and Vehicle Maintenance

- a) Cover from Precipitation. To the extent possible, all maintenance activities should be conducted indoors or under cover.
- b) Designated Waiting Area. A designated area will be established for equipment awaiting maintenance.
 - i. The designated area should be located away from storm drain inlets or other stormwater conveyances.
 - ii. Drip pans or other secondary containment should be placed under leaking, or leak-prone equipment.
 - iii. Additional drip pans should be located in an area that is easily accessible to the designated waiting area.
 - iv. Periodic, and preferably daily, visual inspections of the designated area should be conducted to identify any issues that could affect surface waters.
- c) Fluid Storage. Fluids such as fuel, antifreeze, hydraulic fluid, motor oils, solvents, and similar materials will be properly managed to prevent discharge to surface waters.
 - i. Fluids should be stored under cover and within a secondary containment structure, such as a concrete secondary containment structure, spill pallet, or similar structure.
 - ii. Keep waste oil, antifreeze, and other fluids properly covered and contained in tight fitting containers with proper labeling.
 - iii. Keep fluids as far away as possible from bay doors or other places where a leak or spill could reach an outside area.
- d) Spills and Leaks. Spills and leaks will be cleaned up immediately.
 - i. Spill kits with absorbent materials, drain covers or plugs (if applicable), and instructions must be located within 50 feet of designated maintenance areas.
 - ii. Dry clean-up methods shall be used to clean up spilled material. This includes the use of absorbent pads, granular absorbent, booms, and similar measures.
 - iii. Waste sorbent material shall be drained of free flowing material and disposed of as solid waste in accordance with local regulations.
 - iv. Water should never be used to clean up spilled material.
 - v. Wash down of pavement should not occur until all spills and leaks have been cleaned up. If a buildup of waste materials is present on the pavement, the resulting wash water must be contained and disposed of in a sanitary sewer or by another appropriate method.
- e) Work Space.
 - i. Sweep the maintenance area as needed to prevent a buildup of pollutants.
 - ii. A trash receptacle must be provided in/near the maintenance area.
 - iii. Areas shall be maintained in an orderly manner to minimize the chance for spills and leaks.
- f) Inspections. Inspect equipment for damaged hoses and leaky gaskets routinely and repair or replace immediately.

- g) Parts Washing.
 - i. Only wash parts in a designated area (e.g., parts washer) and verify that no wash water is discharged during the process.
 - ii. Dispose of parts wash water in an approved manner.

3) Washing Activities

- a) Washing Generally. Washing of vehicles and equipment will only be conducted at the Northside Property Yard in the wash bay designed for that purpose. Wash water from that facility enters the sanitary sewer system.
- b) Exceptions. If access to the designated wash area is not an option, the following alternatives must be used:
 - i. Use a commercial washing contractor that provides mobile washing services. All wash water must be contained and removed by the washing contractor. Town staff must oversee the activities to ensure proper containment and removal of the wash water.
 - ii. Use a commercial washing facility.
 - iii. If the washing is limited to removal of vegetative matter or soil particles, and can be done without the use of detergents, it can be conducted on a flat, grassy area away from storm drains, stormwater conveyances, or natural water ways. This practice will not be used to clean vehicles or equipment for salt, fuels, oil, etc.

4) Training

This SOP will be incorporated into annual training for applicable employees in accordance with the Town's MS4 Program Plan that involve vehicle and equipment maintenance and cleaning. Documentation of the training, including sign-in sheets and materials used, will be included in the Town's MS4 annual reports.



Town of Vienna, Virginia

Stormwater Pollution Prevention Standard Operating Procedure (SOP)

Outdoor Material Storage	
Date:	July 16, 2015; Revised April 8, 2019
Purpose of SOP:	To minimize or prevent pollutant discharge from the outdoor storage of materials.
MS4 Permit Reference	Part I E 6 a
Responsible Party	Michael Gallagher, PE, Director of Public Works Christine Horner, PE, Water Quality Engineer

Outdoor storage of material can become a source of pollution as a result of leaks, spills, or accidents, or through the corrosion or leaching of materials into stormwater. Bulk materials such as sand, dirt, gravel, asphalt material, and mulch can also wash into the storm drain system when left exposed to precipitation. This SOP is designed to minimize the potential for outdoor storage of material to negatively affect stormwater quality.

1. Responsible Parties

- a) Town Staff. The Department of Public Works and the Department of Parks and Recreation engage in multiple activities that involve the outdoor storage of materials.
- b) Contractors. This SOP must be adopted by reference or otherwise incorporated into all contracting agreements dealing with outdoor storage of materials. This includes, but is not limited to liquid bulk storage as well as dry storage such as sand, gravel, mulch, dirt, and asphalt material.
- c) Other SOPs and Documents. In addition to this SOP, the following documents are incorporated by reference and must be consulted:
 - i. The Snow and Deicing Operations SOP for storage of salt and deicing materials.
 - ii. Stormwater Pollution Prevention Plan (SWPPP) for the Northside Property Yard.

2. Outdoor Storage Areas

- a) Indoor Storage. All chemical and material containers should be stored indoors whenever possible. If they must be stored outdoors, place them under a roof or secured tarp.
- b) Secondary Containment.
 - i. All containers and dry materials should have secondary containment.
 - ii. Place all containers and dry materials on a plastic pallet or other device that elevates them off the ground or pavement and provides containment.
 - iii. Never release accumulated stormwater from a secondary containment structure unless it has been verified that there is no contamination present. If contamination is present, it must be properly mitigated prior to discharge, discharged to a sanitary sewer, or otherwise handled in accordance with the contaminate present.
- c) Placement. Place containers on paved or impervious surfaces and as far from (or at a lower elevation than) storm drain inlets and drainage ditches as possible.
- d) Traffic Control. Materials should be stored away from vehicle and equipment traffic. Bollards should be placed around materials where vehicles and equipment may come into close proximity.
- e) Spill Response.
 - i. Provide a spill kit near all storage areas.
 - ii. Clean up any spills, leaks, or discharges promptly.
 - iii. If a container is found to be leaking, either empty the contents into a leak-tight container or place the entire container inside of a larger leak-tight container.
- f) Inspections. Inspect all containers stored outdoors regularly.

3. Sand, Dirt, Gravel, and Asphalt Material Stockpiles

- a) Stockpiles should be stored inside a storage building or under a roof whenever possible.
- b) If a permanent overhead structure is not available, cover stockpiles with a properly secured tarp to the extent practicable.
- c) Contain stormwater run-off from stockpiles by using barriers or berms.
- d) Sweep areas surrounding the stockpile frequently to prevent materials from mingling with stormwater.
- e) Whenever possible, order only the amount of the material to be stockpiled that is needed for the specific job and schedule delivery to minimize the amount of outdoor storage time.
- f) Locate stockpiles away from storm drain inlets. Provide protection for the inlet if necessary to prevent the discharge of materials.

4. Bulk Liquid Materials Storage

- a) Ensure that the content of a bulk liquid storage vessel is clearly marked in plain language.
- b) Provide impervious secondary containment for all above ground storage tanks (ASTs).
- c) To the extent possible, provide adequate containment for all material loading/unloading areas.
- d) Refer to the SWPPP for the Northside Property Yard for facility-specific requirements and best practices.
- e) Where provided, keep drain valves in secondary containment locked in the closed position at all times.
- f) Never release accumulated stormwater in a secondary containment structure unless it has been verified that there is no contamination present. If contamination is present, it must be properly cleaned prior to discharge.
- g) Provide locks for all access points to bulk liquid storage tanks.
- h) Make sure that an adequate spill kit with sufficient equipment and supplies is located near storage areas where spills are possible. Clean up any spills, leaks, or discharges immediately.

5. Training

This SOP will be incorporated into annual training for applicable employees in accordance with the Town's MS4 Program Plan that involve the outdoor storage of materials. Documentation of the training, including sign-in sheets and materials used, will be included in the Town's MS4 annual reports.



Town of Vienna, Virginia

Stormwater Pollution Prevention Standard Operating Procedure (SOP)

Pesticides, Herbicides, and Fertilizers	
Date:	July 16, 2015; Revised April 8, 2019
Purpose of SOP:	To establish standard, consistent stormwater pollution prevention procedures for the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers to prevent the discharge of pollutants related to these activities.
MS4 Permit Reference	Part I E 6 a
Responsible Party	Michael Gallagher, PE, Director of Public Works Christine Horner, PE, Water Quality Engineer

Pesticides, herbicides, and fertilizers can become sources of pollution if improperly applied, stored, transported, or disposed. Fertilizers contribute to nutrient pollution. The Town of Vienna is subject to the Chesapeake Bay Total Maximum Daily Load (TMDL), which means that the Town must achieve specific nutrient reductions in accordance with its municipal separate storm sewer system (MS4) permit. Pesticides and herbicides can be toxic to aquatic life in local streams and waterways. This SOP has been designed to minimize or prevent pollutant discharges from these activities.

1) Responsible Parties

- a) Town Staff. The Parks Maintenance Division of the Department of Parks and Recreation is responsible for most activities involving pesticides, herbicides, and fertilizers. This includes park property and Town rights-of-way.
- b) Contractors. This SOP must be adopted by reference or otherwise incorporated into all contracting agreements dealing with pesticide, herbicide, and fertilizer application, storage, transport, or disposal. The requirements of this SOP will be discussed with contractors in project contract discussions or other appropriate venues to ensure a complete understanding of the details of this SOP.

2) General Practices

- a) Manufacturer's Recommendations. Follow all manufacturer's recommendations for mixing, applying, and handling pesticides, herbicides, and fertilizers.
- b) Storage. All materials, whether liquid or dry, should be properly stored under cover when not in use.
 - i. Materials must be stored in an adequately ventilated and secured building to prevent unauthorized use or access.
 - ii. Materials must be stored under cover and, where possible, within a secondary containment structure, such as a concrete secondary containment structure, spill pallet, or similar structure.
 - iii. Keep materials properly covered and contained in tight fitting containers.
 - iv. Properly label all materials.
 - v. Keep materials as far away as possible from bay doors or other places where a spill could reach an area outside area.
- a) Mixing.
 - i. Mix materials inside a protected area with impervious secondary containment so that spills and leaks will not contact soil and will be easy to clean up.
 - ii. All mixed material containers shall be labeled with the specific contents.
 - iii. Mix the minimum amount of material needed for the immediate job.
- b) Application.
 - i. Time the application of materials to coincide with the manufacturer's recommendation for best results.
 - ii. Do not apply pesticides or herbicides during precipitation or if precipitation is expected. Do not apply before an irrigation cycle.
 - iii. Do not apply fertilizers when heavy rain that could cause significant runoff is anticipated.
 - iv. Do not apply when wind conditions could result in spray drift to waterbodies or areas not targeted for application.
 - v. If possible, limit the application of pesticides or herbicides to a specific problem area.
 - vi. Avoid applying materials in or near any drainage ditch, creek, pond, or seasonal streambed.
- c) Spills and Leaks. Spills and leaks should be cleaned up immediately.
 - i. Dry clean-up methods should be used to clean up spilled material. This includes the use of absorbent pads, granular absorbent, booms, and similar measures.
 - ii. Waste sorbent material must be disposed of properly.
 - iii. Water should never be used to clean up spilled material.
 - iv. Wash down of pavement should not occur until all spills and leaks have been cleaned up.

d) Clean-Up.

- i. Sweep pavement and sidewalks where fertilizers or other solid chemicals have fallen. Sweep them onto grassy areas or collect and dispose of properly.
- ii. Make sure all containers are properly labeled.
- iii. Dispose of excess or left over chemicals according to instructions on the label and local waste regulations.
- iv. Triple rinse all pesticide and herbicide containers prior to disposal. Rinsate water should be added to the sprayer tank as part of the application.
- v. Never rinse pesticides in an area where it has the potential to enter the storm drain or be washed into a local water body.
- vi. Application equipment and containers must be washed in a fully contained area that drains to a holding tank or a sanitary sewer.

3) Pesticides and Herbicides

- a) Application and Training. All staff who apply pesticides or herbicides to Town-owned property will receive proper training/certification in accordance with the Virginia Pest Control Act (§3.2-3900 et seq of the Code of Virginia). Training/certification will be documented at least annually in the Town's MS4 Program Plan annual report to the Virginia Department of Environmental Quality (DEQ).
- b) Contractors. All contract applicators who apply pesticides or herbicides to Town-owned property will agree through contract language or otherwise provide written certification that proper training and certification in accordance with the Virginia Pest Control Act has been obtained. Contractors will provide documentation on request.
- c) Safety Data Sheets: Safety Data Sheets (SDSs) will be maintained for all relevant materials stored or used on-site. SDSs will be readily available for all personnel on-site to review.
- d) Use Minimization and Targeting.
 - i. Use manual and/or mechanical methods for weed and pest control or vegetation removal wherever possible rather than chemical methods.
 - ii. When chemicals are required, use the least toxic method to control animal or plant pests. This may include, but is not limited to, pheromone-based traps and sticky paper.
 - iii. When chemicals are used, use the most biodegradable product that will accomplish the desired goal.
 - iv. When possible, limit the application to the problem area and spot spray on infested areas only.
 - v. Designate a no-spray zone, preferably 50 feet or more, around water features such as ponds, lakes, streams, or other surface waters. A buffer area will help prevent material from entering surface waters.
 - vi. Contact the Fairfax County office of the Virginia Cooperative Extension for more information on Integrated Pest Management at <http://offices.ext.vt.edu/fairfax/> or (703) 324-5369.

4) Training

This SOP will be incorporated into annual training for applicable employees in accordance with the Town's MS4 Program Plan that involve the application, storage, transport, or disposal of pesticides, herbicides, and fertilizers. Documentation of the training, including sign-in sheets and materials used, will be included in the Town's MS4 annual reports.



Town of Vienna, Virginia

Stormwater Pollution Prevention Standard Operating Procedure (SOP)

Road, Street, Parking Lot, and Sidewalk Maintenance	
Date:	July 16, 2015; Revised April 8, 2019
Purpose of SOP:	To minimize or prevent pollutant discharge from daily operations associated with road, street, and parking lot maintenance.
MS4 Permit Reference	Part I E 6 a
Responsible Party	Michael Gallagher, PE, Director of Public Works Christine Horner, PE, Water Quality Engineer

Roads, streets, parking lots, and sidewalks can become a source of pollution during maintenance and construction activities if proper pollution prevention measures are not implemented. This SOP has been designed to minimize or prevent pollutant discharges from these activities.

1. Responsible Parties

- a) Town Staff. The Street Maintenance Division of the Department of Public Works is responsible for asphalt repair, pothole repair, slurry seal, snow removal, street sweeping, storm drain maintenance, and traffic marking maintenance. Work is completed in accordance with Virginia Department of Transportation (VDOT) and Town of Vienna standards.
- b) Contractors. This SOP must be adopted by reference or otherwise incorporated into all contracting agreements dealing with road, street, parking lot, and sidewalk maintenance and construction. The requirements of this SOP will be discussed with contractors in project contract discussions, pre-construction meetings, or other appropriate venues to ensure a complete understanding of the details of this SOP.

2. General Procedures

- a) Spill Response. Ensure spill response material/equipment is readily available when work activity requires the use of paints, chemicals, or other materials that could harm

human health or the environment and any time that equipment is used that involves hydraulic fluids or other fluids that may leak.

- b) Storm Inlet Protection. Provide for storm drain inlet protection when working in close proximity and there is a potential for a discharge as the result of a spill or a precipitation event.
- c) Safety Data Sheets. Ensure that safety data sheets (SDSs) are available for all materials used during surface repair and maintenance activities. SDSs should be readily available and accessible to all Town and contractor personnel handling chemicals or other potentially harmful materials.
- d) Weather Conditions. To the extent possible, construction and maintenance activities should only be scheduled and conducted during dry weather. All possible precautions should be used to avoid conducting potential pollution generating construction and maintenance activities immediately before or during times when precipitation is likely to occur.
- e) Routine Inspections. During periods of construction and/or maintenance, the work area should be routinely inspected for signs of spills, leaks, trash accumulation, illicit discharges from the site, buildup of sediment, or other conditions that may result in the discharge of pollutants from the site to the storm drainage system.
- f) Clean Surfaces. To the extent possible, broom sweep or vacuum all surfaces periodically to keep the work area clean and free from pollutants. Hosing down surfaces should be avoided unless the area is completely contained so that all drainage is directed to the sanitary sewer. Water may also be directed to grass surfaces where it can infiltration into the ground.

3. Asphalt Surface Repair and Maintenance

- a) Store mixed asphalt under cover and protected from precipitation and extreme temperatures.
- b) Reduce the amount of asphalt materials stored onsite. When possible, purchase only the amount of materials necessary to complete a project.
- c) If bulk material storage is necessary, locate storage area outside of the drainage conveyances and away from storm drain inlets. Ensure a tarp is available in case the materials need to be protected from precipitation. Refer to the Outdoor Material Storage SOP for additional storage and handling procedures.
- d) Minimize the amount of water used when conducting asphalt cutting, grinding, or milling. Water should only be used in amounts necessary to control dust and provide lubrication, and should never be used in amounts that would result in a flow that could discharge to the drainage system.
- e) All sediment and debris resulting from cutting, grinding, milling, or other repair and maintenance shall be contained, swept or vacuumed up, and disposed of properly.

- f) The use of tar-based products is strongly discouraged since they contain higher levels of polycyclic aromatic hydrocarbons (PAHs) that harm fish and other aquatic organisms.
- g) Apply sealants or other liquid surface treatments with care, avoiding misapplication to a storm drain or other non-asphalt surface. When conditions require application adjacent to a storm drain inlet, consider the use of an impervious inlet cover to prevent unintended spray into the storm drain.

4. Surface Painting/Striping

- a) When removing old paint, contain the removed paint to the extent possible and dispose of as appropriate. If there is a potential to encounter lead-based paint, additional precautions not outlined in this SOP may be required.
- b) When using high pressure water to remove old paint, protect nearby inlets to prevent the discharge of waste paint, sediment, or other pollutants into the storm drainage system. Use perimeter controls around the work area to collect removed paint and dispose of as appropriate.
- c) When surface grinding or sand blasting to remove paint, sweep up the paint debris immediately. If water is used for grinding, minimize the amount of water used and provide proper containment to prevent any discharge to the drainage system.
- d) When possible, use thermoplastic markings instead of paint for all surface striping.
- e) All paint should be stored inside and protected from precipitation.
- f) To the extent practical, handle paint in a contained area, under cover from precipitation. If secondary containment is not available, use temporary structural best management practices to protect storm drain inlets and prevent the discharge of paints in the event of a spill.
- g) Apply paint at an appropriate rate to prevent excess paint from running off the site.
- h) In the event of a spill, containment materials should be deployed to contain the spill and prevent paint from entering the storm drain.
- i) Dispose of all waste material in an appropriate manner.
 - i. Excess latex and water based paint that is not able to be used elsewhere can be allowed to dry, under cover from precipitation, and disposed of as solid waste. Refer to product information for specific requirements for disposal.
 - ii. Leftover oil based paints and solvents must be disposed of as household hazardous waste according to federal and state environmental regulations. These materials are accepted at Fairfax County's household hazardous waste drop-off locations.
- j) Paint equipment should be washed after use in a designated wash area that is plumbed to a sanitary sewer, or approved containment structure.

5. Concrete Surface Repair and Maintenance

- a) Store dry concrete material inside, under cover from precipitation.
- b) Minimize the amount of concrete material stored onsite. If possible purchase only the amount of concrete material needed for a particular job.
- c) Locate storm drain inlets in the vicinity of the work site. Storm drain inlets should be protected with a barrier if the work is in close proximity to the inlets and there is a reasonable chance for material to discharge to the inlet as the result of a spill or precipitation event.
- d) To control dust, “wet” cutting methods should be used when practicable. Minimize the amount of water used when conducting cutting to prevent a discharge to the storm drain system. Saw cut slurry shall be contained and properly disposed. Using a vacuum to contain slurry in the saw cutting process is an effective way to ensure that pollutants are not allowed to enter storm drains or other stormwater infrastructure.
- e) Remove demolished concrete or related debris and dispose of at a solid waste facility that accepts construction and demolition debris. Dry clean-up methods (broom and shovel) should be used to manage concrete debris to the extent practicable.
- f) A concrete washout shall be clearly established and identified at any location where concrete is to be mixed or poured. The concrete washout shall be constructed with an impervious material and in a manner that would prevent washout material from discharging to the storm system. Guidance can be found at www.epa.gov/npdes/pubs/concretewashout.pdf.
- g) Excess material that cannot be used at another location or project can be discharged into the designated concrete washout facility, if adequate capacity exists, where it should be allowed to dry and then be disposed as construction waste.

6. Porous Concrete, Porous Pavers, and Similar Structures

- a) Prior to conducting any construction or maintenance work, locate and identify any stormwater management facilities within the project area, including but not limited to pervious or porous pavement, rain gardens, etc.
- b) Clearly delineate porous pavement, pervious pavers, and similar structures that are not easily distinguishable from traditional surfaces, to increase awareness of their existence.
- c) Surface vacuuming should be performed on a routine basis and in the event of a spill of any material that may clog pore spaces. While sweeping may be effective, it can lead to clogging of pores with sediment and other granular material.
- d) Do not locate staging areas, equipment or material storage areas on top of porous pavement.

7. Vegetation Management

- a) During routine mowing operations, minimize the amount of clippings with the potential to enter the storm drain by directing clippings away from impervious surfaces to the extent practicable.
- b) Do not purposefully sweep, blow, or dump clippings or any vegetated waste into storm inlets. Either blow clippings into grassy areas or collect the clippings or vegetated waste for composting.

8. Training

This SOP will be incorporated into annual training for applicable employees in accordance with the Town's MS4 Program Plan that involve road, street, parking lot, and sidewalk maintenance. Documentation of the training, including sign-in sheets and materials used, will be included in the Town's MS4 annual reports.



Town of Vienna, Virginia

Stormwater Pollution Prevention Standard Operating Procedure (SOP)

Snow and Deicing Operations	
Date:	July 16, 2015; Revised April 8, 2019
Purpose of SOP:	To minimize or prevent pollutant discharge from operations associated with snow removal and deicing.
MS4 Permit Reference	Part I E 6 a
Responsible Parties	Michael Gallagher, PE, Director of Public Works Christine Horner, PE, Water Quality Engineer

This SOP is designed to minimize, to the extent practical, the impacts of snow removal and deicing operations on local water quality while still ensuring public safety. This includes the storage and application of sand, salt, and other deicing chemicals.

1. Responsible Parties

- a) Town Staff. The Street Maintenance Division of the Department of Public Works is responsible for snow removal and deicing operations in the Town's road right-of-way and on Town property. Other staff members may engage in minor treatment of sidewalks and building entrances using bagged or boxed deicing materials.
- b) Contractors. This SOP must be adopted by reference or otherwise incorporated into all contracting agreements dealing with snow removal or deicing operations within the Town's road right-of-way or on Town property.

2. Use of Deicing Agents Containing Urea or Other Nutrients

The Town, including contractors, will not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, sidewalks, or other paved surfaces.

3. Salt and Deicer Storage

- a) Proper Containment. Salt and other chemical deicers will be stored in a covered, corrosion-resistant structure or container at all times, unless active loading or spreading

is occurring. The structure will have an impervious bottom such as a concrete slab. For the Town of Vienna, these are the salt dome and brine storage containers at the Northside Property Yard.

- b) Temporary Storage. Temporary storage of salt and other chemical deicers is not recommended; however, if materials must be stored outside of a permanent structure, the storage must be on a temporary basis only. Temporary storage piles must be on an impervious surface (the use of a tarp as an impervious bottom is not adequate) and covered with a tarp that is adequately secured at all times when not being actively worked.
- c) Management of Run-on and Run-off. Storage structures must provide adequate barriers to prevent run-on into the storage pile, and minimize erosion from the pile. All run-off from salt and other chemical deicer piles must be eliminated at all times. Any run-off containing salt material must be captured and either returned to the storage pile, managed as salt brine, or discharged to a sanitary sewer system in accordance with Fairfax County guidelines.

4. Sand and Deicer Use

- a) Deicing Material. Prior to each winter season, the Town will assess deicing materials, and to the extent practical, will select the materials and mix that has the least impact on water quality while still effectively meeting the Town's public safety needs.
- b) Anti-icing. Liquid anti-icing materials may be applied prior to storm events to prevent the bond between winter precipitation and the road surface. This can effectively reduce the amount of deicing material necessary for a storm event. Anti-icing applications should be conducted per manufacturer's recommendations.
- c) Equipment Calibration. All equipment will be calibrated in accordance with the manufacturer's instructions and the specified applications rates for the material being applied. Calibration will include plowing speed and applicable spreader settings. The manufacturer's instructions will be kept at the Northside Property Yard and referenced prior to each winter storm event.
- d) Application Rate. The Town will use the lowest application rate that will effectively treat surfaces to meet safety needs.
- e) Loading. When loading salt, sand, or other deicers, care will be taken to not overfill the truck or tank.

5. Sand and Deicer Clean Up

- a) Clean-Up. Loading areas will be swept frequently to prevent salt or sand build-up and run-off. At a minimum, loading areas should be inspected and swept following each storm event or other period when handling occurs.
- b) Street Sweeping. The Town conducts routine street sweeping beginning in spring to clean up debris and other materials that collect during winter months, including salt, sand, and other deicers.

- c) Small Applications. To the extent practical, small amounts of salt, sand, and deicing materials applied to sidewalks or building entrances by Town staff will be swept up and disposed of properly when weather conditions allow.
- d) Vehicle Washing. Spreading and other equipment used during deicing operations will only be washed inside the bay designed for that purpose at the Northside Property Yard. Wash water from that facility enters the sanitary sewer system.

6. Training

This SOP will be incorporated into annual training for applicable employees in accordance with the Town's MS4 Program Plan that involve snow and deicing operations. Documentation of the training, including sign-in sheets and materials used, will be included in the Town's MS4 annual reports.



Town of Vienna, Virginia

Stormwater Pollution Prevention Standard Operating Procedure (SOP)

Utility Construction and Maintenance	
Date:	July 16, 2015; Revised April 8, 2019
Purpose of SOP:	To establish standard, consistent stormwater pollution prevention procedures for utility construction and maintenance activities to prevent the discharge of pollutants related to these activities.
MS4 Permit Reference	Part I E 6 a
Responsible Party	Michael Gallagher, PE, Director of Public Works Christine Horner, PE, Water Quality Engineer

Utility construction and maintenance activities may become sources of pollution if proper measures are not implemented. This SOP has been designed to minimize or prevent pollutant discharges from these activities.

1) Responsible Parties

- a) Town Staff. Routine construction and maintenance of utilities is conducted by the Water Division, Sewer Division, and Street Maintenance Division of the Department of Public Works.
- b) Contractors. This SOP must be adopted by reference or otherwise incorporated into all contracting agreements dealing with utility construction and maintenance. The requirements of this SOP will be discussed with contractors in project contract discussions, pre-construction meetings, or other appropriate venues to ensure a complete understanding of the details of this SOP.

2) Utility Construction and Maintenance Controls

- a) Project Planning.
 - i. To the extent possible, all maintenance and construction activities should be conducted during periods of dry weather.
 - ii. The extent of areas excavated at one time should be minimized where possible to limit the active construction area.

- b) Excavation and Material Management. Installing new, or uncovering existing underground utilities must be done with care to avoid the discharge of pollutants to the drainage system.
 - i. Locate storm drain inlets prior to any excavation, and provide controls for inlets in close proximity to the work area.
 - ii. Existing vegetation in and around areas being excavated should be preserved to provide natural erosion control.
 - iii. The limits of the excavation should be minimized to the extent practicable.
 - iv. Material excavated during trenching activities should be neatly stockpiled. In the event that the stockpiles must remain overnight, proper covering (secured tarps) and perimeter controls (sediment logs, straw bales, etc.) must be used.
 - v. Materials temporarily stockpiled in a roadway or other impervious surface that conveys directly to the storm drain should be removed by the end of the work day or prior to any precipitation, whichever comes first.
 - vi. If excavated material will not be used as backfill, the material should be removed from the site as soon as possible.
 - vii. If trench or pipe dewatering is necessary, provide appropriate sediment controls, such as dewatering bags or other sediment traps at the point of discharge.
 - viii. Dispose of all waste materials generated in the construction and maintenance process accordingly.

- c) Fluid Storage and Handling.
 - i. Fluids should be stored in a general secondary containment structure (storage bin, truck bed, etc.) when not being actively used.
 - ii. All materials should be kept in tight fitting containers that are compatible with the material, and with proper labeling provided.
 - iii. To the extent possible, fluids should be added to equipment in a location that is an adequate distance from a storm drain inlet. This is typically 25 feet or more.

- d) Spills and Leaks.
 - i. Spill kits with absorbent materials should be onsite during all construction and maintenance activities.
 - ii. Dry clean-up methods shall be used to clean up spilled material. This includes the use of absorbent pads, granular absorbent, booms, and similar measures.
 - iii. Waste sorbent material shall be drained of free flowing material and disposed of as solid waste in accordance with local regulations.
 - iv. Water should never be used to clean up spilled material.
 - v. Wash down of pavement should not occur until all spills and leaks have been cleaned up. If a buildup of waste materials is present on the pavement, the resulting wash water should be contained and disposed of in a sanitary sewer or by another appropriate means.

- e) Other Town SOPs.
 - i. Refer to the Road, Street, Parking Lot, and Sidewalk Maintenance SOP for additional procedures for maintenance activities that involve asphalt and concrete surface repair and maintenance.
 - ii. Refer to the Outdoor Material Storage SOP for additional procedures for material storage.

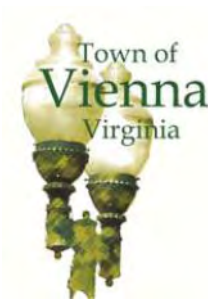
3) Training

This SOP will be incorporated into annual training for applicable employees in accordance with the Town's MS4 Program Plan that involve utility construction and maintenance.

Documentation of the training, including sign-in sheets and materials used, will be included in the Town's MS4 annual reports.

Appendix I

Northside Property Yard SWPPP



Town of Vienna
Northside Property Yard
Stormwater Pollution Prevention Plan

Developed for compliance with the Town of Vienna Municipal Separate Storm Sewer System (MS4)
General Permit No. VAR040066

To: Town of Vienna
From: Amec Foster Wheeler Environment & Infrastructure, Inc.
Date: June 1, 2016

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."

Name

Title

Date

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1. Introduction

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared to comply with the Town of Vienna’s General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4). Section II.B.6.b (3) requires that the Town develop and implement SWPPPs for high priority facilities, which are defined as (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. The Town of Vienna Northside Property Yard (site or facility) is considered a public works yard as well as a materials storage yard. As a result, this SWPPP has been developed for implementation at the Northside Property Yard.

In accordance with the MS4 permit, this SWPPP includes:

A site description (Section 2) that includes a site map (Figure 1 and Figure 2) identifying all outfalls, direction of flows, existing source controls, and receiving water bodies.
A discussion and checklist of potential pollutants and pollutant sources (Section 3).
A discussion of all potential non-stormwater discharges (Section 3).
Written procedures designed to reduce and prevent pollutant discharge (Section 4).
A description of applicable training as required in Section II.B.6.d of the MS4 permit (Section 5).
Procedures to conduct an annual comprehensive site compliance evaluation (Section 5).
An inspection and maintenance schedule for site-specific source controls (Section 5).

In addition to the above, the date of each inspection and associated findings and follow-up must be logged into the SWPPP. The contents of the SWPPP must also be evaluated and modified as necessary to accurately reflect any discharge, release, or spill reported in accordance with Section III.G of the MS4 permit. For each such discharge, release, or spill, the SWPPP must include the following information: date of the incident; materials discharged, released, or spilled; and quantity discharged, released, or spilled. A copy of this SWPPP must be kept at the Northside Property Yard and must be updated as necessary.

To assess stormwater pollution potential and to identify control measures to reduce pollutant loadings, Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) conducted a facility inspection with Town staff on May 29, 2015. Follow-up field investigations were conducted in March and April 2016 to confirm the location of storm drain infrastructure. Specific findings and recommendations are incorporated into this SWPPP.

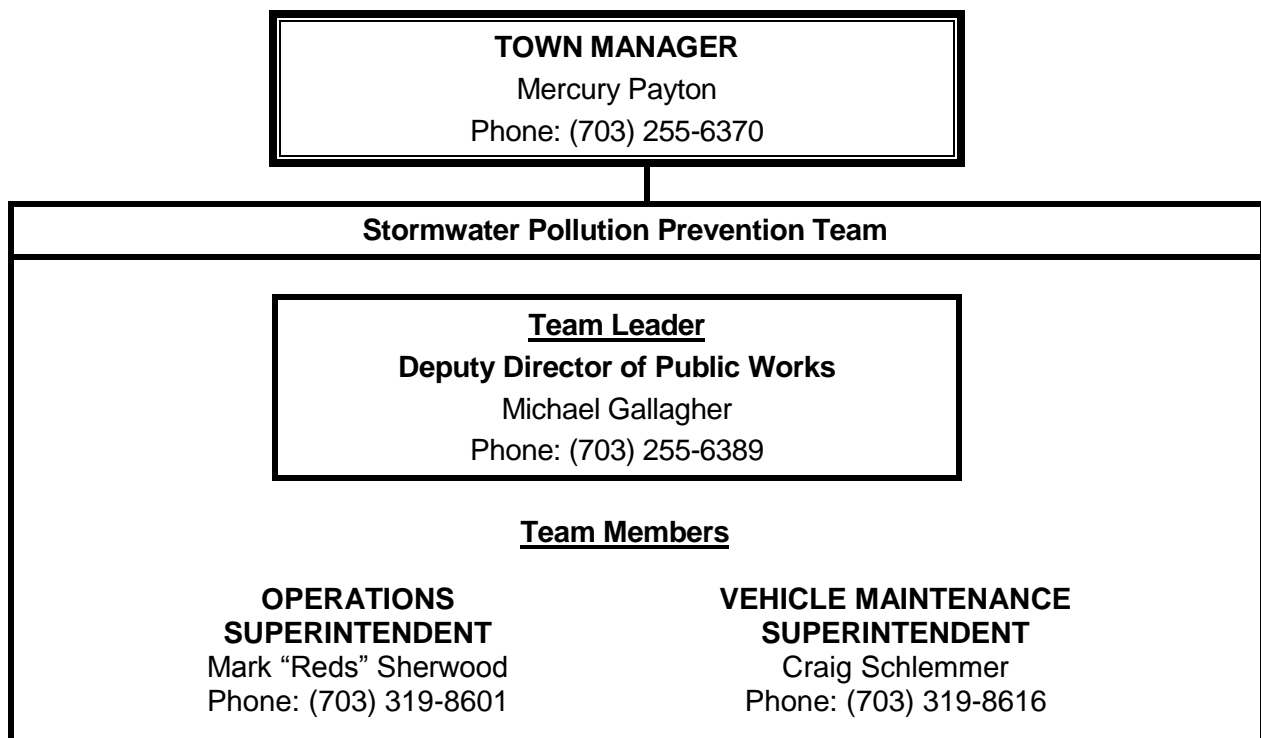
1.1 Pollution Prevention Team and Responsibilities

A key step in developing and implementing a SWPPP is to establish an organizational hierarchy familiar with pollution prevention plans and operational activities. The SWPPT consists of facility supervisors and other personnel that the Town of Vienna chooses to appoint. The SWPPT will report to the Town Manager for financial support purposes.

The SWPPT will meet at least once annually to evaluate the effectiveness of the SWPPP and to determine if additional control measures are required. A series of forms are provided in this plan to assist the SWPPT. The SWPPT is required to make revisions to the plan when changes to the facility occur. These revisions can take the form of brief narratives inserted as amendments to the SWPPP.

The organizational arrangement of the SWPPT is presented in Table 1A. The organizational chart shows the chain of command for ensuring compliance with applicable requirements. Most of the information provided in this plan requires effort by the SWPPT and on-site employees. The on-site team members or their designees will assist the SWPPT Leader with those areas under their specific management control.

Table 1A – Stormwater Pollution Prevention Team Members



The responsibilities of the Town Manager are to:

- Review and certify the SWPPP;
- Appoint the SWPPT Leader;
- Ensure that the SWPPP is implemented; and,
- Review and approve revisions and new control measures identified by SWPPT.

The responsibilities of the SWPPT Leader are to:

- Ensure that SWPPT members are trained and familiar with SWPPP requirements;
- Schedule and conduct SWPPT meetings;
- Ensure that the SWPPT carries out duties listed below; and,

The responsibilities of the SWPPT members are to:

- Attend SWPPT meetings;
- Conduct routine site inspections, as required;
- Implement the control measures;
- Perform record keeping and documentation as required by the SWPPP;
- Assist with updating of the SWPPP; and,
- Evaluate the adequacy of the SWPPP and modify as necessary.

2. Facility Description

2.1 Facility Description

The Northside Property Yard is located at 600 Mill Street, NE, Vienna, Virginia. See Figure 2A and Figure 2B in the back of the SWPPP for a detailed site map. The facility is operated by the Town of Vienna Department of Public Works (DPW) and includes separate areas for vehicle maintenance, water and sewer services, and general operations activities.

The primary structure on the property is the main service building. This main service building consists of office and related space to support site activities, as well as vehicle maintenance bays, related chemical storage, and a vehicle wash bay located on the east side of the building.

A storage building located on the west side of the site consists of five separate storage bays used for storing additional equipment and materials. Three bays are occupied by water and sewer services, one is for vehicle maintenance operations, and one is for general maintenance.

A salt dome is located just south of the main building and contains road salt that is utilized by the Town for winter storm management.

Additional indoor storage is provided by several other containers and outbuilding on the southern portion of the property. Outdoor storage is conducted in several areas around the site, but is most prevalent on the southern portion of the facility. A detailed description of potential pollutants related to each site activity is included in Section 3.

2.2 Facility Drainage and Receiving Waters

The facility is within HUC PL22 (Difficult Run) and discharges to Piney Branch, which borders the site to the south and west. Piney Branch and Difficult Run flow to the Potomac River, all of which are within the Chesapeake Bay watershed. Internal drainage within the facility is managed by a network of underground stormwater infrastructure, as well as surface swales that carry surface runoff. See Figure 2C for a general drainage map.

Drainage from the site is divided into five separate drainage areas (DAs), as noted in Table 2A. The majority of the northern portion of the site (DA-001) consists of a subsurface drainage system with surface inlets located throughout the facility. The drainage system discharges to a StormCeptor stormwater management facility to the southwest of the main parking area. The StormCeptor discharges to the west, by way of a 48" concrete culvert, to Piney Branch. Activities within DA-001 consist of all operations within the facility's main building and storage building, as well as general vehicle and equipment parking within the main lot. A significant amount of stormwater run-on enters this drainage area from the north. The run-on is not thought to contain significant industrial pollutants, but has been noted by Town staff to bring a significant amount of vegetation (leaves) from neighboring properties. This flow has been noted to overwhelm the northern-most storm drain inlet, resulting in occasional flooding within the main building.

DA-002 consists of sheet flow that reaches Piney Branch on the western side of the mid-section of the site. This drainage area does not have a discrete manmade outfall, but does concentrate to a

point of discharge to a swale leading to Piney Branch. Significant activities within this area consist of the salt storage dome and liquid storage tanks.

DA-003 consists of a portion of the material storage area on the southern portion of the site. One surface inlet is located on the western side of the material storage area. The major activities included in this drainage area are material stockpiles (sand, gravel, vegetation, and soil and construction debris).

DA-004 consists of activities similar to DA-003, including material stockpiles. One surface inlet is located within the roadway to capture surface runoff. Flow is conveyed via an underground pipe to Outfall-004, which discharges to Piney Branch.

DA-005 is located on the southern-most portion of the site. Flow is conveyed via small swales on either side of the access road. A culvert is located under the roadway at a low point in each small drainage area. The culvert discharges to Piney Branch at Outfall-005. General maintenance and equipment storage is located in this area. It is noted that a pipe draining the adjacent residential community traverses DA-005 and outfalls to Piney Branch. However, a field survey confirmed that the outfall does not accept any drainage from the site.

Figure 2C – General Site Map



Table 2A – On-site Drainage Area Description

Drainage Area	Impervious (acres)	Pervious (acres)	Total (acres)
DA-001	2.31	0.25	2.56
DA-002	0.39	0.25	0.64
DA-003	0.0	0.82	0.82
DA-004	0.55	0.11	0.66
DA-005	0.21	0.79	1.01

3. Potential Pollutant Sources and Non-Stormwater Discharges

This section provides a discussion of each significant potential pollutant generating area of the site (Figure 3A) and associated potential non-stormwater discharges.

Figure 3A – Location of Potential Pollutant Sources



3.1 Chemical Storage

Chemical storage is conducted in various parts of the facility to support vehicle maintenance, street maintenance, water and sewer, and general maintenance operations. Chemicals are stored within approved containers with secondary containment provided through double walled construction, spill pallets, containment trenches, or general containment within the building envelope. General containment provided in specific areas, or for specific operations, is described in subsequent subsections. A summary of all significant chemicals stored onsite is provided in Appendix A.

A non-stormwater discharge could occur as a result of leaks, spills, or accidents (such as overflowing storage containers or striking a container with equipment or a vehicle), or through the corrosion or leaching of chemical materials through containers into stormwater. The Town has adopted a standard operating procedure (SOP) for Outdoor Materials Storage in order to minimize

the potential for chemical storage to result in a discharge to the storm drain system or to otherwise affect stormwater quality. The SOP is provided in Appendix B.

3.2 Vehicle Maintenance

Vehicle maintenance activities are conducted in the main facility building. There are six maintenance bays that are utilized to maintain and repair Town vehicles. Activities within the vehicle maintenance bays range from routine maintenance (fluid changes, inspection, minor repairs, etc.) to more extensive repair and rehabilitation. Lubricants in 55-gallon drums, as well as smaller quantity containers) are stored and utilized within the vehicle maintenance area. A separate chemical storage room has been established for chemical storage. 55-gallon drums of oil and other lubricants are located within the storage area, and positioned over a secondary containment trench. A system of pumps and distribution lines runs from the barrels to overhead hose reels within the maintenance bays. This allows personnel to efficiently disperse lubricant in an orderly fashion.

Waste oils and antifreeze generated by Town vehicle maintenance personnel are temporarily stored in designated containers within the vehicle maintenance areas. In addition, the facility accepts waste oil and antifreeze from Town residents. The waste material is stored in designated containers, which are routinely serviced by a waste hauling contractor.

The bays are equipped with trench drains at each entrance that will intercept any spills or leaks occurring within the bays. The trench drains discharge to an oil/water separator (OWS) located to the south of the main building.

Pollutants within this area may include a variety of heavy metals from vehicle parts (lead, iron, aluminum, zinc, copper, cadmium, chromium, and nickel) as well as petroleum hydrocarbons from a variety of lubricants, fuels, and chemicals.

The potential for non-stormwater discharges from this area is significantly reduced since activities are conducted indoors. Several measures have been put in place to reduce the risk of spills and leaks discharging to the storm sewer system, such as the trench drain system, the overhead system of pumps and distribution lines, and dedicated indoor storage areas for bulk storage of chemicals. However, a discharge could occur if maintenance occurs outdoors or if materials are stored in close proximity to bay doors where a leak or spill could circumvent the trench drain. A discharge from this area would lead to the storm drain system within DA-001, and discharge at Outfall-001. The Town has adopted a SOP for Vehicle Equipment Maintenance and Cleaning in order to minimize the potential for these activities to affect stormwater quality. The SOP is contained in Appendix B.

3.3 Vehicle Wash

The vehicle wash is located on the easternmost side of the main facility building and is used for washing Town equipment and vehicles. The wash is fully enclosed and drains to an internal inlet that discharges to an OWS, which then discharges to the sanitary sewer. Town personnel use the wash to clean all types of equipment and vehicles, including passenger vehicles, trash vehicles, and emergency response vehicles, as well as construction and maintenance equipment. The wash is

equipped with a pressure washer that allows personnel to wash equipment with the minimal amount of water possible. Routine maintenance on the wash facility includes removing solids from the drainage inlet in the bay. Solids tend to accumulate rapidly as a result of washing construction and maintenance equipment (loaders, backhoes, dump trucks, street sweeper, etc.).

Potential pollutants generated from the wash could include a variety of heavy metals from vehicle parts (lead, iron, aluminum, zinc, copper, cadmium, chromium, and nickel), as well as petroleum hydrocarbons. Sediment and other solids (leaf debris, trash, etc.) are likely pollutants as well.

Since the wash bay is internally drained and fully enclosed, the potential for a non-stormwater discharge is greatly diminished. However, a discharge could occur if the drainage inlet clogged and allowed wash water to flow out of the bay. In addition, any vehicle or equipment washed outside of the bay, or partially within the bay, could circumvent the internal drain system and result in a discharge to the storm drain system. Any pollutants that may escape the bay would enter the storm drain system within DA-001, and discharge at Outfall-001. The Town has adopted a SOP for Vehicle Equipment Maintenance and Cleaning in order to minimize the potential for these activities to affect stormwater quality. The SOP is provided in Appendix B.

3.4 Fueling Island

A fueling island is located on the eastern portion of the site. Two 5,000 gallon aboveground storage tanks (ASTs) are located at the island to facilitate fueling of Town vehicles and equipment. One tank contains gasoline, while the other contains diesel fuel. The tanks are contained in a singular secondary containment structure, with a concrete shell that provides protection from impact.

Potential pollutants from this area include petroleum products. A non-stormwater discharge could occur as a result of overtopping of the tanks during filling (although this would be captured in the secondary containment structure), spillage while filling vehicles or equipment, or the release of contaminated stormwater from the secondary containment structure. Any pollutants originating from this area would flow to the storm drain system in DA-001, and discharge at Outfall-001.

3.5 Storage Building

A storage building is located on the western portion of the facility. The building is utilized for vehicle maintenance, water and sewer, and general maintenance activities. The majority of the storage includes dry material such as hand tools, replacement parts, and other related equipment. One 250 gallon tote of PavePro is located in the northernmost bay (Bay A). A flame resistant cabinet for gasoline and other flammable products is located in this bay as well. The middle bay (Bay C) is utilized by vehicle maintenance operations and is used to store excess 55-gallon barrels of lubricant until they are needed in the maintenance bays. There are typically up to 10 55-gallon drums stored in this bay at any one time.

Potential pollutants from this area include petroleum products, sediment, and metals. Similar to the vehicle maintenance area, a non-stormwater discharge could occur if materials spilled or leaked inside the building were to exit the building and be exposed to stormwater. Unlike the vehicle maintenance area, the storage building does not have perimeter trench drains. As a result, secondary containment and storing materials away from bay doors are the primary practices to

prevent the discharge of non-stormwater. Any pollutants originating from the storage building would enter into the storm drain system in DA-001 and discharge at Outfall-001.

3.6 Salt Dome and Liquid Deicer Storage

Storage of road salt and liquid deicer material for treating roads during winter storms is located onsite. A salt storage dome is located toward the center of the facility, just south of the main parking area. Salt is stored in the building year round, with volumes fluctuating based on the time of year. The dome has an uncovered entrance to the south that allows for access to the salt. Salt handling and transfer into application trucks is conducted on the pavement outside of the dome. Three 1,000 gallon polyethylene tanks located next to the salt dome are used to store liquid magnesium chloride for use as an anti-icer. Loading and unloading from the tank is conducted on the pavement adjacent to the tanks.

Potential pollutants from these activities include sodium chloride and magnesium chloride. The highest potential for a non-stormwater discharge of these materials would be expected in the loading/unloading of these chemicals. A discharge could occur if materials were spilled during transfer and allowed to remain on the paved area where it could then mingle with stormwater runoff. Spills/leaks from this area would discharge as sheet flow within DA-002.

3.7 Waste Containers

Four waste containers are located onsite to manage solid waste at the facility. Two are located on the western side of the site, just south of the storage building. Two additional containers are located to the south of the salt storage area. These containers are managed by the Town sanitation division.

Potential pollutants originating from these activities could vary widely and may include trash/debris, sediment, organic material, liquid wastes, metals, and other pollutants typical to residential and industrial waste. A non-stormwater discharge could occur if waste container lids are left open during a storm event, therefore allowing the precipitation to come in contact with the waste and leak through the bottom of the container. In addition, if waste containers are allowed to overflow or have rusted out bottoms, litter and floatables could be discharged into the storm drain system. Discharges from the two containers on the west would enter the storm drain system in DA-001 and discharge at Outfall-001. Pollutants originating from the containers to the south would discharge as sheet flow within DA-002.

3.8 Material Stockpiles

Outdoor storage of material is located on the southern portion of the facility. Stockpiled material includes sand, gravel, vegetation debris, waste soil, asphalt millings, and topsoil. Sand, gravel, asphalt millings, and topsoil are used by or generated by Town personnel in various public works projects. The volume of these piles will fluctuate based on construction and maintenance activity levels. The vegetation debris and waste soil stockpiles will fluctuate as well, based on the level of maintenance activity. Vegetation material is generated through typical trimming and brush removal activities around the Town. Waste soils are generated through construction and maintenance projects that include some degree of excavation.

Potential pollutants from these areas include sediment and organic matter. A non-stormwater discharge could occur if the materials are not protected from precipitation through erosion or leaching of materials into the storm drain system. The area where materials are stored is relatively

flat, which will encourage stormwater infiltration. The material storage area straddles DA-003 and DA-004. Sheet flow concentrates to an inlet in the western portion of DA-003 and discharges to Outfall-003. A storm drain inlet is located in the middle of the access road that drains portions of DA-004. The inlet conveys flow to the southwest where it discharges at Outfall-004. The Town has adopted a SOP for Outdoor Material Storage in order to minimize the potential for these activities to affect stormwater quality. The SOP is provided in Appendix B.

3.9 Equipment and Vehicle Parking

Parking areas south of the main facility building are utilized for personnel vehicles as well as Town vehicles and equipment. Waste hauling vehicles, dump trucks, a street sweeper, a vactor truck, and other construction equipment (backhoes, loaders, roller, trailers, etc.) are all located within this area. Vehicles awaiting maintenance are also typically stored in this area, primarily on the eastern portion of the parking area.

Potential pollutants associated with this area include petroleum hydrocarbons, metals, and sediment. Potential non-stormwater discharges could occur if leaked or spilled materials from equipment and vehicles is not properly contained and cleaned up. Pollutants discharged from this area would enter the storm drain system within DA-001 and discharge at Outfall-001.

3.10 Equipment and Material Storage

A variety of equipment and material is stored on the southern portion of the facility. There are three storage buildings on the southern portion of the site that are used to store dry goods such as holiday lights/decorations and other material that must be protected from exposure to the elements. The remainder of the material and equipment is stored outdoors. Material stored in this area includes:

- Traffic control posts, signs, cones, and related material;
- Snow plows and salt spreaders;
- Water/sewer metal pipes, valves, fire hydrants, and related material;
- Portable lighting trailer;
- Leaf boxes, woody material chippers, and leaf grinder;
- Plastic and PVC pipes;
- Metal manhole covers, rings, and related material;
- Pallets and other wood material;
- Equipment parts, tires, and related items;
- Bricks and other masonry material; and,
- Other related material that may need to be stored outside for a period of time.

Potential pollutants originating from this material include metals, organic matter, petroleum hydrocarbons, and suspended solids. A non-stormwater discharge could occur as a result of these pollutants washing off of the stored materials or through the leaching of metals into stormwater. Pollutants from these activities would flow within DA-003, DA-004, and DA-005. DA-003 includes several material storage piles, while DA-004 includes areas around the three storage buildings. DA-005 includes equipment storage adjacent to the access road. As noted previously, the Town has adopted an SOP for Outdoor Materials Storage in order to minimize the potential for these materials to affect water quality. The SOP is provided in Appendix B.

3.11 Non-Stormwater Discharges

The facility has eliminated most non-stormwater discharges through structural and non-structural best management practices. However, the discharge of uncontaminated water from fire hydrants is likely to occur. Town operations utilize fire hydrants within the facility to fill water wagons, street sweepers, and related equipment. This typically occurs toward the western portion of the parking lot. Flows from this activity are not anticipated to contain pollutants. Flows would be limited to DA-001, where they would discharge at Outfall-001.

The Town will minimize and/or eliminate the discharge of pollutants from the facility through a series of site-wide and activity specific control measures. These include both structural and non-structural efforts that will be implemented on a continuous basis. The specific control measures for the facility are included below.

4. Procedures and Control Measures

4.1 Baseline Measures

Baseline measures are procedures and control measures that are generic and should be applied at most high priority facilities. This section discusses baseline measures that will be implemented at the Northside Property Yard.

4.1.1 Good Housekeeping Program

Good housekeeping is the preservation of a clean and orderly work environment that contributes to overall pollution control efforts. The implementation of this program includes materials management practices as they relate to storage and use of chemicals in the shop areas. Adherence to the practices in Table 4A will minimize the potential for stormwater pollution.

Table 4A – Good Housekeeping Practices

Subject	Best Management Practice	Frequency
Clean Work Environment	Interior floors will be swept, with residue placed in designated waste disposal containers.	At least weekly.
Clean Work Environment	Brooms, dust pans, and mops will be kept on hand for easy access and use.	Continuous.
Trash and Litter	Exterior areas will be patrolled for trash and litter. Trash and litter will be disposed of properly.	Bi-weekly or more frequently if required.
Trash and Litter	Litter and trash will be removed from catch basins and other inlets to the storm drainage system.	Bi-weekly or more frequently if required.
Trash and Litter	Dumpster and recycling bin lids will be kept closed to prevent exposure to precipitation.	Continuous.
Scrap Parts and Empty Drums	Scrap parts and empty drums will be removed from the facility promptly.	Continuous.
Spill and Leak Prevention	Maintenance activities will be conducted indoors whenever possible.	Continuous.
Spill and Leak Prevention	Chemicals must be stored indoors and away from entrances where spills and leaks could escape the building envelope.	Continuous.
Spill and Leak Prevention	All equipment will be visually inspected for leaks and other conditions that could lead to a discharge of a pollutant.	Continuous.
Spill and Leak Prevention	Hazardous substances will be stored in approved containers. Containers will be stored in an area not exposed to stormwater where practical. The containers will be located away from direct vehicular traffic.	Continuous.
Spill and Leak Prevention	Containers of liquid hazardous substances will be placed on spill containment pallets, racks, or otherwise be provided with containment and corrosion	Continuous.

Subject	Best Management Practice	Frequency
	prevention. The containers will be stored in an area not exposed to precipitation where practical.	
Labeling	Containers of chemicals and other compound mixtures will be labeled with the name of the substance, stock number, expiration date, health hazards, safe handling requirements, and first aid information. For each chemical substance, a Safety Data Sheet (SDS) will be provided in areas accessible to personnel.	Continuous.
Labeling	Drums and tanks containing used oil must be labeled "USED OIL."	Continuous.
Labeling	Drums and tanks containing used antifreeze must be labeled "USED ANTIFREEZE."	Continuous.
Spill and Leak Response	Spills, drips, and leaks will be cleaned promptly.	Immediately after occurrence of a spill, drip, or leak.
Parking Areas	Parking areas will be swept periodically to prevent the buildup of sediment and other loose materials.	As needed.
Parking Areas	Pressure washing will be conducted on sections of the parking area where oil and grease buildup is obvious. Water generated in the process must be collected and discharged to the sanitary sewer system or other appropriate disposal method.	As needed.
Training	Formal pollution prevention training will be provided to all affected personnel.	Formal training annually plus informal training on a continuous basis.
Documentation	Complete the good housekeeping checklist during site inspections.	Quarterly.

4.1.2 Preventative Maintenance Program

Town personnel will regularly inspect and test facility equipment and operational systems whose failure has a potential to release pollutants into the stormwater drainage system. Inspections will uncover conditions such as cracks or slow leaks that could cause breakdowns or failures. The program will reduce breakdowns and failures by making proper adjustments, repair, or replacement of equipment or parts.

Standard operating procedures include two specific preventative maintenance periods:

- Run-time preventative maintenance occurs daily during working hours as normal operation of the equipment and machinery.
- Preventative maintenance at regularly scheduled intervals involves inspections, cleaning, and minor repairs.

The items in Table 4B are subject to periodic inspections as they have a direct risk to stormwater. The permit requires written documentation of scheduled inspections.

Table 4B – Preventive Maintenance Program

Subject	Best Management Practice	Frequency
Fuel Pumps	Items such as nozzles, electrical components, and gauges will be checked for wear.	Routine maintenance will adjust and replace items as needed. Fuel pumps will be inspected quarterly.
Oil Pumps and Overhead Dispensing Lines	Drip containment devices will be inspected for proper operation.	Seals, couplings, and valves will be inspected and replaced as needed. Oil pumps will be inspected quarterly.
Other Pumps	Other pumps will be inspected for proper operation frequently. Preventive maintenance activities include lubrication, balancing, repacking bearings, and tightening of support bolts and pipe connections.	These devices are subject to frequent inspection. The pump manufacturers' recommendations will be followed. If the recommendations are not available, inspection will occur at least quarterly.
Mobile Equipment	These machines will be inspected for leaking hydraulic fluids, fuel lines, liquid asphalt, and lubricating oils.	Mobile equipment will be inspected quarterly.
StormCeptor	Routine maintenance of the StormCeptor will be conducted by an outside contractor.	Inspections will be made at least annually, and more frequently if inspections indicate that sediment depth is reaching capacity sooner than one year. Maintenance and inspection records will be maintained onsite.
Vehicle Wash Catch Basin	The catch basin will be inspected and cleaned to prevent build-up of sediment and other debris that could cause blockage.	At least weekly and more frequently if required.
Oil/Water Separator	The OWS will be inspected and cleaned to prevent build-up of oil.	These devices require frequent inspection. The OWS will be pumped as needed to ensure adequate settling capacity.
Other	Other equipment that presents a reasonable risk for stormwater pollution will be inspected.	As directed by the original manufacturer. If recommendations are not available, inspection will occur at least quarterly.

4.1.3 Spill Prevention and Response

Spill prevention procedures are intended to provide actionable information that can be used in the event of a spill to ensure the protection of surface waters. Potential spill sources with high risk for contaminating stormwater include the storage and handling of fuels/hazardous substances and vehicle/equipment maintenance activities. Accidents and careless handling during these activities can cause spilled liquids to enter the stormwater drainage system.

Spill Prevention

During transfer of fuel or delivery of hazardous substances, the driver and handlers will be responsible for preventing spills. The driver will ensure that all hoses are secure and that proper absorbent materials (e.g., pads, booms and socks) are available before unloading. During all fuel delivery operations, the driver will remain with the vehicle at all times. Absorbent pads and booms are to be located near the fuel delivery/ connection points.

Employee awareness is the key to an effective spill prevention and response program. Spill prevention training will be a component of the general employee training program. New personnel will be taught spill prevention practices. Maintenance personnel will gain a sufficient understanding of the objectives of the spill prevention program. Spill prevention training will highlight previous spill events, equipment failures, remedies taken, and newly developed prevention measures.

Establishing a security system may prevent an accidental or intentional release of materials to the stormwater drainage system as a result of vandalism, theft, sabotage, or other improper uses of the property. Routine patrol, personnel training, lighting, signage, and access control are possible measures to include in the facility's security system.

The SWPPT will evaluate the spill prevention program at least once each year. During the annual evaluation, the SWPPT should review the following and update the SWPPP if necessary:

- materials inventory list (emphasis on hazardous substances);
- potential spill sources;
- incident reporting procedures;
- inspection procedures;
- previous spill incidents;
- training program; and,
- new construction and proposed operational changes.

Spill Response

In case of a large volume spill, the facility will request aid from Fairfax County Fire and Rescue using 911. The Town Department of Public Works and the Virginia Department of Environmental Quality, Northern Regional Office, will also be notified. Warning signs placed at fuel stations, bulk storage

tanks, or other refueling areas should contain emergency telephone numbers to aid in quick response.

Table 4C – Notifications for Large Spills

Contact	Contact Number
Fairfax County Fire and Rescue	<ul style="list-style-type: none"> • 911 (active spill event) • (703) 246-4386 (not active spill event, no immediate hazard – work hours) • (703) 691-2131 (not active spill event, no immediate hazard – after hours number)
Virginia Department of Environmental Quality, Northern Regional Office	(703) 583-3800
Town of Vienna Department of Public Works	(703) 255-6380

Minor spills can be absorbed with dry granular absorbents, pads, booms, or socks. Many liquid materials stored at the facility are used inside buildings or are otherwise not normally exposed to the storm drainage system. Small spills can be controlled by sweeping or mopping the material into approved containers for proper disposal. Proper disposal includes removing absorbent compounds from the floor on a timely basis.

The Northside Property Yard does not use any extremely hazardous substances, but certain precautions regarding on-site materials are necessary. In general, there are four basic steps that are to be taken to control pollution that can result from a spill:

1. Stop the spill at the source.
2. Contain the spill.
3. Collect the spilled material.
4. Dispose of the spilled material and subsequent contaminated material properly and legally.

If containment methods are required for which the responder is not trained, or personal protective equipment is not available, immediately evacuate the contaminated area and prevent unauthorized personnel from entering. Steps 3 and 4 should only be undertaken by personnel that are properly trained in spill response and cleanup.

4.1.4 Routine Observations

General walk-throughs of work areas should be conducted by the SWPPT Leader, unit or shop supervisor, or other designated personnel during normal daily duties. A written record is not required for these daily observations. Particular attention will be made in regards to leaks, spills, and properly operating equipment. Problems will be reported and corrected as soon as practical. The following list will serve as a guide to critical items:

Table 4D – Routine Observation Checklist

Status	Item
<input type="checkbox"/>	Tanks and drums - observe for leaks, corrosion.
<input type="checkbox"/>	Look for unusual stains on walls, floors, and grounds.
<input type="checkbox"/>	Look for deterioration of equipment foundations and anchorages.
<input type="checkbox"/>	Check for and remove debris from stormwater drainage system inlets.
<input type="checkbox"/>	Check for windblown materials or materials tracked by vehicles that can enter the stormwater drainage system – observe material stockpiles for signs of erosion.
<input type="checkbox"/>	Are any unusual odors detected?
<input type="checkbox"/>	Is equipment operating properly? Is excessive noise, vibration, or exhaust present?
<input type="checkbox"/>	Is the work area kept in a clean and orderly manner?
<input type="checkbox"/>	Inspect lubricant distribution lines and fuel pumps. Look for deteriorating gaskets, supports, and loose valve stems.
<input type="checkbox"/>	Look for leaking containers.
<input type="checkbox"/>	Check for torn bags of dry materials or bags exposed to stormwater.
<input type="checkbox"/>	Check that dry granular absorbents used to contain floor spills are properly cleaned up.
<input type="checkbox"/>	Check condition of spill response kits and quantity of absorbent materials.
<input type="checkbox"/>	Clear access to all safety equipment such as eyewashes and fire extinguishers.
<input type="checkbox"/>	Clear access to emergency exit doors. Emergency exit doors must be kept unlocked during all work hours.

4.1.5 High Risk Activity Exposure

The facility will take reasonable measures to minimize the exposure of high risk activities to precipitation and stormwater. Measures include:

- conducting high risk activities indoors or under cover;
- storing materials and parts indoors or under cover to the extent practicable;
- diverting stormwater away from the high risk activity area with berms, ditches, curbing, and buffer strips; and,

- diverting stormwater from high risk activity areas to appropriate runoff management facilities.

This SWPPP does not require that inert construction material such as wood posts, steel girders, aggregate, or pipe be placed under cover.

4.1.6 Scrap Material Storage and Salvage

Measures to be taken by Town personnel to minimize the quantity of scrap materials stored at the facility are as follows.

- Remove scrap materials from the site promptly.
- Divert stormwater away from scrap storage areas.
- Divert stormwater from scrap storage areas through a buffer strip, onto a level grassy area, or into a grass berm.
- Minimize direct introduction of stormwater to the drainage system without the use of buffer strips or other runoff management devices.

Some items present a pollutant risk while they are stored on site. Rusting tanks, barrels, machinery, and other related equipment can introduce leached metals into stormwater runoff. To minimize the risk of contamination, the Town will remove them from the site to the extent practicable. In addition, the Town will ensure scrap materials are free from lubricants and loose paint to the extent practical and ensure that salvaged vehicle fuel tanks are empty and drips are contained.

Small scrap items such as automotive batteries will be stored indoors or under cover until removed from the facility.

4.1.7 Sediment and Erosion Control

Areas where bare soil is exposed to water, wind, or ice can erode and cause sediment pollution. The facility should promptly stabilize any bare area that could become a source of pollution. If an area is persistently bare and causing erosion, the Town can employ one or more of the following:

- prevent runoff from flowing across the exposed areas by diverting the flow to vegetated areas;
- slow down the runoff flowing across the area by using level spreaders or terraces;
- provide check dams in drainage ways to decrease flow velocities;
- use grassed swales rather than paved channels; and/or,
- remove sediment from stormwater runoff before it leaves the site by allowing it to sheet flow through vegetative buffers.

The Town will also ensure that all grading and site-disturbing activities that occur at the facility comply with the requirements of Town Code Chapter 23, Article 2 “Erosion and Sediment Control.”

4.1.8 Management of Stormwater Runoff

Management of stormwater runoff includes (1) practices that reduce the amount of impervious surface cover and maximize the amount of pervious area where stormwater can naturally infiltrate into the soil and (2) practices that capture and treat pollutants once they are already in the stormwater. As noted previously, the Town operates a StormCeptor stormwater management facility within DA-001. This specific facility is discussed in Section 4.2.5. The need for additional structure controls will be based on an assessment of the nature of the specific pollutants to be controlled, site specific conditions such as soil and topography, and the reductions required by the Town's performance criteria. In addition, the facility will be assessed in the context of overall Town stormwater management targets, including but not limited to those in the Town's Chesapeake Bay TMDL Action Plan.

4.2 Site-Specific Measures

This section discusses measures that are specific to the pollutant sources and potential non-stormwater discharges identified in Section 3. These measures must be implemented in addition to the general controls identified in Section 4.1.

4.2.1 Vehicle Maintenance

Vehicle maintenance operations in the main facility require a number of structural measure to prevent stormwater pollution. The measures include:

- Trench drains at the entrance to the maintenance bays capture any leaks spills within the bays. The drains convey material to the OWS, which then discharges to the sanitary sewer system.
- Used oil is stored inside the facility in a secondary containment structure.
- Used antifreeze is stored in the facility in a secondary containment structure.
- Bulk lubricants (55-gallon drums) are stored in a designated area with secondary containment provided via a concrete lined trench below the drums.
- Overhead service reels are provided for each maintenance bay. This allows personnel to dispense lubricants in a controlled manner that limits spills.
- Granular sorbent material is located within the maintenance facility to soak up any spilled/leaked material.
- Flame resistant cabinets are provided in the maintenance bays to store fuel and other flammables.

4.2.2 Vehicle Wash

A dedicated vehicle wash is provided at the facility to handle all vehicle and equipment washing activities. The wash drains to an OWS and then to the sanitary sewer. All washing activities are

to be conducted within the vehicle wash to prevent the discharge of pollutants from outside vehicle washing activities.

4.2.3 Fueling Operations

The fueling area has a number of structural controls to prevent the discharge of pollutants from fueling activities. They include the following:

- An overhead covering is provided at the fueling island to prevent precipitation from coming in contact with pollutants generated from the fueling operations.
- A spill kit is located at the fueling island to allow personnel to quickly address any spills/leaks that may occur. The spill kit is clearly labeled so that personnel can quickly identify it in the event of a spill.
- An electronic access system is to be installed at the fuel pumps. This will provide access only to Town personnel and safeguards against vandalism.
- An emergency shutoff switch is located at the fueling station to allow for the pumps to be shut off in the event of a spill.
- Bollards are located at the fueling station to prevent vehicular impact that could damage the fuel tanks.
- Fire extinguishers are located at the fuel tank to allow personnel to address fires as needed.

4.2.4 Salt Storage Controls

The salt dome located to the south of the parking area provides adequate storage for salt material used by the Town for winter storm management purposes. Additional controls related to salt storage are recommended.

- The pavement in front of the salt dome should be sealed to prevent salt from leaching into the subsoil and allow for easier cleanup following salt handling activities.
- A barrier should be installed at the entrance to the salt dome to prevent stormwater from entering the dome and washing salt out in to the drainage system. Installing a sandbag barrier is recommended. In addition, an impervious tarp should be installed to prevent wind-blown precipitation from entering the dome. A more permanent, long-term fix that includes permanent doors on the entrance is recommended.
- Secondary containment should be provided for the liquid deicer storage tanks. The secondary containment should be adequate in size and configuration to encompass the storage and transfer activities.
- The area around the salt storage location should be swept after each use to remove any salt that spilled on the pavement.

4.2.5 StormCeptor

A StormCeptor stormwater management facility is located to the south of the parking lot. Flow within DA-001 leads to the StormCeptor prior to being discharged at Outfall-001. The StormCeptor provides primary treatment of the stormwater by settling suspended solids and filtering out trash and other debris. Routine inspections and maintenance of the StormCeptor are to be conducted in accordance with the manufacturer's recommendations as provided in Appendix C.

4.2.6 Equipment and Material Storage Controls

Outdoor storage of materials and equipment should be limited to the extent practicable. When outdoor storage is necessary, certain structural control measures should be implemented, including those listed below.

- To the extent practicable, metal material and equipment must be placed on pallets to prevent contact with the ground.
- Six salt spreaders are stored under the cover of a roof structure. Two additional salt spreaders are not currently stored under cover. The Town should evaluate the feasibility of providing cover for these spreaders.

Additional controls recommended for equipment and material storage are outlined in Section 4.3.

4.2.7 Waste Containers and General Solid Waste Controls

Four waste containers are located at the facility to manage waste generated onsite. Controls related to these containers are as follows:

- Lids are to remain closed at all times when not actively loading the containers.
- Trash should only be stored inside the containers. Piling excess trash on the outside of the container is not permitted.
- Dumpsters should be located away from storm drain inlets.
- Periodic inspections of the dumpsters should be conducted to observe for signs of deterioration.

4.3 Procedures and Control Measures Action Plan

The Procedures and Control Measures Action Plan is a key component of the SWPPP and will be updated on at least an annual basis. Table 4E summarizes existing control measures that are being implemented or have been completed at the facility. Table 4F outlines additional control measures that should be implemented to address identified stormwater pollution concerns.

Each control measure is accompanied with a section reference to detailed control measure information discussed in this SWPPP. Once a control measure has been implemented facility personnel will note the date of implementation on Table 4F.

Table 4E – Existing Procedures and Control Measures

Outfall	Location	Existing Control Measures	Section Reference
001	Vehicle Maintenance Bays	Secondary containment is provided for bulk storage containers.	4.2.1
001	Vehicle Maintenance Bays	Granular spill material is provided to address spills/leaks.	4.2.1
001	Vehicle Maintenance Bays	Overhead lubricant service reels are provided at each bay to provide access to lubricants in an organized manner.	4.2.1
001	Vehicle Maintenance Bays and Storage Building	All containers are properly labeled with the contents and other relevant information.	4.2.1
001	Vehicle Maintenance Bays and Storage Building	Trench drains are located at the entrance to each bay to control any spill or leak within the building.	4.2.1
001	Vehicle Maintenance Bays and Storage Building	Flame resistant cabinets are provided for the storage of flammable materials.	4.2.1
001	Vehicle Wash	Vehicle wash is provided for equipment and vehicle washing. The wash is internally draining and discharges to the sanitary sewer.	4.2.2
001	Fueling Operations	An overhead covering is provided at the fueling island to prevent precipitation from coming in contact with pollutants generated from the fueling operations.	4.2.3

Outfall	Location	Existing Control Measures	Section Reference
001	Fueling Operations	A spill kit is located at the fueling island to allow personnel to quickly address any spills/leaks that may occur. The spill kit is clearly labeled so that personnel can quickly identify it in the event of a spill.	4.2.3
001	Fueling Operations	An emergency shutoff switch is located at the fueling station to allow for the pumps to be shut off in the event of a spill.	4.2.3
001	Fueling Operations	Bollards are located at the fueling station to prevent vehicular impact that could damage the fuel tanks.	4.2.3
001	Fueling Operations	Fire extinguishers are located at the fuel tank to allow personnel to address fires as needed.	4.2.3
002	Salt Storage	A salt dome is provided to adequately store salt for winter storm management purposes.	4.2.4
001	StormCeptor	The StormCeptor provides treatment to runoff within DA-001.	4.2.5
001	StormCeptor	The Town has established a procedure for inspecting the StormCeptor on an annual basis beginning in 2015.	4.2.5
003, 004	Equipment and Material Storage	Metal parts and equipment are stored on pallets where practical.	4.2.6
003, 004	Equipment and Material Storage	Overhead covers are provided for six salt spreaders.	4.2.6
Site-wide	Site-wide	Maintenance activities are conducted indoors, to the extent practicable.	4.1.2
Site-wide	Site-wide	Chemical containers are stored away from doorways and other areas where a spill could easily enter the storm drain.	4.1.2
Site-wide	Site-wide	Catch basins are kept clear of vegetation and other debris.	4.1.2
Site-wide	Site-wide	The Town has established a procedure to train facility personnel on the basic principles of the SWPPP on an annual basis.	4.1.2
Site-wide	Site-wide	Scrap metal storage will be minimized.	4.1.6

Table 4F – Recommended Procedures and Control Measures

Outfall	Location	Recommended BMP	Sec. Ref.	Target Date	Implement Date
001	Fueling Operations	An electronic access system is scheduled to be installed at the fuel pumps. This will provide access only to Town personnel and safeguards against vandalism.	4.2.3	12/1/2015	___/___/___
002	Salt Storage	Temporary measures should be taken to prevent stormwater run-on into the salt dome.	4.2.4	12/1/2015	___/___/___
002	Salt Storage	A permanent door or other barrier should be installed at the salt dome to prevent salt from being released to the drainage system.	4.2.4	7/1/2016	___/___/___
002	Salt Storage	Pavement in front of the salt storage dome should be repaired to prevent salt from leaching into the subsurface.	4.2.4	7/1/2016	___/___/___
002	Salt Storage	The Town should evaluate the feasibility of installing secondary containment around the liquid deicer containers.	4.2.4	7/1/2015	___/___/___
003 and 004	Equipment and Material Storage	Provide additional cover for remaining salt spreaders not stored undercover.	4.2.6	7/1/2016	___/___/___
003 and 004	Equipment and Material Storage	The Town should construct material storage bins to contain all loose material currently stockpiled onsite.	4.2.6	7/1/2016	___/___/___
003	Material Storage Area	A sediment control BMP should be installed around the inlet grate on the western side of the site to limit the discharge of sediment and other debris to the receiving water.	4.2.6	7/1/2016	___/___/___

Outfall	Location	Recommended BMP	Sec. Ref.	Target Date	Implement Date
Site-wide	Site-wide	The Town should evaluate the use of stormwater inserts in each inlet to provide additional pollutant reduction.	4.1.8	9/1/2015	___/___/___

5. TRAINING, INSPECTIONS, AND RECORDKEEPING

5.1 Training

Personnel training is essential to the effective performance of the SWPPP. Personnel at all levels of responsibility will be trained on the components and goals of the SWPPP, including employees who work in areas where high risk materials or activities are exposed to stormwater and employees responsible for implementing activities identified in the SWPPP.

In accordance with the Section II.B.6.d of the MS4 permit and BMP 6.3 of the MS4 Program Plan, personnel training for the SWPPP will occur on a biennial basis starting in Fiscal Year 2016. Personnel from the facility will also be trained on other specific topics as required by the permit in the schedule presented with BMP 6.3. The goal of this training program is to provide some level of training on a pollution prevention topic at least annually. A blank Training Documentation Sheet (Form 1) is provided in Appendix D and will be used to document SWPPP training.

5.2 Quarterly Site Inspections

Inspections of all areas of the facility where high risk activities take place will be conducted on a quarterly basis. Inspections will be completed by a qualified individual. A member of the SWPPT should either conduct or participate in the inspection. Inspections should be completed during a time of normal facility operations.

A blank Quarterly Inspection Checklist (Form 2) is provided in Appendix D. The facility manager is responsible for verifying the scope and adequacy of these inspection reports, which are to be filed with this SWPPP and retained for three years past the expiration date of the facilities coverage under the MS4 permit.

5.3 Annual Comprehensive Site Inspection

An annual stormwater comprehensive site inspection will be conducted approximately one year following implementation of this SWPPP and annually thereafter. The evaluation will determine if the pollution prevention measures have been implemented and will assess their effectiveness. Special attention should be paid to storage of products, maintenance and repair activities, and overall condition of the facility stormwater drainage system. The facility should also be reviewed for non-stormwater discharges, and any records and files should be reviewed for completeness. The evaluation will also determine if site operations have changed since development of this SWPPP. If operational changes have been made, the SWPPT leader will determine if those changes will impact stormwater quality and will develop new BMPs to address the change. All operational changes and new procedures and control measures will be recorded in the SWPPP.

A blank copy of the Comprehensive Site Evaluation (Form 3) comprehensive site inspection form can be found in Appendix D. The completed form shall be kept with the SWPPP as a record to the evaluation.

The SWPPP must be evaluated and amended accordingly in the following cases.

Operational and/or Process Changes

- Operations at the facility are suspended or the facility ceases to operate;
- New equipment is added;
- Operating procedures change;
- Chemical usage changes; and,
- New control structures are constructed.

Maps

If maps are changed or new maps are developed, verify that all:

- Stormwater outfall points are identified;
- Stormwater conveyances are represented;
- Structural controls are properly identified;
- Impervious and pervious areas are properly identified;
- Areas where there is potential for erosion are clearly shown; and
- Areas of any major spills are identified.

Policies and Procedures

Review and amend the SWPPP if, at any time, the policies and/or procedures:

- Fail to reduce or limit the potential for the introduction of pollutants to stormwater;
- Are not fully implemented;
- Result in the introduction of pollutants to stormwater; or
- Are incapable of reducing the potential for the introduction of pollutants to the stormwater.

5.4 Documentation

All completed forms and other documentation will be included with this SWPPP as Appendix E.

FIGURES

APPENDIX A

CHEMICAL INVENTORY

Operation	Chemical	Number of Containers	Approximate Volume (gal)
Vehicle Maintenance	Unleaded Gasoline	1	5,000
	Diesel	1	5,000
	Automotive Grease	Various	55
	Diesel Exhaust Fluid	Various	175
	Antifreeze	Various	250
	Oils/Lubricants	Various	800
	Various cleaner and aerosols	Various	Various
Street Maintenance	Detergents	Various	20
	PavePro	1	250
	Mag Chloride	3	3,000
	Road Salt	N/A	300 Tons
Water and Sewer	Asphalt Tack Agent	1	75
	Green Gobbler Grease	Various	25
	Goldstar Degreaser	2	10
	Lubricant	Various	Various
	State Degreaser	1	5
	Rust Remover	Various	Various
General Maintenance	Tracing Dye	Various	Various
	Latex Paints	Various	Various
	Paints (other)	Various	Various
	Paint Thinner	Various	Various

Note: Due to the nature of the facility operations, this inventory is subject to change at any time and should not be considered a complete representation of the chemicals stored and handled onsite at any given time.

APPENDIX B

STANDARD OPERATING PROCEDURES

APPENDIX C

STORMCEPTOR MAINTENANCE INSTRUCTIONS

APPENDIX D

INSPECTION CHECKLISTS AND FORMS

TRAINING DOCUMENTATION SHEET	FORM 1
QUARTERLY INSPECTION CHECKLIST	FORM 2
COMPREHENSIVE SITE COMPLIANCE EVALUATION.....	FORM 3
STRUCTURAL CONTROLS INSPECTION REPORT.....	FORM 4

FORM 1

TRAINING DOCUMENTATION SHEET

Location _____ Date _____

Class Name _____

Instructor(s) _____

Employee Name	Signature	Title/ Dept.

Reference Section 5.1

FORM 1

FORM 2



Town of Vienna Quarterly Inspection Checklist

Date:	Building/Area:	Inspector:
-------	----------------	------------

1. Good Housekeeping Procedures	Yes	No	N/A	Observations/Required Actions
Are work areas and floors clean and dry?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are brooms, dust pans, and mops easily on hand for easy access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have all areas been inspected for visible leaks or potential discharges of significant materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are containment areas in good condition, with valves closed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are dumpsters closed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the site free of litter and debris?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are catch basins and other inlets to the storm drain system free from trash?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Materials Handling and Storage	Yes	No	N/A	Observations/Required Actions
Is there adequate aisle space and organization in all storage areas so that any corrosion or leaks can be detected early?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have proper security measures been taken for storage areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all containers labeled with contents on the appropriate label?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are Safety Data Sheets available for all chemical substances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all containers that are not in use closed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are containers stored indoors and away from entrances whenever practical?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

FORM 2

Are maintenance activities conducted indoors whenever practical?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If outdoors, are containers protected from precipitation and runoff whenever practical?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are containers protected from vehicular traffic?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have all containers been inspected and are they generally in good condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do all containers have secondary containment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Spill Prevention and Response	Yes	No	N/A	Observations/Required Actions
Is emergency/contingency equipment accessible in close proximity to storage areas (spill kits, drip pans, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have all spills been properly cleaned up and disposed of properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Pump Inspection	Yes	No	N/A	Observations/Required Actions
Have fuel pumps been inspected?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have oil pumps been inspected?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have other pumps been inspected?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has mobile equipment been inspected for potential leaking fluids?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Structural Control Devices	Yes	No	N/A	Observations/Required Actions
Has the StormCeptor been inspected at least once annually?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the most recent StormCeptor inspection included in the SWPPP?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has the oil water separator been inspected?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has the vehicle wash catch basin been inspected for sediment build-up?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

FORM 2

6. Scrap Metal Storage	Yes	No	N/A	Observations/Required Actions
Have scrap parts and empty drums no longer in use been removed from the property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. Erosion and Sediment Controls	Yes	No	N/A	Observations/Required Actions
Is the facility free of bare areas that could result in soil erosion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. Salt Storage Controls	Yes	No	N/A	Observations/Required Actions
Is the salt storage area protected from run-on of stormwater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the area around the salt storage area swept after each use and free of material that could mingle with stormwater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. Fueling Operations	Yes	No	N/A	Observations/Required Actions
Is the spill kit fully stocked at the fuel station and accessible for use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is all signage in good, readable condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have fire extinguishers been tested and are they accessible for use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. Vehicles and Equipment Maintenance and Washing	Yes	No	N/A	Observations/Required Actions
Are vehicles and equipment checked for leaking fluids?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are drip pans and spill kits located within easy access of vehicle and equipment storage areas?				
Are maintenance activities performed indoors when practical?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is wash water contained or otherwise kept out of the storm drainage system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there any build-up of pollutants in vehicle parking areas, and if so, is there a plan for removal in accordance with the SWPPP?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

FORM 2

11. Other Indicators of Illicit Discharges	Yes	No	N/A	Observations/Required Actions
Is the facility clear of any signs of potential illicit discharges such as odors, staining, sheen, residue, etc.?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. Personnel Training and Record Keeping	Yes	No	N/A	Observations/Required Actions
Is a program in place to train employees on pollution prevention and the Town's good housekeeping SOPs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are employees trained on proper spill prevention and response for the materials that they handle?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Reference Section 5.2

COMPREHENSIVE SITE COMPLIANCE EVALUATION

Date: _____ Evaluator(s): _____

<u>No Action Required</u>	<u>Action Required</u>	<u>Not Applicable</u>
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1. Accuracy of Site Map:

Identification and location of outfalls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Watershed boundaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Direction of runoff flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Buildings and impervious areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exposed material storage areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Required Action: _____

2. Accuracy of SWPPP and Related Records

Pollution Prevention Team Members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outfall characteristics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quarterly inspection checklists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Structural control maintenance records	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chemical inventory (Appendix A)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Employee training records	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Required Action: _____

3. Accuracy of Potential Pollutant Sources

Chemical storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vehicle maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vehicle wash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fueling island	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storage building	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Salt dome and liquid deicer storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waste containers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Material stockpiles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equipment and vehicle parking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equipment and material storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-stormwater discharges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Required Action: _____

COMPREHENSIVE SITE COMPLIANCE EVALUATION, CONT.

No Action Action Not
 Required Required Applicable

4. Effectiveness of Stormwater Management Controls

Good housekeeping practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preventive maintenance program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spill prevention and response	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Routine observations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High risk activity exposure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scrap material storage and salvage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sediment and erosion control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management of stormwater runoff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vehicle maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vehicle wash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fueling operations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Salt storage controls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
StormCeptor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equipment and material storage controls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waste containers and solid waste controls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Required Action: _____

5. Overall Evaluation Effectiveness of SWPPP

Required Action: _____

Signature: _____

Title: _____

Date: _____

FORM 4

APPENDIX E

COMPLETED FORMS

