MS4 GENERAL PERMIT FOR SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

PERMIT REGISTRATION NUMBER: VAR040053

MS4 Program Plan
Effective November 1, 2018
Updated May 1, 2019

City of Winchester, Virginia
Rouss City Hall
Department of Public Services
15 North Cameron Street
Winchester, VA 22601

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1.0 Introduction

The City of Winchester (City) operates an MS4 Permit that is regulated under the federal Clean Water Act and the Virginia State Water Control Law. Under these statutes, and their associated regulations, the City is required to develop, implement and maintain an MS4 Program that is designed to meet the following goals:

- Reduce the discharge of pollutants to the "maximum extent practicable" (MEP)
- Protect water quality
- Satisfy the appropriate water quality requirements of the State Water Control Law and its attendant regulations.

To insure that these goals are properly implemented, the City is required to obtain authorization to discharge stormwater under its MS4 Permit by registering under, and complying with, the General Permit for Discharges of Stormwater. The City's registration number under the General Permit is VAR040053 and is effective from November 1, 2018 through October 31, 2023. The City will need to reapply for permit coverage ninety (90) days prior to the expiration date of permit coverage.

The General Permit establishes permit conditions and requirements that the City is required to comply with in order to ensure that minimum expectations for implementing an MS4 Program are met. The requirements established by the General Permit include six minimum control measures (MCMs). For each of the MCMs, the City is required to develop, implement, and refine measurable goals, Best Management Practices (BMPs), and schedules, as well as identify the City Departments responsible for each implementation.

The six MCMs are:

- Public Education and Outreach Program
- Public Involvement/Participation
- Illegal Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management in New Development and Redevelopment
- Pollution Prevention/Good Housekeeping for Municipal Operations

In addition to the six MCMs, the City is required to address two Special Conditions in order to satisfy the appropriate water quality conditions.

These Special Conditions are:

- Special conditions for the Local TMDL (Total Maximum Daily Load).

- Special condition for the Chesapeake Bay TMDL (Total Maximum Daily Load).

This MS4 Program Plan details the commitments necessary to comply with the General Permit for each of the MCMs and the Special Conditions. The City has been utilizing the 2013-2018 MS4 Program, but under the requirement with the new permit, effective November 1, 2018, the MS4 Program has been updated, effective May 1, 2019. The MS4 Program Plan must be updated annually as necessary and in conjunction with the submission of the MS4 Annual Report to the Virginia Department of Environmental Quality (DEQ).

Revisions to the MS4 program plan

The MS4 Program is an iterative implementation process based on the success of pollutant load reduction and water quality protection. MS4 Program modifications and revisions are expected throughout the life of the General Permit.

Updates and revisions to the MS4 Program may be made under the General Permit in accordance with the following procedures:

> The City shall summarize revisions to the MS4 program plan as part of the annual report as described in Part I D 2.

Roles and Responsibilities

The conditions of the General Permit and content of this MS4 Program Plan are enforceable via the United States Environmental Protection Agency (EPA), DEQ, third parties and are applicable to all City activities and operations. Unless otherwise noted, the City's Engineering Division, led by the City Engineer, is responsible for implementing the commitments in this MS4 Program Plan. For more information regarding roles and responsibilities contact the Engineering Division at:

> Phone: 540-667-1815
> E-mail: engineering@winchesterva.gov

Other Specific Roles and Responsibilities

The City's Department of Fire and Rescue, led by the Fire and Rescue Chief, is responsible for implementation of:

- BMP 3.7: Hazardous Spill Response

The City's Public Works Division, led by the Refuse & Recycling Coordinator, is responsible for the implementation of:

- BMP 3.8: Household Hazardous Waste Collection
- BMP 3.9: Household Waste Reduction

The City's Public Works Division and the City's Parks and Recreation Division, led by the Public Works Operations Superintendent and the Parks Superintendent, respectively, are responsible for implementation of:

- BMP 5.5: City-Owned Stormwater Management Facility Maintenance

The City's Public Works Division, led by the Public Works Operations Superintendent, is responsible for implementation of:

- BMP 6.6: Street Sweeping

Signatory Authorization

In accordance with Part III K of the General Permit, the following individuals, listed by job title, are hereby duly authorized to sign all reports and other requested information:

Public Services Director
City Engineer

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."

Eden E. Freeman
Printed Name

Eden E. Freeman
Signature

City Manager
Title

30 May 2019
Date

VAR040053
Permit Number

City of Winchester
MS4 Name

2.0 Minimum Control Measures

MCM 1. Public Education and Outreach

Requirements

The City's Public Education and Outreach Programs are centered around information provided and distributed through its Stormwater Website. In addition, the City promotes stormwater awareness through participation in public events, occasional mass mailings, and the implementation of an educational program for school-aged children. For more information, Appendix A of this MS4 Program Plan provides information on the City's Public Education and Outreach Plan.

Under the requirement of MCM 1, the City shall provide the following:

- A list of at least three (3) high-priority stormwater issues the City will communicate to the public as part of the public education and outreach program (shown in Appendix A).
- 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 (shown in Appendix A).
- Identification of the public audience to receive each high-priority stormwater message (shown in Appendix A).
- The strategies from Table 1 of Part I E 1 d to be used to communicate each high-priority stormwater message (shown in Appendix A).
- The anticipated time periods the messages will be communicated or made available to the public (shown in Appendix A).

Measurable Goals

The City has identified the following measurable goals for evaluating compliance with the General Permit:

- The City will disseminate public education and outreach messages to the target audiences identified in its High-Priority Water Quality Issue Selection Matrix.
- The City will continue to maintain and update as necessary the Public Education and Outreach Program.
- The City will, as necessary, develop new messages or modify existing ones to more appropriately address the identified target audiences.
- The City will annually request for public input to re-evaluate the Public Education and Outreach Program.

BMPs Selected for Implementation

The City will implement and maintain the City of Winchester Public Education and Outreach Plan 2019 edition to meet the identified measurable goals identified above.

In addition, the City has the following BMPs to utilize for each year's annual Public Education Outreach Plan.

Table 1: BMPs Selected for Implementation – MCM 1

BMP	Names	Description	Reporting Items
1.1	City Stormwater Webpage	The City will maintain a web page dedicated to the City's stormwater management program. The MS4 Program Plan, MS4 Annual Reports and other information will be made available to the public through this website. Once a year, in conjunction with development of the MS4 Annual Report, the City will ensure the validity of all links to stormwater information included on the web page.	Confirmation statement of the MS4 Program Plan posted/updated on the Stormwater webpage
1.2	Social Media	The City will use its Facebook and Twitter accounts as necessary to distribute stormwater related information.	Links to the City's Facebook and Twitter.

1.3	Public Events	The City will participate in public events such as the Community Wellness Festival, as necessary, to distribute stormwater related information to the citizens.	List of the dates and events/presentations during reporting period.
1.4	Publications (Print and Electronic)	The City will use publications to distribute stormwater related information to its citizens.	List of Publications utilized during the reporting period.
1.5	Watershed and Stormwater Educational Opportunities	The City will continue to implement its Watershed and Stormwater Education Opportunity. The City will concentrate on delivery of this program to school aged children in a manner necessary to insure that high priority water quality issues are addressed to the target audiences.	List of the dates and schools and/or educational facilities attended during the reporting period.
1.6	Other Message Delivery	The City will utilize other types of message delivery; as necessary. Such as "Clean Up After Your Dog" signage at the City's Dog Park.	List of Other Message Delivery during the reporting period.
1.7	Educational Materials	The City will retain copies (electronic and/or hard copy) of educational materials utilized in delivery of its messages regarding high priority water quality issues to target audiences.	List of educational materials utilized during the reporting period.

The City can and will add to this list of BMPs, as necessary, if during the permit cycle it determines there are significant weaknesses or shortcomings.

The Measurable Goal/BMP Relationship Matrix in Table 2 demonstrates which BMPs are expected to be used to meet each measurable goal for MCM 1.

Table 2: Measurable Goal/BMP Relationship Matrix – MCM 1

Measurable Goals	BMP 1.1	BMP 1.2	BMP 1.3	BMP 1.4	BMP 1.5	BMP 1.6	BMP 1.7
The City will disseminate public education and outreach messages to the target audiences identified in its High-Priority Water Quality Issue Selection Matrix.	X	X	X	X	X	X	X
The City will continue to maintain and update as necessary the Public Education and Outreach Program.		X	X	X	X	X	X
The City will, as necessary, develop new messages, or modify existing ones, to more appropriately address the identified target audiences.		X		X		X	X
The City will annually request public input to re-evaluate the Public Education and Outreach Program.	X	X		X		X	

MS4 Annual Reporting

The City must include the following as part of its MS4 Annual Report:

General Permit Reporting Requirements

- A list of the high-priority stormwater issues the City addressed through public education and outreach programs.
- A list of the strategies used to communicate each high-priority stormwater issue.

BMP Specific Reporting Requirements

In addition to the General Permit reporting requirements, the MS4 Annual Report must include the specific BMP reporting items identified in Table 1.

MS4 Program Plan MCM 1 Specific Update Requirements

As of May 1, 2019, there are no mandated updates to MCM 1 identified in the MS4 General Permit scheduled for the duration of the permit cycle.

MCM 2. Public Involvement and Participation

Summary of the Requirements

Under the General Permit, the City is required to promote and encourage public involvement and participation. Involving the public requires that the City provide access and the ability for public comment concerning the City's MS4 Program Plan and MS4 Annual Reports, as well as, follow public notice requirements. The City is also required to promote programs that are aimed at increasing public participation to reduce stormwater pollutant loads, improve water quality, and support local restoration/clean-up projects, programs, groups, meetings, or other similar opportunities.

The City is required to develop and implement procedures for the following:

- Public participation with regards to reporting potential illicit discharges, improper disposal, or spills.
- Complaints regarding land disturbing activities, or other potential stormwater pollution concerns
- Public input concerning the City's MS4 Program Plan
- Response to public input received about the MS4 Program Plan or complaints
- Maintenance of documentation detailing public input received about the MS4 Program, MS4 Program Plan and the permittee's response.

The City is required to implement at least four (4) activities per year from two (2) or more categories listed in Table 3 in order to provide an opportunity for public involvement resulting in water quality improvement and to support local restoration/clean-up projects.

This MS4 Program Plan shall include:

- A webpage that provides mechanisms for the public to report:
    - Potential illicit discharges, improper disposal, or spills
    - Complaints regarding land disturbing activities
    - Other potential stormwater pollution concerns
- A webpage address that provides a way for public input on the permittee's MS4 Program
- 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.

Table 3: Public Involvement Opportunities

Public Involvement Opportunities	Examples
Monitoring	Establish or support citizen monitoring group
Restoration	Stream or watershed clean-up day, adopt-a-water way program
Educational events	Booth at community fair, demonstration of stormwater control projects, presentation of stormwater materials to schools to meet application education Standards of Learning of curriculum requirements, watershed walks, participation on environmental advisory committees
Disposal or collection events	Household hazardous chemicals collection, vehicle fluid collection
Pollution prevention	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.

Measurable Goals

The City has identified the following measurable goals for evaluating compliance with the General Permit:

- The City will continue to comply with the applicable public notice requirements.
- The City will update as necessary the MS4 Program Plan in conjunction with development of the MS4 Annual Report.
- The City will post a copy of its updated MS4 Program Plan online within thirty (30) days of submittal of its MS4 Annual Report to DEQ.
- The City will post a copy of its updated MS4 Annual Report online within thirty (30) days of its submittal to DEQ.
- The City will utilize the Stormwater Complaint Hotline and the City's 311 System to receive complaints regarding stormwater issues and illicit discharges.

- The City will implement and maintain an MS4 Program Plan and MS4 Annual Report public input/feedback mechanism located on the stormwater webpage.

BMPs Selected for Implementation

The City has selected the following BMPs to meet the measurable goals for MCM 2.

Selected BMPs are as follows:

Table 4: BMPs Selected for Implementation – MCM 2

BMP	Names	Description	Reporting Items
2.1	Public Announcements	The City will provide public notification of all public meetings and hearings in accordance with any applicable federal, state, and local public notice requirements.	N/A
2.2	Public MS4 program Information Access and Feedback	The City will provide the public access to the most updated MS4 Program Plan and MS4 Annual Reports, which is located on the City's Stormwater Webpage (BMP 1.1). There is a section for the public to provide feedback as well. Copies of each year's annual report will be retained on-line for the length of the current General Permit.	Link to the City webpage containing the MS4 Program Plan and MS4 Annual Report
2.3	Stormwater Complaint Hotline & City's 311 System	The City will maintain its current stormwater complaint hotlines to encourage public reporting and involvement. The City promotes 540-662-4131 for reporting urgent issues such as illegal dumping and spills. The City promotes 540-542-1346 for reporting of less urgent issues such as maintenance issues, erosion and sediment control complaints. The City promotes and maintains an online reporting system for stormwater complains.	Citizen Complaints will be noted in a spreadsheet located in the annual report

2.4	Promotion of the Local Environmental Events	The City will annually promote a total of four events encouraging public participation and involvement including Household Hazardous Collection Days and Adopt-A-Stream. The City will promote these activities through use of its public education and outreach BMPs.	Dates and name of the environmental events.
2.5	Promotion of the Household Hazardous Waste Collection Days	The City will continue to promote the joint Frederick County/Winchester Household Hazardous Waste Collection Days program. The City will promote the Household Hazardous Waste Collection Days as one of its four local participation programs and will contribute to its implementation by providing pick-up and disposal of trash and debris collected by the participants.	Dates of household hazardous waste collection days
2.6	Sponsorship of Adopt-A-Stream Program.	The City will continue to promote Adopt-A-Stream program by sponsoring an annual stream clean-up day. In addition, the City will sponsor an Adopt-A-Stream Stream Clean-Up Day as one of its four local participation programs and will contribute to its implementation by providing pick-up and disposal of trash and debris collected by the participants.	Date of Adopt-A-Stream Clean-Up Day

To meet the measurable goals identified for MCM 2, the City will also utilize the following BMPs:

- BMP 1.1: Stormwater Webpage
- BMP 1.2: Social Media
- BMP 1.3: Public Events
- BMP 1.4: Publications (Print and Electronic)
- BMP 1.7: Educational Materials

The Measurable Goal/BMP Relationship Matrix in Table 5 demonstrates which BMPs will be used to meet each measurable goal for MCM 2.

Table 5: Measurable Goal/BMP Relationship Matrix – MCM 2

Measurable Goals	BMP 1.1	BMP 1.2	BMP 1.3	BMP 1.4	BMP 1.7	BMP 2.1	BMP 2.2	BMP 2.3	BMP 2.4	BMP 2.5	BMP 2.6
The City will continue to comply with the applicable public notice requirements.	X	X		X	X	X	X				
The City will update as necessary the MS4 Program Plan in conjunction with the development of the MS4 Annual Report.	X			X		X	X				
The City will post a copy of its updated MS4 Program Plan on-line within thirty (30) days of submittal of its MS4 Annual Report to DEQ.	X			X		X	X				
The City will post a copy of its updated MS4 Annual Report online within thirty (30) days of its submittal to DEQ.	X			X		X	X				
The City will utilize the Stormwater Complaint Hotline and the City's 311 System to receive complaints regarding stormwater issues and illicit discharges.	X			X		X	X				
The City will implement and maintain a MS4 Program Plan and MS4 Annual Report public input/feedback mechanism located on the stormwater webpage.	X	X	X	X	X	X	X	X	X	X	X

MS4 Annual Reporting

The City must include the following as part of its MS4 annual report:

General Permit Reporting Requirements

- A summary of any public input on the MS4 program received (including stormwater complaints) and how the City responded
- A webpage to the City's MS4 program and stormwater website
- A description of the public involvement activities implemented by the permittee
- 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
- The name of other MS4 permittees with whom the City collaborated in the public involvement opportunities.

BMP Specific Reporting Requirements

In addition to the General Permit reporting requirements, the MS4 Annual Report must include the specific BMP reporting items identified in Table 4.

MS4 Program Plan MCM 2 Specific Update Requirements

Requirement # 1 (Due: February 1, 2019) – Webpage Update

No later than three (3) months after this permit's effective date, the City is required to maintain a webpage dedicated to the MS4 program and stormwater pollution prevention. The following information shall be posted on this webpage:

- Effective MS4 permit and coverage letter.
- Most current MS4 Program Plan or location where the MS4 Program Plan can be obtained.
- Annual Report for each year of the term covered by this permit no later than 30 days after submittal to the department.
- Mechanisms 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.
- Methods for how the public can provide input on the City's MS4 program.

MCM 3. Illicit Discharge Detection and Elimination

Summary of the Requirements

Under the General Permit, the City of Winchester is required to develop procedures and tools in the design and implementation of the MS4 Program Plan for detection, identification, and elimination of all illicit and illegal discharges.

Under the MCM 3 requirements, the City must include:

- 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.
- Copies of written notifications of new physical interconnections given by the permittee to other MS4s.
- The IDDE procedures described in Part I E 3 c.

The City's Standard Operating Procedures Manual for Illicit Discharge, Detection, and Elimination can be found in Appendix B.

Measurable Goals

The City has identified the following measurable goals for evaluating compliance with the General Permit:

- The City will maintain a storm sewer system map and information table that includes all MS4 outfalls owned or operated by the City within the census urbanized area identified by the 2010 decennial census.
- The City will maintain a copy of the current storm sewer system map and outfall information table for review upon request.
- The City will continue to identify other points of discharge.
- The City will notify, in writing, MS4 operators of any known City points of discharge that enter the downstream MS4 prior to discharge into an MS4 outfall.
- The City will maintain legal authority to investigate and require elimination of illicit discharges and illegal dumping, identified as entering its MS4 system.
- The City will develop, implement, and update, when appropriate, written procedures to detect, identify, and address unauthorized non-stormwater discharges, including illicit discharges and illegal dumping, to the small MS4.
- The City will develop a prioritized list of and conduct dry weather field screening on at least fifty (50) MS4 Outfalls annually.
- The City will conduct follow-up on any suspect discharges identified during dry-weather field screening.

- The City will track all investigations and document the date that the illicit discharge was observed and reported, the results of the investigation, any required follow-up, resolution of the investigation, and the date that the investigation was closed.
- The City will maintain a Stormwater Management hotline and the City's 311 System for reporting of stormwater related issues including illicit discharges and illegal dumping.
- The City will provide emergency response to reported hazardous material spills and accidental releases.
- The City will provide household hazardous waste collection services to City residents.
- The City will provide scheduled trash and waste collection services to City residents.
- The City will continue efforts to eliminate sanitary sewer seepage from entering into the MS4 system.

BMPs Selected for Implementation

The City has selected the following BMPs to meet the measurable goals for MCM 3.

Selected BMPs are as follows:

Table 6: BMPs Selected for Implementation – MCM 3

BMP	Names	Description	Reporting Items
3.1	Storm Sewer Infrastructure and Outfall Mapping	The City will maintain a stormwater infrastructure layer as part of its overall GIS program. The General Public will be able to access the stormwater infrastructure layer using the City's interactive mapping program. The City will maintain an MS4 Outfall layer that identifies the location of the City's MS4 outfalls. Digital maps can be requested by completion of the GIS User Agreement found at http://www.winchesterva.gov/sites/default/files/documents/gis/gis-user-agreement.pdf. The requestor must pay any associated fees prior to delivery of the digital information	The MS4 Outfall Map and Information Table are available by request

3.2	MS4 Operator Coordination	The City will provide written notification to downstream MS4 operators where it identifies that the City's MS4 infrastructure is physically connected.	Name of MS4 Operator notified and date of notification
3.3	Legal Authority	The City will maintain legal authority prohibiting illicit discharges into the MS4 system. The legal authority will also identify those non-stormwater discharges allowed to be discharged into the MS4 system. This legal authority is established at Chapter 9, Section III of the Code of Winchester.	N/A
3.4	IDDE Investigation and Follow-Up	The City will investigate and conduct follow-up on suspect discharges in accordance to procedures included in the Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual, May 2019 edition.	Number of Illicit Discharges investigated; Number of Illicit Discharges reported; Summary of follow-ups for suspect discharges as a result of field screening.
3.5	MS4 Outfall Dry Weather Field Screening	The City will conduct dry weather screening on fifty (50) MS4 outfalls annually using procedures included in the Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual, May 2019 edition.	Number of outfalls screened; Number of outfalls with suspect discharges as a result of field screening
3.6	Illicit Discharge Tracking and Documentation	The City will track and document suspect and illicit discharges, as well as, City investigation, follow-up and enforcement actions in accordance to procedures included in the Illicit Discharge Detection and Elimination (IDDE) Standard	Summary of IDDE

		Operation Procedures Manual, May 2019 edition.	
3.7	Hazardous Spill Response	The City, in cooperation with Frederick County, will provide emergency response to hazardous material spills and accidental chemical releases.	N/A
3.8	Household Hazardous Waste Collection	The City, in cooperation with Frederick County, will continue to provide household hazardous waste collection opportunities for its residents. The collection schedule will be promoted through use of the City's social media and Cit-E newsletter.	List collection dates
3.9	Household Waste Reduction	The City will continue to provide weekly waste collection services for City residents. In addition, the City will continue to provide fall leaf collection services, yard waste collection services and bulky waste collection services to City residences. Schedules for these services will be placed on the City's Public Works web page regarding refuse and recycling (http://www.winchesterva.gov/public-works/refuse)	Approximate tonnage of household waste collected; Approximate tonnage of recycled materials (paper/cardboard, bottles/cans/plastic, scrap metal); Approximate tonnage of yard waste collected; Number of Recycling bins provided
3.10	Elimination of Sanitary Sewage Seepage from Public Sewers	The City will continue, as part of its sanitary sewer utilities program, implementation of its inflow and infiltration program to replace or slip line sanitary sewers to prevent illicit discharge. The lever of implementation of this BMP each year will be established by the City	Approximate number of linear feet of sewer line replaced; Approximate number of sanitary sewer pipe slip lined;

		Council as part of annual budget approval.	Number of Sanitary sewer manholes repaired/replaced

To meet the measurable goals identified for IDDE, the City will also utilize the following BMPs:

- BMP 2.3: Stormwater Complaint Hotline & City's 311 System
- BMP 6.5: Staff Training

The Measurable Goal/BMP Relationship Matrix in Table 7 demonstrates which BMPs are expected to be used to meet each measurable goal for MCM 3.

Table 7: Measurable Goal/BMP Relationship Matrix – MCM 3

Measurable Goals	BMP 2.3	BMP 3.1	BMP 3.2	BMP 3.3	BMP 3.4	BMP 3.5	BMP 3.6	BMP 3.7	BMP 3.8	BMP 3.9	BMP 3.10	BMP 6.5
The City will maintain a storm sewer system map and information table that includes all MS4 outfalls owned or operated by the City within the census urbanized area identified by the 2010 decennial census.		X				X	X				X	X
The City will maintain a copy of the current storm sewer system map and outfall information table for review upon request.		X										
The City will continue to identify other points of discharge.	X	X			X	X	X	X			X	X
The City will notify, in writing, MS4 operators of any known City points of discharge that enter the downstream MS4 prior to discharge into an MS4 outfall.		X	X		X	X						
The City will maintain legal authority to investigate and require elimination of illicit discharges and illegal dumping, identified as entering its MS4 system.	X			X	X		X	X			X	X
The City will develop, implement, and update, when appropriate, written procedures to detect, identify, and address unauthorized non-stormwater discharges, including illicit discharges and illegal dumping, to the small MS4.	X	X		X	X	X	X				X	X
The City will develop a prioritized list of, and conduct dry weather field screening on, fifty (50) MS4 Outfalls annually.	X	X				X					X	X

Measurable Goals	BMP 2.3	BMP 3.1	BMP 3.2	BMP 3.3	BMP 3.4	BMP 3.5	BMP 3.6	BMP 3.7	BMP 3.8	BMP 3.9	BMP 3.10	BMP 6.5
The City will conduct follow-up on any suspect discharges identified during dry-weather field screening.		X		X	X	X	X				X	X
The City will track all investigations and document the date that the illicit discharge was observed and reported, the results of the investigation, any required follow-up, resolution of the investigation, and the date that the investigation was closed.	X	X		X	X		X				X	X
The City will maintain a Stormwater Management hotline and the City's 311 System for reporting of stormwater related issues including illicit discharges and illegal dumping.	X	X		X	X		X	X			X	
The City will provide emergency response to reported hazardous material spills and accidental releases.	X	X		X	X			X				
The City will provide household hazardous waste collection services to City residents.						X	X		X	X		
The City will provide scheduled trash and waste collection services to City residents.						X	X		X	X		
The City will continue efforts to eliminate sanitary sewer seepage from entering into the MS4 system.	X	X	X	X	X	X					X	X

MS4 Annual Reporting

The City must include the following as part of its MS4 Annual Report:

General Permit Reporting Requirements

- 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.
- List of illicit discharges to the MS4 including spills reaching the MS4 with information as follows:
  - Source of illicit discharge
  - 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 (describe)
  - How the investigation was resolved
  - Description of any follow-up activities
  - Date the investigation was closed

BMP Specific Reporting Requirements

In addition to the General Permit reporting requirements, the MS4 Annual Report must include the specific BMP reporting items identified in Table 6.

MS4 Program Plan MCM 3 Specific Update Requirements

Requirement # 1 (Due: July 1, 2019) – GIS-compatible shapefile or PDF of MS4 map

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

MCM 4. Construction Site Stormwater Runoff Control

Summary of the Requirements

Under the General Permit, the City is required to implement a Virginia Erosion and Sediment Control Program (VESCP) that is 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).

The City is also required to implement appropriate controls to prevent non-stormwater 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 non-stormwater discharges other than those identified in 9VAC25-890-20 D through the MS4 is not authorized under this MS4 General Permit.

The Construction Site Stormwater Runoff Control Program shall specifically include:

- The local ordinance citations for the VESCP program.
- A description of the legal authorities utilized to ensure compliance with Part I E 4 to control construction site stormwater runoff control such as ordinances, permits, orders, specific contract language, and inter-jurisdictional agreements.
- Written inspection procedures to ensure the erosion and sediment controls are properly implemented and all associated documents utilized during inspection including the inspection schedule.
- 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.

Documents and other reference materials used by the City for implementation of the Construction Site Stormwater Runoff Control Program are listed in Table 5 and Table 16.

Measurable Goals

The following measurable goals are included in the updated MS4 Program Plan for MCM 4:

- The City's ESC Program will be found consistent during any programmatic Evaluation by DEQ.
- The City will review ESC plans for land disturbing activities for compliance with Chapter 9 Article 2 of the Winchester City Code.
- The City will require an agreement in lieu of plan for single family residential land disturbing activities.

- City employees will maintain the appropriate certifications required for plan review, inspection and administration of the City's ESC Program.
- All regulated land disturbing activities will be required to identify a Responsible Land Developer.
- The City will use its legal authority to require that a land disturbing activity has an approved ESC Plan or agreement in lieu of plan prior to land disturbance.
- The City will utilize and maintain the stormwater complaint hotline and the City 311 System as the mechanisms for the public to report citizen complaints regarding construction stormwater.
- The City will continue to implement a land disturbing activity inspection schedule in accordance with Chapter 9 Article 2 of the Winchester City Code.
- The City will use its legal authority to require control of construction wastes at land disturbing activities.
- The City will require that land disturbing activities regulated under the Virginia Stormwater Management Program (VSMP) Construction Stormwater Program obtain VPDES Permit coverage prior to land disturbance.

BMPs Selected for Implementation

The City has selected the following BMPs to meet the measurable goals for MCM 4.

Selected BMPs are as follows:

Table 8: BMPs Selected for Implementation – MCM 4

BMP	Names	Description	Reporting Items
4.1	Legal Authority – ESC	The City will maintain legal authority for implementation of a local erosion and sediment control program consistent with 9VAC25-840-10 et. seq. This legal authority is established at Chapter 9 of the Code of Winchester.	N/A
4.2	Land Disturbing Activity Plan Review	The City will require submission of complete Land Disturbance Permit Application and Virginia Stormwater Management Program Permit Packages for regulated land disturbance activities. The City will review the packages for compliance with Chapter 9, Article 2 of the City Code (Erosion	Number of Land-disturbance plans submitted; Number of Land-disturbance plans reviewed; Number of Land-disturbance

		Control) and Chapter 9, Article 3 of the City Code (Stormwater Management) by reviewing the checklists included in the permit application packages. Approval for land disturbance will not be given by the City until an application is approved.	plans approved
4.3	VPDES Construction Activity Permit Coordination	The City will not authorize initiation of land disturbance activities until it receives evidence that the applicant has applied for and obtained coverage under the Virginia General Permit for Discharges of Stormwater from Construction Activities for construction activity, including a general permit registration statement as required under City Code Section 9-50.	Number of VPDES General Permit for the Discharge of Stormwater from Construction Activities permits required
4.4	Land Disturbing Activity Inspections	The City will maintain a land disturbance inspection program that is consistent with the requirements of Section 9-39 of the City Code. In addition, as part of these inspections, the City will inspect sites for compliance with Section 9-58 of the City Code requiring implementation of a pollution prevention plan and Section 9-67 of the City Code requiring compliance with the approved stormwater management plan. The City will enforce these requirements as authorized and in accordance to Chapter 9 of the City Code.	Number of inspections; Number of and type of enforcement actions taken
4.5	Land Disturbing Activity Tracking and Recordkeeping	The City has an existing program to track land disturbance activities to provide the necessary information for routine inspections, as-built inspections, surveys, and determining which areas may be most likely to incur heavier than normal sediment loading. Plan approval records and inspections will be tracked and documented in the City's digital records system, SunGard.	Number of Land-disturbance plans submitted; Number of Land-disturbance plans reviewed; Number of Land-disturbance plans approved.

To meet the measurable goals identified for MCM 4, the City will also utilize the following BMPs:

- BMP 2.3: Stormwater Complaint Hotline & City's 311 System
- BMP 6.5: Staff Training

The Measurable Goal/BMP Relationship Matrix in Table 9 demonstrates which BMPs will be used to meet each Measurable Goal for MCM 4.

Table 9: Measurable Goal/BMP Relationship Matrix – MCM 4

Measurable Goals	BMP 2.3	BMP 4.1	BMP 4.2	BMP 4.3	BMP 4.4	BMP 4.5	BMP 6.5
The City's ESC Program will be found consistent during any programmatic Evaluation by DEQ.			X	X	X	X	X
The City will review ESC plans for land disturbing activities for compliance with Chapter 9 Article 2 of the Winchester City Code.		X	X			X	
The City will require an agreement in lieu of plan for single family residential land disturbing activities.			X	X		X	
City employees will maintain the appropriate certifications required for plan review, inspection and administration of the City's ESC Program.			X			X	X
All regulated land disturbing activities will be required to identify a Responsible Land Developer.			X		X	X	
The City will use its legal authority to require that a land disturbing activity has an approved ESC Plan or agreement in lieu of plan prior to land disturbance.		X	X	X	X	X	
The City will utilize and maintain the stormwater complaint hotline and the City 311 System as the mechanisms for the public to report citizen complaints regarding construction stormwater.	X					X	
The City will continue to implement a land disturbing activity inspection schedule in accordance with Chapter 9 Article 2 of the Winchester City Code.					X	X	X
The City will use its legal authority to require control of construction wastes at land disturbing activities.		X				X	
The City will require that land disturbing activities regulated under the Virginia Stormwater Management Program (VSMP) Construction Stormwater Program obtain VPDES Permit coverage prior to land disturbance.				X		X	

MS4 Annual Reporting

The City must include the following as part of its MS4 Annual Report:

General Permit Reporting Requirements

- Total number of inspections conducted
- Total number and type of enforcement actions implemented

BMP Specific Reporting Requirements

In addition to the General Permit reporting requirements, the MS4 Annual Report must include the specific BMP reporting items identified in Table 8.

MS4 Program Plan MCM 4 Specific Update Requirements

As of May 1, 2019, there are no mandated updates to MCM 4 identified in the MS4 General Permit scheduled for the duration of the permit cycle.

MCM 5. Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands

Summary of the Requirements

Under the General Permit, the City is required to implement a Post-Construction Stormwater Management Program for New Development and Redevelopment designed to address discharges entering the MS4.

The Post-Construction Stormwater Management Program for New Development and Redevelopment shall specifically include:

- A copy of the VSMP approval letter issued by the department.
- Written inspection procedures and all associated documents utilized in the inspection of privately owned stormwater management facilities.
- Written procedures for compliance and enforcement of inspection and maintenance requirements for privately owned BMPs.
- 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.
- Written inspection procedures and all associated documents utilized during inspection of stormwater management facilities owned or operated by the City.
- The stormwater management facility spreadsheet or database incorporated by reference and the location or webpage address where the spreadsheet or database can be reviewed.

MCM 5 is closely related to having a VSMP that is consistent with the requirements of Virginia Stormwater Management Act (§ 62.1-44.15:24 et. seq.) and VSMP Regulations (9VAC25-870).

Measurable Goals

The following measurable goals are included for MCM 5:

- The City's VSMP will be found consistent during any programmatic evaluation by DEQ.
- The City will review stormwater management plans for compliance with Chapter 9 Article 3 of the Winchester City Code.
- The City will use its legal authority to require that a land disturbing activity has an approved stormwater management plan prior to land disturbance.
- The City will inspect regulated land disturbing activities for implementation of a SWPPP.

- The City will inspect land disturbing activities for implementation of an approved stormwater management plan.
- The City will require Maintenance Agreements for stormwater management facilities approved as part of a stormwater management plan.
- The City will conduct annual inspections on stormwater management facilities that it operates.
- The City will conduct maintenance on its stormwater management facilities when identified as part of an annual inspection.
- Inspections will be conducted on private stormwater management facilities at a minimum of once every five (5) years.
- The City will use its legal authority to ensure that required maintenance is completed when identified as part of an inspection.

BMPs Selected for Implementation

The City has selected the following BMPs to meet the measurable goals for MCM 5.

Selected BMPs are as follows:

Table 10: BMPs Selected for Implementation – MCM 5

BMP	Names	Description	Reporting Items
5.1	Legal Authority - SWM	The City will maintain legal authority necessary to implement a VSMP that is consistent with 9VAC25-870-10 et. seq. This legal authority is established at Chapter 9, Section III of the Code of Winchester	N/A
5.2	Private Stormwater Management Facility Inspections	The City will maintain a post development stormwater management facility inspection program in accordance with Section 9-67 of the City Code. Inspections on such facilities will be conducted at least once every five (5) years. Under required Maintenance Agreements executed by and between a private landowner (BMP 5.3), the City is provided with the right-of-access to the private property on which a stormwater BMP is located, confers responsibility for construction and maintenance to the private landowner	Number of inspections; Number of and type of enforcement actions taken; Number of SWM Facilities needing follow-up maintenance

		or property owners' association, and ensures that the City can undertake steps to maintain a facility should an inspection identify any deficiencies or problems. Maintenance Agreements are recorded with title to the property, providing the City with an enforceable legal instrument should a private landowner neglect to maintain a stormwater management facility constructed on his or her property. Inspection records will be kept on file with the City Engineer's Division.	
5.3	Maintenance Agreements	The City will require executed Maintenance Agreements for stormwater management facilities in accordance to Chapter 9, Article 63. The agreement shall be recorded in the office of the Clerk of the Circuit Court of the City of Winchester. A copy of the City of Winchester Stormwater Facilities/BMP Maintenance Agreement is included in the Virginia Stormwater Management Program Permit Application.	Number of maintenance agreements (SWM Facilities)
5.4	City-Owned Stormwater Management Facility Inspections	The City Division of Engineering will inspect stormwater management facilities owned/operated by the City annually using procedures identified in the Public Stormwater Management Facility Inspection Standard Operating Procedures Manual, May 2019 edition. Copies of the inspections will be kept on file with the City Engineer's Division.	Number of inspections; Number of SWM Facilities needing follow-up maintenance
5.5	City-Owned Management Facility Maintenance	The City Division of Public Works and Parks & Recreation will conduct maintenance on City-Owned Stormwater Management Facilities as necessary and in response to Division of Engineering inspections.	Summary of maintenance activities (SWM Facilities)

5.6	Tracking and Documentation	The City will track and document permanent stormwater management facilities in the City's BMP spreadsheet maintained by the City Engineering Division.	Submission of excel spreadsheet detailing new stormwater management facilities

To meet the measurable goals identified for MCM 5, the City will also utilize the following BMPs:

- BMP 4.2: Land Disturbing Activity Plan Review
- BMP 4.3: VPDES Construction Activity Permit Coordination
- BMP 4.4: Land Disturbing Activity Inspections

The Measurable Goal/BMP Relationship Matrix in Table 11 demonstrates which BMPs will be used to meet each measurable goal for MCM 5.

Table 11: Measurable Goal/BMP Relationship Matrix – MCM 5

Measurable Goals	BMP 4.2	BMP 4.3	BMP 4.4	BMP 5.1	BMP 5.2	BMP 5.3	BMP 5.4	BMP 5.5	BMP 5.6
The City's VSMP will be found consistent during any programmatic evaluation by DEQ.	X	X	X	X	X	X	X	X	X
The City will review stormwater management plans for compliance with Chapter 9 Article 3 of the Winchester City Code.	X			X			X	X	X
The City will use its legal authority to require that a land disturbing activity has an approved stormwater management plan prior to land disturbance.	X	X	X	X					X
The City will inspect regulated land disturbing activities for implementation of a SWPPP.			X						X
The City will inspect land disturbing activities for implementation of an approved stormwater management plan.			X				X	X	X
The City will require Maintenance Agreements for stormwater management facilities approved as part of a stormwater management plan.			X	X	X	X	X	X	X
The City will conduct annual inspections on stormwater management facilities that it operates.			X				X	X	X
The City will conduct maintenance on its stormwater management facilities when identified as part of an annual inspection.			X			X		X	X
Inspections will be conducted on private stormwater management facilities at a minimum of once every five (5) years.			X		X	X			X
The City will use its legal authority to ensure that required maintenance is completed when identified as part of an inspection.				X		X		X	X

MS4 Annual Reporting

The City must include the following as part of its MS4 Annual Report.

General Permit Reporting Requirements

The City will track, collect and submit to DEQ in its MS4 Annual Report the following items regarding MCM 5:

- The number of privately owned stormwater management facility inspections conducted
- The number of enforcement actions initiated by the City to ensure long-term maintenance of privately owned stormwater management facilities including the type of enforcement action.
- Total number of inspections conducted on stormwater management facilities owned or operated by the City.
- Total number of inspections conducted on stormwater management facilities owned or operated by the City.
- A description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the City to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection.
- A confirmation statement that the City submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the City 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 City did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities.
- A confirmation statement that the City 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.

BMP Specific Reporting Requirements

In addition to the General Permit reporting requirements, the MS4 Annual Report must include the specific BMP reporting items identified in Table 10.

MS4 Program Plan MCM 5 Specific Update Requirements

As of May 1, 2019, there are no mandated updates to MCM 5 identified in the MS4 General Permit scheduled for the duration of the permit cycle.

MCM 6. Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee within the MS4 Service Area

Summary of the Requirements

Under the General Permit, the City is required to implement a Pollution Prevention and Good Housekeeping written procedures to reduce the amount of pollutants discharged in stormwater runoff from the high priority facilities owned or operated by the City. These written procedures will be utilized as part of the employee stormwater training program for appropriate City staff. In addition, MCM 6 requires the City to implement NMPs on certain properties.

MS4 Program plan shall include:

- Written procedures for the operations and maintenance activities as required by Part I.E.6.a
- 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
- A list of land for which turf and landscape nutrient management plans are required in accordance with Part I.E.6.i and j, including the following information:
    - Total acreage on which nutrients are applied
    - Date of the most recently approved nutrient management plan for the property
    - Location in which the individual turf and landscape nutrient management plan is located.
- 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
- Written training plan as required in Part I.E.6.m.

Measurable Goals

The following measurable goals are included in the updated MS4 Program Plan for MCM 6:

- The City will implement, maintain, and update as necessary the written procedures/SOPs for those activities at facilities owned or operated by the City, which was updated on May 2019.
- The City will continue coverage of the City Yards facility under the VPDES General Permit for the Discharge of Stormwater from Industrial Activities.

- The City will continue to implement, maintain, and update as necessary SWPPPs that were created for VPDES General Permit and High Priority Facilities.
- The City will implement, maintain, and update as necessary NMPs on City properties identified in the NMP Facility Evaluation, which was created on June 2016.
- The City will implement, maintain, and update every two (2) years the City of Winchester Stormwater Training Plan for relevant employees.
- City employees will maintain the appropriate certifications required for plan review, inspection, and program administration of the City's ESC Program.
- City employees will maintain the appropriate certifications required for plan review, inspection, and program administration of the City's Stormwater Management Program.
- City employees and contractors will maintain the appropriate certifications required for pesticide application as required under the Pesticide Act.

BMPs Selected for Implementation and the Reporting Items

The City has selected the following BMPs to meet the measurable goals for MCM 6.

Selected BMPs are as follows:

Table 12: BMPs Selected for Implementation MCM 6

BMP	Names	Description	Reporting Items
6.1	Standard Operating Procedures	City will implement, maintain, and update as necessary standard operating procedures and pollution prevention methods for those activities at facilities owned or operated by the City	N/A
6.2	Stormwater Pollution Prevention Plans	City will develop, implement, maintain, and update as necessary SWPPPs for High-Priority Facilities.	N/A
6.3	Nutrient Management Plans	City will develop, implement, maintain, and update as necessary NMPs by a certified turf and landscape nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia. NMPs must be renewed every three years. Copies of the nutrient management plans will be incorporated by	Any new or updated NMPs

		reference into the MS4 Program Plan upon approval.	
6.4	Pollution Prevention Inspections	City will conduct quarterly pollution prevention inspection at the High Priority Facilities accordingly following the inspection guidelines in the SWPPP.	Date of Inspection
6.5	Staff Training	City will conduct staff training and follow guidelines in accordance with the City of Winchester Stormwater Training Plan, May 2019 edition.	List of Training Events (including dates, # attending, training objective)
6.6	Street Sweeping	The City will continue its street sweeping program and track amount of litter and debris removed.	# of lane miles swept
6.7	VPDES Industrial Stormwater Permit Compliance Coordination	City will maintain and update as necessary the Stormwater Pollution Prevention Plan as required under the Virginia General Permit for Discharge of Stormwater from Industrial Activities	Stormwater Permit with Coverage Letter & most updated SWPPP

The Measurable Goal/BMP Relationship Matrix in Table 13 demonstrates which BMPs will be used to meet each Measurable Goal for MCM 6.

Table 13: Measurable Goal/BMP Relationship Matrix – MCM 6

Measurable Goals	BMP 6.1	BMP 6.2	BMP 6.3	BMP 6.4	BMP 6.5	BMP 6.6	BMP 6.7
The City will implement, maintain, and update as necessary the written procedures/SOPs for those activities at facilities owned or operated by the City, which was created on June 2015.	X	X	X	X	X	X	X
The City will continue coverage of the City Yards facility under the VPDES General Permit for the Discharge of Stormwater from Industrial Activities.	X						X

Measurable Goals	BMP 6.1	BMP 6.2	BMP 6.3	BMP 6.4	BMP 6.5	BMP 6.6	BMP 6.7
The City will continue to implement, maintain, and update as necessary SWPPPs that were created for VPDES General Permit and High Priority Facilities.	X	X		X	X		
The City will implement, maintain, and update as necessary NMPs on City properties identified in the NMP Facility Evaluation, which was created on June 2016.	X		X		X		
The City will implement, maintain, and update every two (2) years the City of Winchester Stormwater Training Plan for relevant employees.	X				X		
City employees will maintain the appropriate certifications required for plan review, inspections, and program administration of the City's ESC Program.	X				X		
City employees will maintain the appropriate certifications required for plan, review, inspection, and program administration of the City's Stormwater Management Program.	X				X		
City employees and contractors will maintain the appropriate certifications required for pesticide application as required under the Pesticide Act.	X				X		

MS4 Annual Reporting

The City must include the following as part of its MS4 Annual Report:

General Permit Reporting Requirements

- A summary of any operational procedures developed or modified for those activities at facilities owned or operated by the City during the reporting period.
- A summary of any new SWPPPs developed for the high-priority facilities that have a high potential for discharging pollutants that are not covered under a separate VPDES permit during the reporting period.
    - No later than June 30 of each year, the City 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 City shall develop a SWPPP meeting the requirements of Part I E 6 d no later than December 31 of that same year.

- A summary of any SWPPPs modified or the rationale of any high priority facilities delisted during the reporting period.
- A summary of any new turf and landscape nutrient management plans developed that includes:
  - Location and the total acreage of each land area
  - The date of the approved nutrient management plan
- A list of the training events conducted
  - The date of the training event
  - The number of employees who attended the training event
  - The objective of the training event

BMP Specific Reporting Requirements

In addition to the General Permit reporting requirements, the MS4 Annual Report must include the specific BMP reporting items identified in Table 11.

MS4 Program Plan MCM 6 Specific Update Requirements

Requirement # 1 (Due: November 1, 2019) – Identify High Priority Facilities with High Potential to Discharge Pollutants.

The City must identify if there are any more City owned or operated High Priority Facilities. Also, the City must develop, implement, maintain, and update as necessary a SWPPP for each of the High Priority Facilities.

Table 14: Sites Identified as Requiring NMPs

Address	Notes Regarding Use	Turf Acreage	Latitude	Longitude
1001 E Cork St.	Jim Barnett Park	71.6	39.1727797	-78.1548890
623 North Pleasant Valley Rd.	Friendship Park	9.3	39.1899529	-78.1508964
900 Whittier Ave.	Whittier Park	5.9	39.1911247	-78.1779289
167 Bruce Dr.	Weaver Neighborhood Park	5.1	39.149049	-78.1757645
2024 Harvest Dr.	Park Place Public Park	4.0	39.1659935	-78.1887412
805 Crestview Terrace St.	West Ridge & Harvest Ridge Park	1.4	39.1585249	-78.1931146

Special Conditions

As a result of approved TMDLs, the following General Permit Special Conditions are applicable to the City:

- Chesapeake Bay TMDL special condition.
- Local TMDL special condition.

Table 5 identifies those TMDLs in which the City has waste load allocations (WLAs).

Table 15: TMDLs with Waste Loads Allocated to the City of Winchester

TMDL	Approval Date	Pollutant of Concern	WLA
Opequon Watershed TMDLs for Benthic Impairments: Abrams Creek and Lower Opequon Creek, Frederick and Clarke Counties, Virginia	6/28/2005	Sediment	442.7 tons/year of sediment to Abrams Creek[1]
			269.2 tons/year of sediment to the Lower Opequon Creek[1]
Bacteria TMDLs for Abrams Creek and Upper and Lower Opequon Creek Located in Frederick and Clarke County, Virginia	12/20/2005	E. Coli	310×10^{10} cfu/year of E. coli to Abrams Creek
Chesapeake Bay TMDL for Nitrogen, Phosphorus and Sediment	12/29/2010[2]	Sediment	Pollutant reduction calculations for sediment, phosphorus and nitrogen will be calculated with development of the Chesapeake Bay Action Plan
		Phosphorus	
		Nitrogen	

[1] WLA Aggregated with VDOT MS4
[2] Approved by EPA

Previously, in response to the Opequon Creek Watershed TMDL Implementation Plan, which was approved by the Virginia State Water Control Board on March 23, 2007, the City has incorporated the following pollutant reduction efforts into its operations:

- Reduced the threshold for regulated land disturbing activities from 10,000 ft^2 to 5,000 ft^2 under Chapter 9 Article 2
- Instituted stream buffer protection under Chapter 9 Article 4
- Prohibited feeding of waterfowl under Chapter 5 Article 3
- Continued its program to eliminate entry of sanitary sewage into the storm system

MS4 Program Plan Special Conditions Specific Update Requirements

Requirement # 1 (Due: May 1, 2020) – Local TMDL

- For TMDLs approved by the EPA prior to July 1, 2013, and in which an individual or aggregate waste load has been allocated to the City, the City shall update the previously approved local TMDL action plans to meet the conditions of Part II B 3, B 4, B 5, B 6, and B 7 as applicable, no later than 18 months after the permit effective date and continue implementation of the action plan.

Requirement # 2 (Due: November 1, 2022) – Local TMDL

- No later than 36 months after the effective date of this permit, the City shall submit to the department the anticipated end dates by which the City will meet each WLA for sediment, phosphorous, or nitrogen. The proposed end date may be developed in accordance with Part II B 2.

Requirement # 3 (Due: November 1, 2019) –Chesapeake Bay TMDL

- No later than 12 months after the permit effective date, the City shall submit an updated Chesapeake Bay TMDL action plan for the reductions required in Part II A 3, A 4, and A 5 that includes the following information on Part II A 11.

Documents Incorporated by Reference

Documents identified in Table 6 are considered part of the MS4 Program Plan. These documents provide policy, procedure and guidance for implementation of certain BMPs and measurable goals.

Table 16: Documents Incorporated into the MS4 Program Plan by Reference

Title	Date	Location
City Code Chapter 9-Water Quality	N/A	https://library.municode.com/va/winchester/codes/code_of_ordinances?nodeId=CD_CH9WAPR
Public Services Standards Manual	10/2017	http://www.winchesterva.gov/sites/default/files/documents/engineering/2017-standards.pdf
VSMP Permit Application Package	07/2014	http://www.winchesterva.gov/sites/default/files/documents/engineering/vsmp_2014_-_fillable.pdf
Land Disturbance Application Package	07/2014	http://www.winchesterva.gov/sites/default/files/documents/engineering/ldp_application_2014_fillable.pdf
Land Disturbance Package-Single Family Dwellings	07/2014	http://www.winchesterva.gov/sites/default/files/documents/engineering/ldp_application_-_sf_2014_-_fillable.pdf
Public Education Outreach Plan	05/2019	Appendix A
Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual	05/2019	Appendix B
Public Stormwater Management Facility Inspection Standard Operating Procedures Manual	05/2019	Appendix C
Municipal High Priority Facility Determination	05/2019	Appendix D
Nutrient Management Plan Facility Determination	05/2019	Appendix E
City of Winchester Stormwater Training Plan	05/2019	Appendix F

Additional MS4 Program Reference Materials

In addition to the documents incorporated into the MS4 Program Plan in Table 17, the City of Winchester has additional reference materials available for use in implementation of the MS4 Program as necessary and are not considered part of the MS4 Program Plan itself.

Table 17: Additional MS4 Program Reference Materials

Available Materials	Expected Usage for MCMs:						Location
	1	2	3	4	5	6	
Brochure/Flyer "Adopting a Stream in Winchester is Easy"	X	X					http://www.winchesterva.gov/sites/default/files/documents/engineering/Six%20Steps%20Flyer.pdf
Brochure/Flyer "Do Not Feed the Geese in the Park"	X	X					http://www.winchesterva.gov/sites/default/files/documents/engineering/geese20brochure201-12-09.pdf
Presentation "What is a Watershed?" by EPA/The Weather Channel	X						Direct link from Winchester Stormwater page: https://www.youtube.com/watch?v=PazndNOcXPQ
Presentation "How to Make Your Own Rain Barrel"	X	X					Direct link from Winchester Stormwater page: http://www.winchesterva.gov/sites/default/files/documents/engineering/rain-barrel-workshop-presentation.pdf
Brochure/Flyer "It's Your Doodie" (Pet Waste)	X	X					http://www.winchesterva.gov/sites/default/files/documents/engineering/pet-waste-brochure.pdf
City Stormwater Webpage	X	X	X	X	X		www.winchesterva.gov/engineering/stormwater
City 311 System		X	X	X	X		https://www.winchesterva.gov/knowledgebase
City Calendar Webpage	X	X	X				http://www.winchesterva.gov/calendar
Brochure/Flyer "Stormwater Complaint Hotline"	X	X	X	X			http://www.winchesterva.gov/sites/default/files/documents/engineering/Stormwater%20Complaint%20Hotline%20v2.pdf
Annual Report		X					www.winchesterva.gov/engineering/stormwater
Brochure/Flyer "Yard Waste"		X	X				http://www.winchesterva.gov/sites/default/files/documents/public-works/Yard%20Waste%20Notice%20-%20new.pdf
Brochure/Flyer "Adopt-a-Stream"		X					http://www.winchesterva.gov/engineering/adopt-a-stream
"Unwanted Items" Webpage		X	X				http://www.winchesterva.gov/public-works/unwanted-items
"Refuse and Recycling" Webpage		X	X				http://www.winchesterva.gov/public-works/refuse
Virginia Erosion and Sediment Control Handbook				X			http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/Publications/ESCHandbook.aspx
Virginia Erosion and Sediment Control Law (§62.1-44.15:51 et. seq.)				X			https://law.lis.virginia.gov/vacode/title62.1%20/chapter3.1/section62.1-44.15:51/

Available Materials	Expected Usage for MCMs:						Location
	1	2	3	4	5	6	
Virginia Stormwater Management Handbook (2013-Draft)					X		https://www.deq.virginia.gov/Programs/Water/StormwaterManagement/Publications.aspx
City BMP Spreadsheet					X		City Engineering Division Office
BMP Inspection Reports					X		City Engineering Division Office
City Yards SWPPP						X	Physically located at Winchester City Yards/301 E Cork Street/Winchester, VA 22601

Appendix A

Public Education and Outreach Program

Public Education and Outreach Program

May 2019 Edition

City of Winchester, Virginia
Rouss City Hall
Department of Public Services
15 North Cameron Street
Winchester, VA 22601

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1.0 MS4 GENERAL PERMIT REQUIREMENTS

The MS4 General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) (General Permit) requires that the City of Winchester (City) implement a MS4 Public Education and Outreach Program (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.

The City is required to identify at least three high-priority stormwater issues and utilize two or more of the strategies per year to communicate as well as educate the public of these stormwater issues and how to reduce stormwater pollution. These high-priority stormwater issues may include Chesapeake Bay nutrients, pet wastes, local receiving water impairments, Total Maximum Daily Loads (TMDLs), high-quality receiving waters, and illicit discharges from commercial sites.

This Program will clearly identify the high-priority stormwater issues, explain the importance of the high-priority issues, include measures or actions the public can take to minimize the impact of the high-priority stormwater issues, and provide a contact, website, or location where the public can find out more information.

2.0 IDENTIFICATION OF THE PROPOSED HIGH-PRIORITY STORMWATER ISSUES, TARGETED AUDIENCE(S), AND THE RATIONALE FOR EACH SELECTION

Table 1 provides the City's proposed three (3) High-Priority Water Quality Issues, the Targeted Audience(s), and the Selection Rationale for each issue. The targeted audiences were selected based on the potential to have significant impacts for each high-priority stormwater issues, and this is consistent with the City's previous Program.

Table 1: Potential High Priority Stormwater Issues.

High-Priority Water Quality Issue	Targeted Audience(s)	Selection Rationale
Reduce the amount of sediments and nutrients in area stormwater discharges	Residential property owners and tenants	City of Winchester (MS4) discharges to local waters that are considered impaired or "not meeting" water quality standards. This water pollution is caused by sediments and nutrients discharged with stormwater that does not undergo any pollutant treatment. In addition, under the Chesapeake Bay TMDL, the City is required to reduce the sediment and nutrient loads discharged with stormwater.
	Contractors, including landscaping companies, conducting work in Winchester	
Reduce the bacteria levels in City of Winchester streams	Properties using septic systems	City of Winchester (MS4) discharges to local waters that are considered impaired or "not meeting" water quality standards. This water pollution is caused by excessive bacteria, especially from animal waste, discharged with stormwater that does not undergo any pollutant treatment.
	Dog owners	
Reduce the number of illicit discharges	Residential property owners and tenants	City of Winchester (MS4) has an active Illicit Discharge Detection and Elimination Program. One effective method to reduce pollutants in waterways is to reduce the number of illicit discharges. However, to reduce the amount of illicit discharges, the public must recognize and understand the impacts of these discharges that do not have the authorization under the VPDES General Permit.
	School aged children	
	Commercial establishments	

3.0 STRATEGIES FOR PUBLIC EDUCATION ANDOUTREACH

Table 3 displays the proposed strategies the City may utilize for the Public Education and Outreach Program. The City's current Program utilizes all of the strategies listed in Table 3 and will continue to perform these strategies to ensure optimal outreach to the public. Under this program, the City will also advertise Public Involvement events such as stream clean-up.

By increasing the public's knowledge and awareness of stormwater pollution and providing methodology of reducing pollutants and contaminants, there is a greater chance of public involvement to improve the overall quality of the waterways.

Table 3: Strategies for Public Education and Outreach

Strategies for Public Education and Outreach			
Strategies		**Explanation**	**Anticipated Time of Delivery**
Traditional Written Materials	Informational brochures, newsletters, fact sheets, utility bill inserts, or recreational guides for targeted groups of citizens	Inform residents, commercial establishments, and contractors about how pollutants can create water quality issues and how good pollution prevention plan methodologies can help reduce negative impacts on the waterbodies	Annually (Once every one or two years)
Alternative materials	Bumper stickers, refrigerator magnets, t-shirts, or drink koozies	Increase awareness of water quality issues, and how pollutants can have a negative impact on the waterbodies.	Annually (one to three times a year)
Signage	Temporary or permanent signage in public places or facilities, vehicle signage, bill boards, or storm drain	Increase awareness of water quality issues, and how pollutants can have a negative impact on the waterbodies.	Permanent structure.
Media Materials	Information disseminated through electronic media, radio, televisions, movie theater, or newspaper	Inform residents, commercial establishments, and contractors about how pollutants can create water quality issues and how good pollution prevention plan methodologies can help reduce negative impacts on the waterbodies	Annually (Once every one to two years)
Speaking Engagements	Presentations to school, church, industry, trade, special interest, or community groups	Inform residents, commercial establishments, and contractors about how pollutants can create water quality issues and how good pollution prevention plan methodologies can help reduce negative impacts on the waterbodies	Annually (Several times a year)
Curriculum Materials	Materials developed for school-aged children, students at local colleges or universities, or extension classes offered to local citizens.	Inform residents, commercial establishments, and contractors about how pollutants can create water quality issues and how good pollution prevention plan methodologies can help reduce negative impacts on the waterbodies	Annually (Several times a year)

Training Materials	Materials developed to disseminate during workshops offered to local citizens, trade organization, or industrial officials.	Inform residents, commercial establishments, and contractors about how pollutants can create water quality issues and how good pollution prevention plan methodologies can help reduce negative impacts on the waterbodies	Annually (Once every one to two years)

Appendix B

Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual

Illicit DischargeDetection and Elimination (IDDE) Standard Operating Procedures Manual

May 2019 Edition

Department of Public Services
Engineering Division
15 North Cameron St.
Winchester, VA 22601
Phone (540) 667-1815

Photographs and Figures 1-4 in this document are credited to: Brown, Edward, Deb Caraco, and Robert Pitt. Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments; Water Permits Division, US EPA Office of Water and Wastewater, Washington, D.C., 2004. Cooperative Agreement No. X-82907801-0

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Referenced Spreadsheets

Winchester IDDE Tracking and Documentation Spreadsheet, June 2014 edition

Winchester – Abrams Creek Discharge Points, May 2017 edition

Winchester – Abrams Creek POD, May 2017 edition

Winchester – Buffalo Lick Run Discharge Points, May 2017 edition

Winchester – Buffalo Lick Run POD, May 2017 edition

Winchester – Hogue Run Discharge Points, May 2017 edition

Winchester – Hogue Run POD, May 2017 edition

Winchester – Town Run Discharge Points, May 2017 edition

Winchester – Town Run POD, May 2017 edition

1

1 Introduction

Overview

The City of Winchester operates a municipal separate storm sewer system (MS4) that is regulated under the federal Clean Water Act. As a result, discharges from the City's MS4 *OUTFALLS*[1] into downstream waterbodies are authorized under the Virginia General Permit for Stormwater Discharges from Small MS4s (MS4 General Permit) issued by the Virginia Department of Environmental Quality (DEQ). As a condition of the General Permit, the City is required to develop and implement a program to detect and eliminate *ILLICIT DISCHARGES*[2] to their MS4.

The City is required to eliminate illicit discharges from entry into the MS4, promote citizen reporting of illicit discharges, and conduct follow-up inspections. In addition to responding to complaints, the City is required to proactively identify and eliminate additional illicit discharges by conducting annual dry weather screening and follow-up inspections.

The standard operating procedure (SOP) included in this manual outlines the responsibilities and procedures that are to be implemented by the City in order to comply with the MS4 General Permit conditions regarding Illicit Discharge Detection and Elimination (IDDE).

This SOP manual is applicable to the City of Winchester employees and its contractors assigned to inspect stormwater infrastructures for evidence of illicit discharges. This SOP manual is published by authority of the Department of Public Services (DPS).

[1] OUTFALL, when used in reference to municipal separate storm sewer systems (MS4s), is a stationary discharge location (point source) where a MS4 discharges to surface waters and does not include open conveyances connecting two MS4s, or pipes, tunnels or other conveyances which connect segments of the same stream or other surface waters and are used to convey surface waters.

[2] ILLICIT DISCHARGE is defined as any flow to the stormwater system that is not composed entirely of stormwater, except discharges pursuant to a VPDES permit or discharges resulting from firefighting activities. This definition shall not include the discharges listed in § 9-91 of the City Code unless such discharges are identified by the City as sources of pollutants to waters of the United States.

Authority

The City of Winchester regulates illicit discharges under Chapter 9, Article 5 of the City Code, via the following sections:

- § 9-91 outlines prohibited illicit discharges;
- § 9-94 outlines the authority to inspect and monitor stormwater outfalls or other parts of the storm sewer system; and
- § 9-95 authorizes the City to correct any violations with written notification of non-compliance, issuance of penalties, and other legal means detailed in this SOP's section 6.3.

Chapter Overview

This manual establishes City policies and procedures for detecting and eliminating illicit discharges, conducting dry weather screening, addressing citizen complaints, documenting activities, and reporting illicit discharges. The manual is comprised of the following chapters:

Chapter 1: Introduction: This chapter states the purpose and authority of this document, provides an overview of the manual, and reviews the roles and responsibilities of the City.

Chapter 2: Outfall Prioritization: The criteria provided in this chapter define the City's methodology for prioritizing MS4 outfalls for annual dry weather screening. Utilization of these criteria identifies those City MS4 outfalls most likely to contain a discharge that is *SUSPECT*.

Chapter 3: Conducting Field Screening: This chapter contains the City procedures for conducting annual dry weather screening and includes such guidance as the roles and responsibilities of DPS staff, creating field maps, and completing initial field screening and water quality testing tasks. Pre-site visit, site visit, and post-site visit tasks are given. Procedures for collecting and handling water samples are also discussed. The procedures are those required by equipment manual instructions, laboratory protocols, and evidence chain of custody requirements.

Chapter 4: Complaint Investigation: This chapter contains procedures to address citizen complaints regarding illicit discharges.

Chapter 5: Determining the Source of a Suspected Illicit Discharge: The procedures provided in this chapter detail how to successfully complete illicit discharge source determination tasks.

Chapter 6: Follow-Up and Elimination: The procedures provided in this chapter provide guidance regarding how to eliminate suspect illicit discharges in accordance with City Code and the MS4 General Permit.

Chapter 7: Contacting Regulatory and Emergency Agencies: This chapter provides guidance for contacting the appropriate regulatory and emergency agencies. Information is also given on indications to call and what to report.

Chapter 8: Safety: This chapter provides guidance for providing a safe work environment.

Roles and Responsibilities

It is the responsibility of DPS to lead the City's efforts in addressing illicit discharges. DPS oversees dry weather screening, addresses citizen complaints, and coordinates efforts with other City divisions when necessary. Finally, DPS is responsible for documentation and recordkeeping to demonstrate compliance with the MS4 General Permit.

2

2 Outfall Prioritization

Introduction

The MS4 General Permit requires that the City annually conduct dry weather screening at a minimum of fifty (50) MS4 outfalls under its ownership and/or operation. In preparation of each year's dry weather screening activities, DPS staff will utilize the prioritization criteria included in this chapter to select the outfalls that will be screened in a given year.

Prioritization Criteria

The City has developed these priority criteria to identify those outfalls that have the highest potential to impact downstream water quality resulting from illicit discharges. DPS staff will utilize these criteria when identifying which outfalls are to undergo dry weather screening. DPS staff will select the outfalls for each year utilizing the automatic and prioritized selection processes below.

2.2.1 Automatic Outfall Selection

The following outfalls will be automatically selected for the given year's field screening efforts:

- Any outfall where an *OBVIOUS*[3] or *SUSPECT*[4] discharge was identified during the previous year's dry weather screening
- Any outfall associated with a documented illicit discharge as a result of a citizen complaint during the previous 12-months
- Any outfall the City deems *HIGH RISK*[5] shall be placed on the list to be screened

[3] An OBVIOUS discharge is an illicit discharge that did not require sample collection for confirmation and was marked as OBVIOUS on the previous year's Outfall Reconnaissance Inventory/Sample Collection Field Sheet (ORI) in (Box 38).

[4] A SUSPECT discharge is where a flowing discharge had a physical indicator with a severity of three (3) and was marked as SUSPECT on the previous year's ORI (Box 38).

- Any outfall associated with an illicit discharge resulting from a citizen complaint

2.2.2 Prioritized Outfall Selection

DPS staff will select the remainder of the fifty (50) outfalls for the given year's dry weather screening using the following selection criteria:

- Priority Watershed-Outfalls shall be prioritized in the watershed following order:
    - Abrams Creek
    - Town Run
    - Buffalo Lick
    - Hogue Run
- Date of Last Inspection-Priority shall be given to those outfalls in which the longest time has passed since the last field screening

When more than fifty outfalls meet the prioritized outfall selection criteria, DPS staff shall utilize best professional judgment to select the necessary outfalls. It is recommended that staff select outfalls in such a manner as to minimize expenditure of resources. This can be accomplished by selecting outfalls that are relatively close in proximity to minimize travel time.

Five (5) additional outfalls should be selected as alternate outfalls in case access cannot be obtained to one or more of the selected outfalls.

[5] HIGH RISK is defined as an outfall that has been identified as being more likely to produce an illicit discharge.

3

3 Dry Weather Field Screening

Introduction

As described in Chapter 2, the City of Winchester is required to conduct dry weather field screening as a condition of its MS4 General Permit coverage. Chapter 3 incorporates the City procedures for conducting dry weather field screening.

In preparation for dry weather screening, DPS staff shall use the prioritized list of outfalls created utilizing Chapter 2 procedures.

The procedures provided in this chapter define the roles and responsibilities of DPS staff, create field maps, and provide complete initial screening and water quality testing tasks. Pre-site visit, site visit, and post-site visit tasks are given. Procedures for collecting and handling water samples are also discussed. The procedures within this chapter are those required by equipment manual instructions, laboratory protocols, and evidence chain of custody requirements.

Preparation for Field Screening

3.2.1 Roles and Responsibilities during Field Screening Activities

The following descriptions identify the roles and responsibilities of individual DPS staff while conducting field screening activities:

City Engineer:

- Disseminate this SOP to appropriate DPS staff
- Periodically review and update this SOP to account for changes in activities or regulatory requirements
- Provide the materials and equipment necessary to carry out the requirements of this SOP
- Provide appropriate training to employees undertaking the inspection tasks
- Ensure that safety procedures are followed
- Approve the annual list of outfalls selected for field screening
- Take appropriate action when inspection reports indicate evidence of illicit discharge

DPS Supervisor:

- Develop a prioritized list of outfalls and associated field packages using this SOP
- Ensure that all equipment is calibrated and maintained in working condition
- Conduct pre-task briefings to ensure readiness of equipment and DPS staff to safely undertake the assigned inspection operations
- Ensure safety precautions are observed by all DPS staff
- Manage data following an inspection operation
- Ensure that data is provided to the appropriate DPS staff that it can be entered into the City's GIS database system
- Report to the supervisors any emergencies and hazardous situations
- Report to the supervisors and other appropriate agencies if evidence of an illicit discharge is discovered

DPS Staff:

- Follow the guidelines contained in this SOP
- Follow the direction of the DPS Supervisor
- Conduct inspections using the procedures outlined in this SOP
- Conduct water quality testing of observed dry weather discharges
- Determine the likely source of any suspected illicit discharge
- Document findings made during inspections
- Report to the supervisor any emergencies, *HAZARDS*[6], and suspected illicit discharges

3.2.2 Preparing Field Packages

The DPS Supervisor will prepare field package(s) for use during field screening. The field package(s) will contain a field map detailing those items identified in 3.2.2.1 and Outfall Reconnaissance Inventory/Sample Collection Field Sheets (ORI) for all outfalls.

DPS staff will utilize the most recent GIS data available to create field maps for each of the fifty (50) outfalls identified using the procedures included in Chapter 2. Each field map will identify the location of one or more selected outfall(s) and the extent of storm sewer that flows to the outfall(s).

In addition, field maps should include the information noted in SOP sections 3.2.2.1 and 3.2.2.2, below, when possible.

3.2.2.1 Required Data

- MS4 Outfall[7]
- Watershed/Sub-watershed
- *2010 Aerials*
- *Edge of Road & Streets by Type*

[6] HAZARDS are defined as situations that pose potential harm to persons, property, or the environment.
[7] Winchester GIS layer names are in italics.

- *Storm*
    - *Manhole*
    - *Drop Inlet*
    - Storm Line
- Stormwater BMPs
- Nearby Waterbodies
- *Streams*
- *Wetlands*

3.2.2.2 Recommended Data

- *Zoning Districts*
- *Buildings*
- *Water*
- *Water Line*
- Sewer
    - *Manhole*
    - *Cleanout*
    - *Laterals*
    - *Flow Direction*
    - *Sewer Line*
- *Two-foot contours*

3.3 Procedures for Selecting Appropriate Field Screening Days

The purpose of conducting dry weather field screening is to identify illicit discharges being discharged into the MS4 system. As such, sufficient time must have passed since the last rain event in order to provide distinction between stormwater runoff and any illicit discharges. DPS staff must only conduct field screening on *DRY WEATHER*[8] days. The following procedure should be followed to determine dry weather days:

1. The Supervisor should research the National Weather Service website (http://www.weather.gov) and complete the following:
    a. Enter "Winchester, VA" into the "Local forecast by 'city, St' or ZIP code" box and press enter.
        i. A web page for Winchester will open.
    b. Under the "Current Conditions" section, click the "3 Day History" link to check for hourly estimated rainfall at the KOKV Observation Site station at the Winchester Regional Airport within the past 48 hours.

[8] DRY WEATHER is defined as a period in which there has been recorded less than 0.10 inch of rainfall within the preceding 48 hours.

c. Calculate the sum of the hourly rainfall values (the 1-hr. column under the Precipitation heading) to determine the total hourly rainfall over the past 48 hours.
    i. If the sum of the total rainfall over the previous 48-hours is less than 0.1-inch, it is a dry weather day and field screening may proceed.
    ii. If the sum of the total rainfall over the previous 48-hours is 0.1-inch or greater, field screening must be postponed for the day.
d. The amount of rainfall should be provided to the field team for documentation on the ORI Form (**Box 6**).

Field Screening Preparation

3.4.1 Logistics

The DPS supervisor should conduct a pre-task briefing to ensure readiness of team and equipment to perform field inspections, ensuring the following tasks are completed:

1. Gather the equipment, and check that it is working properly.
2. Check the batteries in all equipment.
3. Check the amount of memory storage in all digital camera memory cards.
4. Make sure that the reagent kits have not passed their expiration dates.

3.4.2 Preparing Equipment and Materials

DPS staff is responsible for water quality testing sample cells and testing equipment. As such, DPS staff must:

1. Prepare sample cells and dipper ladles for sampling as follows:
    a. Clean the sample cells and ladles with laboratory detergent.
    b. Rinse the equipment well with tap water.
    c. Rinse well with deionized water at least three times.
    d. Allow the equipment to air dry.
2. Calibrate the OAKTON Waterproof pH Testr 10 meter before use and periodically thereafter, as instructed in the instruction documents included with the meter.

Conducting FieldScreening

3.5.1 Introduction and Accessibility

DPS staff must complete field screening on a minimum of fifty (50) outfalls. Outfalls that were automatically selected for field screening MUST be screened. DPS staff must obtain permission to access structures that are located on private property. This can be accomplished via preliminary site visit or certified mail. If accessibility cannot be obtained, DPS staff should note such on the ORI Form **(Box 9)** and select a substitute outfall from the list of alternates provided. Some structures may be located in inaccessible areas, such as those with thick vegetation or steep slopes. DPS staff should not risk injury to gain access to such structures. Procedures should be worked out with the supervisor and division heads to provide safe access for the inspection team. Staff must follow the safety procedures outlined in Chapter 8.

DPS staff should conduct field screening activities by completing an Outfall Reconnaissance Inventory Sample/Collection Field Sheet (ORI) following these procedures:

3.5.1.1 ORI Form Section 1: Background Data

DPS staff should complete *Section 1: Background Data* of the ORI Form as follows:

1. Note the Outfall ID number **(Box 1).**
2. Note the date of the screening **(Box 2)**.
3. Note the time of the screening **(Box 3).**
4. Note the DPS staff members present **(Box 4)**.
5. Note the outdoor ambient air temperature on the day of the inspection **(Box 5)**.
6. Note the rainfall amount for the previous 48 hours **(Box 6)**.
7. Note the camera serial number **(Box 7)**.[9]
8. Note the photo numbers taken at the outfall **(Box 8**).
9. Note any comments the DPS staff may have **(Box 9)**.

3.5.1.2 ORI Form Section 2: Outfall Description

DPS staff should complete *Section 2: Outfall Description* of the ORI Form as follows:

1. Note the outfall type, material, shape, dimensions, and whether or not it is submerged **(Boxes 11, 12, 13 and 14).**

[9] Staff may choose to enter the information in **Boxes 1-7** in the office prior to or after field activities.

2. Note whether the flow is coming from the outfall **(Box 15).**
   a. If flow is present, photo document the outfall and evidence using a digital camera.
      i. Record the photo numbers in **Box 8**
      ii. Complete steps 3 and 4 of this section
      iii. Proceed to ORI *Section 3: Quantitative Characterization*
   b. If flow is not present (or insufficient flow exists to collect a sample), photo document the outfall and evidence using a digital camera.
      i. Record the photo numbers in **Box 8** and proceed to ORI *Section 4: Physical Indicators Present in the Flow*
   c. If flow exists but there is insufficient discharge to collect a sample, note absence of flow in B**ox 15** and add "wet but not flowing" to **Box 17**.
3. If flow is present, note the flow description **(Box16).**
4. If flow is present, estimate the flow **(Box 17).**
   a. Flow should be estimated by measuring the number of seconds that it takes to fill a one liter container.
      i. Note: The equivalent to one (1) gallon per minute is approximately one (1) liter per 16 seconds.

3.5.1.3 ORI Form Section 3: Quantitative Characterization

DPS staff should complete *Section 3: Quantitative Characterization* of the ORI Form as follows:

1. Collect a sample of discharge using the sampling dipper fitted with a ladle.
2. Place 100 mL of the collected sample into a beaker for field sampling as follows:
   a. Follow the directions included with the OAKTON Waterproof pH Testr 10 Meter to obtain the sample temperature, and record the temperature (**Box 18)**.
   b. Follow the directions included with the OAKTON Waterproof pH Testr 10 Meter to obtain the sample pH, and record the pH (**Box 19)**.
      i. Most discharge flow types are neutral, having a pH value around 7; although, groundwater concentrations can be somewhat variable.
      ii. The pH value is a reasonably good indicator for liquid wastes from industries, which can have very high or low pH (ranging from 3 to 12).
      iii. The pH of residential wash water tends to be rather basic (pH of 8 or 9).

iv. Although pH data is often not conclusive by itself, it can identify problem outfalls that merit follow-up investigations using more effective indicators.

c. Follow the directions included in the HACH Nitrogen, Ammonia (Model NI-8) test kit to measure the amount of total chlorine in the sample, and record the results (**Box 20**).

i. Ammonia is a good indicator of sewage; since its concentration is much higher there than in groundwater or tap water.

ii. High ammonia concentrations may also indicate liquid wastes from some industrial sites.

iii. Ammonia is relatively simple and safe to analyze; although, some challenges include the tendency for ammonia to volatilize (i.e., turn into a gas and become non-conservative), and its potential generation from non-human sources, such as pets or wildlife.

d. Follow the directions included in the Total Chlorine Color Disc (Model CN-66T) test kit to measure the amount of total chlorine in the sample, and record the results (**Box 21**).

i. Chlorine is used throughout the country to disinfect tap water, except where private wells provide the water supply. Chlorine concentrations in tap water tend to be significantly higher than most other discharge types.

ii. Unfortunately, chlorine is extremely volatile, and even moderate levels of organic materials can cause chlorine levels to drop below detection levels.

iii. Because chlorine is non-conservative, it is not a reliable indicator; although, if very high chlorine levels are measured, it is a strong indication of a water line break, swimming pool discharge, or industrial discharge from a chlorine bleaching process.

3. Rinse the sample cells with deionized water at least three times after each test.

a. A reagent blank correction subtracts the color absorbed when running a test with deionized water from the sample result to correct for any background color due to reagents.

4. Rinse the beakers with deionized water at least three times when finished with the sample.

5. Place used reagent packets in a waste bag, which can later be thrown away as normal trash.

6. Clean inspection area and make sure that all equipment is removed from the area prior to leaving.

3.5.1.4 ORI Form Section 4: Physical Indicators for Flowing Outfalls Only

DPS staff should complete *Section 4: Physical Indicators for Flowing Outfalls Only* of the ORI Form as follows:

1. Note whether any physical indicators are present in the flow **(Box 22).**
    a. If none are present, proceed to Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls of the ORI form.
    b. If physical indicators are present, continue on to step 2.
        i. DPS staff should use a severity index of three (3), to score the potential impact of the suspect discharge.
2. Note and score any odor **(Box 23).**
    a. Since noses have different sensitivities, the entire DPS staff should reach consensus about whether an odor is present and how severe it is.
        i. A severity score of one means that the odor is faint or the crew cannot agree on its presence or origin.
        ii. A score of two indicates a moderate odor within the pipe.
        iii. A score of three is assigned if the odor is so strong that the crew smells it a considerable distance away from the outfall.
    b. Make sure the origin of the odor is the outfall.
3. Note and score color **(Box 24).**
    a. The color of the discharge can be clear, slightly tinted, or intense, and it often helps identify industrial discharges.
    b. The best way to measure color is to collect the discharge in a clear sample bottle and hold it up to the light.
    c. DPS staff should also look for downstream plumes of color that appear to be associated with the outfall.
        i. Figure 1 illustrates the spectrum of colors that may be encountered during an ORI survey, and offers insight on how to rank the relative intensity or strength of discharge color.
4. Note and score any turbidity (**Box 25**).
    a. Turbidity is a measure of the cloudiness of the water.
    b. Like color, turbidity is best observed in a clear sample bottle, and can be quantitatively measured using field probes.
        i. Do not confuse turbidity with color, as they are related but not the same.

ii. Turbidity is a measure of how easily light can penetrate through the sample bottle, whereas color is defined by the tint or intensity of the color observed.

iii. Figure 1 provides some examples of how to distinguish turbidity from color, and how to rank its relative severity.

c. DPS staff should also look for turbidity in the plunge pool below the outfall, and note any downstream turbidity plumes that appear to be related to the outfall.

5. Note and score any floatables at the outfall **(Box 26).**

a. Sewage, oil sheen, and suds are examples of floatable indicators; trash and debris are generally not in the context of the ORI.

b. The presence of floatable materials is determined visually, and some guidelines for ranking their severity are provided in Figure 2.

c. Sewage should automatically be assigned a severity score of three (3).

d. Surface oil sheens are ranked based on their thickness and coverage.

i. In some cases, surface sheens may not be related to oil discharges, but instead are created by in-stream processes, such as those shown in Figure 2.

ii. A thick or swirling sheen associated with a petroleum-like odor may be diagnostic of an oil discharge.

e. Suds are rated based on their foaminess and staying power.

i. A severity score of 3 is designated for thick foam that travels many feet before breaking up.

ii. Suds that break up quickly may simply reflect water turbulence, and do not necessarily have an illicit origin; some streams have naturally occurring foam due to the decay of organic matter.

iii. Suds that are accompanied by a strong organic or sewage-like odor may indicate a sanitary sewer leak or connection.

iv. If the suds have a fragrant odor, they may indicate the presence of laundry water or similar wash waters.

6. Photograph the outfall and any issues in the area using the digital camera. Record photo numbers and descriptions on the ORI **(Box 8)**.

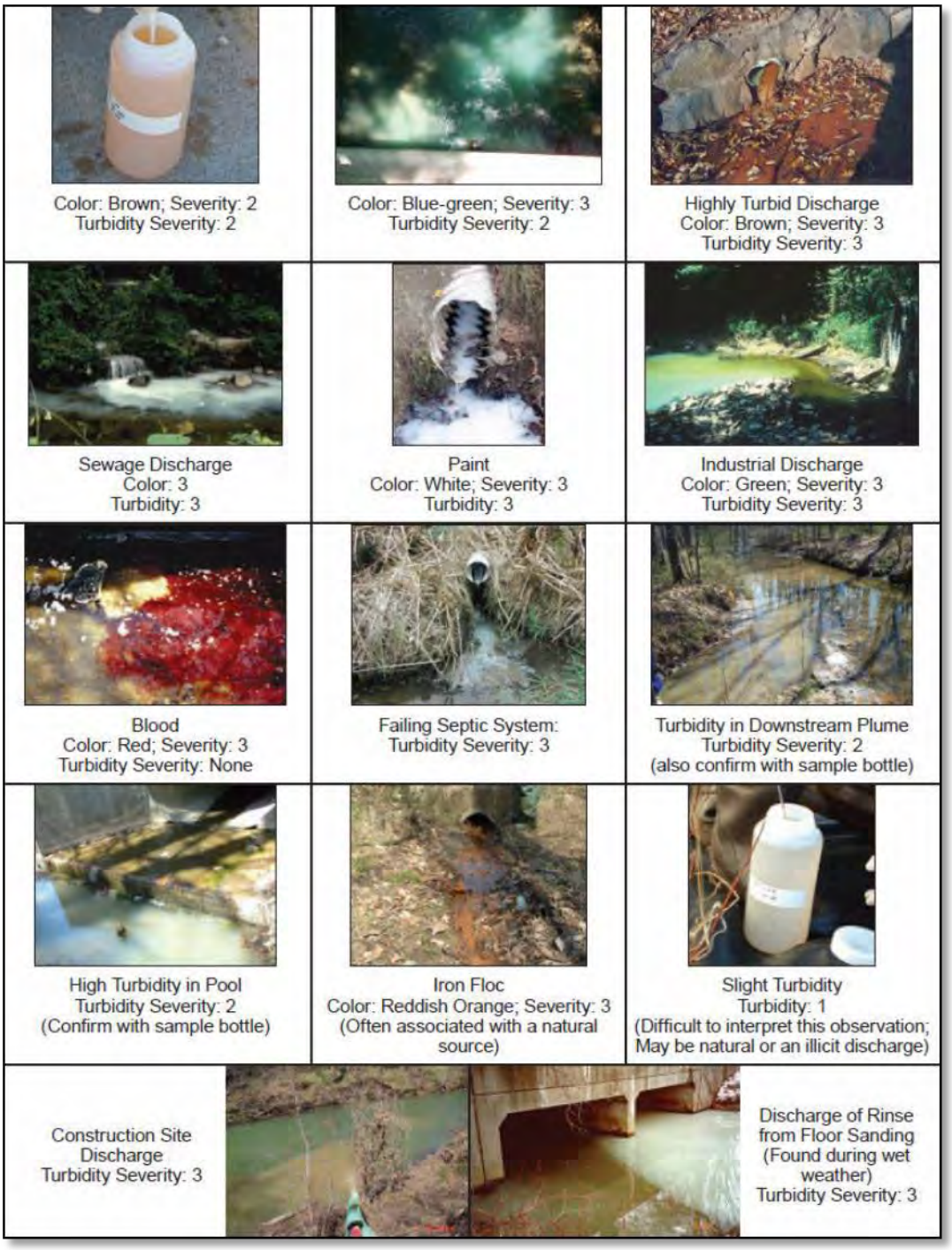

Figure 1. Color and Turbidity Severity Examples

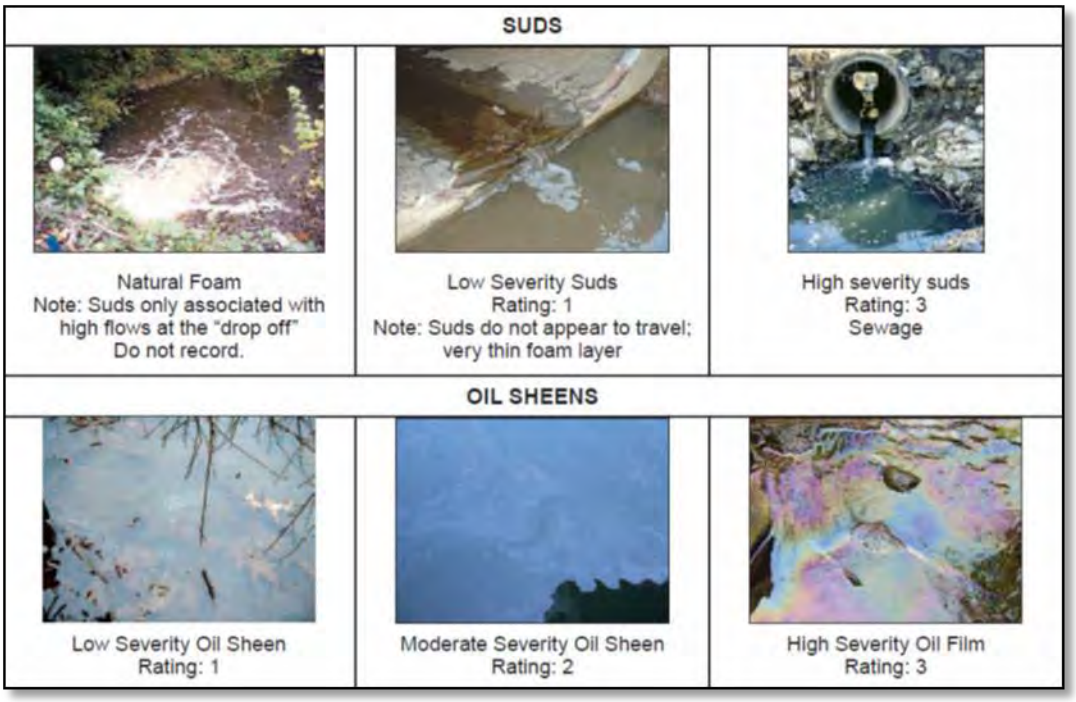

Figure 2. Foams and Sheen Severity Examples

3.5.1.5 ORI Form Section 5: Physical Indicators for both Flowing and Non-Flowing Outfalls

DPS staff should complete *Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls* of the ORI form.

1. Note whether any physical indicators are related to flow (**Box 27**).
    a. If not, move onto *Section 6: Outfall Characterization* of the ORI form.
    b. Figures 3 and 4 provide some examples of abnormal vegetation and physical indicators related to flow which may be encountered during an inspection.
2. Note any outfall damage (**Box 28**).
3. Note any deposits or stains at the outfall (**Box 29**).
4. Note any abnormal vegetation at the outfall (**Box 30**).
5. Note poor pool quality at the outfall (**Box 31**).
6. Note any pipe benthic growth at the outfall (**Box 32**).

Figure 3. Abnormal Vegetation Examples

Figure 4. Physical Indicator Examples

3.5.1.6 ORI Form Section 6: Outfall Characterization.

DPS staff should complete *Section 6: Outfall Characterization* of the ORI form using the following guidelines:

1. DPS staff should compare results from *Section 3: Quantitative Characterization* and *Section 4: Physical Indicators for Flowing Outfalls Only* with the pass criteria contained in Table 3.1.
   a. DPS staff should use their best professional judgment to interpret temperature results in comparison with recent ambient air temperatures.

Table 3.1: Water Quality Parameter Indicator Criteria			
Parameter	**Unit**	**Method**	**Pass Criteria**
Temperature	°F	Quantitative	**Best professional judgment**
pH		Quantitative	**6-9**
Ammonia	mg/L	Quantitative	**< 1.0**
Total Chlorine	mg/L	Quantitative	**< 0.1**
Turbidity	Severity Index	Physical	**Severity Index Less than 3***
Odor	Severity Index	Physical	**Severity Index Less than 3***
Color	Severity Index	Physical	**Severity Index Less than 3***
Floatables	Severity Index	Physical	**Severity Index Less than 3***

*Field observations will be rated by the relative severity using a scale from 1 to 3;a rating of 1 indicating no visual evidence of potential illicit discharge and 3 indicating obvious signs of potential illicit discharge activity[10].

2. Check the appropriate box regarding the likelihood of an Illicit Discharge (**Box33**).
   a. Check the **Unlikely** Box when there is no evidence of flow or, if flow is present, the flow passes all Quantitative Indicators and less than two Physical Indicators are present.
   b. Check the **Potential** Box when flow is present, the flow passes all Quantitative Indicators, but there are two or more Physical Indicators present with a Relative Severity Index Score of less than three.
   c. Check the **Suspect** Box when flow is present, the flow passes all Quantitative Indicators, but a Physical Indicator has a Relative Severity Index Score of 3.
      i. DPS staff may also check this box if, in their best professional judgment, they feel that there is a high probability of an illicit discharge; even though, the sampling results do not show it.
   d. Check the **Obvious** Box when flow is present, and the flow does not pass one or more of the Quantitative Indicators.

3.5.1.7 ORI Form Section 7: Water Quality Sampling Data Collection.

DPS staff should complete *Section 7: Water Quality Sampling Data Collection* of the ORI form using the following guidelines:

1. Note whether samples were gathered for laboratory analysis (**Box34**).
2. If lab samples were gathered, note from where the samples were taken (**Box35**).

10 Brown, Edward, Deb Caraco, and Robert Pitt. Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments; Water Permits Division, US EPA Office of Water and Wastewater, Washington, D.C., 2004, p.103-106

3.5.1.8 ORI Form Section 8: AdditionalInformation.

1. Complete *Section 8: Additional Information* of the ORI form asfollows:
    a. Note any non-illicit discharge concerns (**Box 36**).

Follow-Up and NextSteps

3.6.1 Addressing Suspect Discharges

If the outfall is identified as suspect and the source of the suspect discharge is *not obvious*, the supervisor shall report the discharge to the City Engineer for follow-up by DPS staff using procedures outlined in Chapter 5.

If the outfall is identified as suspect and the source of the suspect discharge is *obvious*, the supervisor shall report the discharge to the City Engineer for follow-up by DPS staff using procedures outlined in Chapter 6.

In addition, the following should be completed:

- The supervisor must immediately refer any suspect discharge involving sanitary sewage to the City Engineer.
    - The City Engineer shall report any suspect discharge that has reached or has the potential to reach receiving waters to DEQ in accordance with Chapter 7.
    - The supervisor must immediately refer any suspect discharge involving a failed septic tank to Frederick / Winchester Health Department at (540) 722-3470.

3.6.2 Equipment and Housekeeping

The supervisor should ensure that the following tasks are completed daily after field screening:

- All trash, such as empty reagent packs, should be disposed into a Citydumpster
- All water quality testing equipment should be cleaned asfollows:
- Clean the sample cells and ladles with laboratory detergent.
- Rinse well with tap water.
- Rinse well with deionized water at least three times.
- Equipment should be allowed to air dry.
- Properly store all equipment, once dry.

3.6.3 Documentation

Outfalls with suspect discharges should be recorded in the City of Winchester IDDE Tracking and Documentation Spreadsheet for follow-up in accordance with Chapters 5 and 6.

All collected data, including any field screening documentation, ORI Forms and the storage location of any photos should be kept filed together in the City Engineering Division office.

4

4 Addressing Complaints

Introduction

In addition to identifying suspect discharges as part of dry weather screening activities, DPS is responsible for investigating complaints regarding suspect discharges from citizens and other DPS staff. Citizens and other DPS staff are encouraged to report potential illicit discharges by calling the Stormwater Complaint Hotline at (540) 542-1346 or report the incident online on the City's 311 system. For suspect discharges that require a more urgent response, citizens and DPS staff should call (540) 662-4131.

It is important that sufficient information be collected in order for DPS staff to follow-up on the received complaint. As such, the following information should be collected from the complainant:

- Date that the complaint 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.

Potential emergency situations or threats to health and safety should immediately be referred to emergency services. Complaints involving the discharge of sanitary sewage or leaking public water lines should be prioritized for their immediate follow-up. Complaints involving failed septic systems should be referred to the Frederick/ Winchester Health Department. Suspect discharges being discharged through a Virginia Department of Transportation (VDOT) outfall should also be reported to VDOT. Contact information for these agencies is found in Chapter 7.

Records of all complaints received and associated follow-up information shall be entered into the *Winchester IDDE Tracking and Documentation spreadsheet* in accordance with Chapter 6.5.

Complaint Investigation

4.2.1 Initial Site Visits

DPS staff should conduct an initial site visit to investigate complaints, as soon as practical, within three (3) business days of receiving the complaint. DPS staff must obtain permission from the property owner to access private property when investigating complaints. If permission is not obtained, DPS staff should note that they were unable to obtain permission to access the property and document their observations from public property.

When investigating a complaint, DPS staff may encounter one of the following suspect discharges:

- A continuous, active discharge
- If a continuous active discharge is observed, and the source of the discharge is not obvious, DPS staff should utilize the procedures included in Chapter 5.
- If a continuous active discharge is observed, and the source of the discharge is obvious, DPS staff should utilize the procedures outlined in Chapter 6.
- No active discharge but evidence of a previous discharge exists
- If the source of the discharge is not obvious, DPS staff should follow procedures in Chapter 5 in order to conduct follow-inspections.
- If the source of the previous discharge is obvious, DPS staff should follow procedures outlined in Chapter 6.
- No evidence of a discharge
- DPS staff shall document that there is no evidence of a discharge.

4.2.2 Documentation and Recordkeeping

Documentation of the complaint and the information collected should be entered into the *Winchester IDDE Tracking and Documentation spreadsheet* for follow-up.

DPS staff should document the following information in a field notebook during site visits and investigations:

- Date of site visit
- Name of DPS staff conducting the site visit
- Observed conditions
- Additional comments, such as observed sources
- Documentation photographs
- Photographs should be taken, using a digital camera, in order to document any observed conditions.
- Photo numbers and descriptions should be recorded as part of the documentation.

Information documented in the field notebook should be utilized to enter the information into the *Winchester IDDE Tracking and Documentation spreadsheet, IDDE Tracking-Complaint worksheet* upon return to the office.

Follow-Up and Reporting

4.3.1 Suspect Discharge Follow-Up

DPS staff shall conduct follow-up in accordance to Chapter 5 and Chapter 6 of this SOP manual.

4.3.2 Reporting

DPS staff must follow any necessary reporting procedures provided in Chapter 7.

5

5 Determining the Source of Suspect Discharges

Introduction

As a condition of the MS4 General Permit, the City is legally obligated to investigate suspect discharges that it determines are being discharged into its stormwater system. The City can become aware of suspect discharges as a result of a complaint, DPS staff observation, or while conducting field screening activities. DPS is tasked with identifying the sources of suspect discharges. This chapter provides guidance in identifying suspect discharge sources.

Preparing to Investigate Suspect Discharges

When preparing to investigate suspect discharges, DPS staff should familiarize themselves with the composition and activities of the upstream drainage area as well as the nature of the suspect discharge. Both of these may provide valuable clues in identifying the source of upstream suspect discharges.

DPS staff should coordinate through the City Engineer in order to conduct certain activities such as dye testing, smoke testing, and water quality sampling requiring lab analysis.

Investigating Suspect Discharges

All attempts should be made to investigate suspect discharges within three (3) business days of DPS becoming aware of them. The investigation can be in conjunction with the complaint investigation described in Chapter 4.

Unless a potential source has not been identified, DPS staff should begin their investigation where the suspect discharge was first identified and track the discharge methodically up the stormwater system, following the safety guidelines established in Chapter 8.

If the suspect discharge is intermittent or no longer present, DPS staff should attempt to determine the source by tracking the source using remaining evidence such as deposits and stains.

If the source of an intermittent suspect discharge cannot be identified, DPS staff must conduct a minimum of two (2) follow-up investigations in an attempt to identify the source.

If known, DPS staff should attempt to conduct field activities during the same day of the week and approximate time as when the initial suspect discharge was identified. If after six (6) months, the source of the suspect discharge has not been identified and the suspect discharge has not been observed, reported, or identified another time, DPS staff may close the investigation and document its closure in the IDDE Tracking and Documentation spreadsheet.

Follow-Up Documentation

Documentation is very important when attempting to identify suspect discharge sources. As such, all activities and observations should be documented in a field notebook. Each entry should include, at a minimum, the:

- Date and time of entry
- DPS staff names
- Location of the activity (e.g., manhole at 123 E. Main St.)
- Activity (e.g., inspected manhole for flow)
- Observations (e.g., flow is still present; chlorine reading 1.5 ppm)
- Any photos taken
- If photos are taken, record the photo numbers and photo descriptions.
- All photographs should be uploaded to the designated location from a digital camera, using the digital camera hardware and software instructions.

Documentation not only assists DPS staff in tracking the progress of determining the source, but it also provides a valuable tool if future formal enforcement activities are employed as described in Chapter 6. Documentation is also extremely important as a tool to ensure accurate entry and recordkeeping tracking as required in Chapter 6.5.

Collected documentation should be used to complete the necessary information in the *Winchester IDDE Tracking and Documentation spreadsheet, IDDE Tracking-Inspections worksheet*.

Follow-Up and Next Steps

Once a source is identified, DPS staff should coordinate with the appropriate regulatory agency as identified in Chapter 7. DPS staff should note on the IDDE Tracking and Documentation spreadsheet if the suspect discharge is being referred to another agency for follow-up. DPS staff should follow-up with agency within thirty (30) days to ensure that the suspect discharge was addressed.

6

6 Elimination of Illicit Discharges

Introduction

Under the MS4 General Permit, the City is required to eliminate illicit discharges from entry into the MS4. The City has several options for ensuring elimination of these illicit discharges once the source has been located.

Authorized Discharges

The first objective to eliminating illicit discharges is to determine if the suspect discharge is an actual illicit discharge. Winchester City Code § 9-91 authorizes certain non-stormwater discharges to be discharged into the City stormwater system, provided they are not found to be discharging sewage, industrial wastes, or other wastes into the stormwater system. These authorized dischargesare:

- Water line flushing
- Landscape irrigation
- Diverting stream flows or rising groundwater, or infiltration of uncontaminated groundwater
- Public safety activities, including, but not limited to, law enforcement and fire fighting
- Pumping of uncontaminated groundwater from potable water sources, foundation drains, irrigation waters, springs, or water from crawl spaces or footing drains
- Lawn watering
- Individual car washing on residential properties
- De-chlorinated swimming pool discharges (less than 1 PPMchlorine)
- Street washing
- Any activity authorized by a valid National Pollutant Discharge Elimination System (NPDES) permit, waiver or discharge order, a Virginia Pollutant Discharge Elimination System (VPDES) permit (see Appendix 9.4 for a list of Facilities with a VPDES permit within the city limits), waiver or discharge order, or a Virginia Pollution Abatement (VPA) permit
- Any activity by a governmental entity - in accordance with Federal, state, and local regulations and standards - for the maintenance or repair of drinking water reservoirs or drinking water treatment or distribution systems
- Any activity by the City, its employees and agents - - in accordance with

federal, state and local regulations and standards - - for the maintenance of any component of its stormwater management system
- Discharges specified in writing by the director as being necessary to protect public health and safety
- Dye testing, following notification to the City engineer

Winchester City Code § 9-91 provides that if any of the discharges above are found to be sources of pollutants to public waters, the City may choose to notify the person responsible for the discharges and order the discharges be stopped or conducted in such manner as to avoid the discharge of pollutants. Authorized Discharges are not considered illicit discharges and no additional activity is required. DPS staff should update the *Winchester IDDE Tracking and Documentation spreadsheet, IDDE Resolution worksheet* and consider the issue resolved.

Methods for the Elimination of Illicit Discharges

Suspect discharges that are not authorized are considered illicit discharges and must be eliminated. Under Chapter 9 of the City Code, the City has numerous options available in order to ensure their elimination. These options include:

6.3.1 Education and Outreach

Many responsible parties are unaware that what they are doing is illegal and may not even recognize that they are the source of an illicit discharge. As a first step in elimination of an illicit discharge, DPS staff should attempt to attain voluntary compliance through the use of education and outreach.

6.3.2 Notice to Comply

When public education and outreach has failed to eliminate the illicit discharge within a reasonable time frame or the City determines that the illicit discharge is severe enough to not employ education and outreach; the City may choose to issue a Notice to Comply. This notice orders the responsible party to stop the illicit discharge or to discharge in such a manner as to avoid the discharge of sewage, industrial wastes, or other wastes into the stormwater sewer system. A Notice to Comply must include a time frame by which the illicit discharge is eliminated or prevented from entering into the City stormwater system.

As a Notice to Comply is the first step in formal enforcement actions, DPS staff must coordinate with all appropriate City Divisions or Offices (e.g., City Attorney's Office) in order to ensure proper protocol is followed. A Notice to Comply should be sent via certified mail, with a return receipt requested, in order to provide documentation that the Notice to Comply was received by the responsible party.

6.3.3 Citation to Court

If the responsible party fails to eliminate the illicit discharge from entering into the

City stormwater system, the City may choose to pursue legal methods through citation to court[11] in accordance with Winchester City Code § 9-95. Such actions may include, but are not limited to, misdemeanor charges, civil penalties, cease and desist orders, etc.

DPS must coordinate with all appropriate City Divisions or Offices (e.g., City Attorney's Office) in order to ensure proper protocol is followed and necessary documentation is provided. Collaboration with other City Departments should be coordinated through the City Engineer.

6.3.4 City Intervention

If the discharge is considered a public nuisance and the responsible party has failed to eliminate the illicit discharge after receiving a written Notice to Comply, the City is authorized to eliminate the discharge and charge and collect the City's cost for abating the illicit discharge. DPS staff must coordinate with all appropriate City Divisions or Offices (e.g., City Attorney's Office) in order to ensure proper protocol is followed, as this type of action may require legal action as well as reliance on other City authorities.

Confirmation of Elimination

Regardless of the action used to eliminate the illicit discharge, DPS staff must confirm that the illicit discharge has been eliminated. DPS staff should schedule a site visit to document that the illicit discharge has been eliminated. If the site visit may be confrontational, DPS staff should not attempt to contact the responsible party. Instead, confirmation should be made from public property. If a hostile situation arises, DPS staff should leave the area and contact the City Engineer for guidance.

If the elimination of the illicit discharge is ordered by a Court, DPS staff should obtain confirmation of elimination through the appropriate City authorities rather than attempting to conduct a site visit.

[11] Citation to Court for violations must be done by City staff with appropriate authority such as the Winchester Police Department. As such, any potential court citations must be coordinated through the City Engineer's office.

Outfalls associated with illicit discharges shall be automatically selected for dry weather field screening as part of the next year's field screening activities.

Recordkeeping

The following records should be entered into the IDDE Tracking and Documentation spreadsheet:

6.5.1 Complaint Records

- Unique Suspect Discharge Identifier
- Associated Outfall Number
- Date of complaint
- Name of complainant
- Contact number
- Street address of complaint
- General location of Suspect Discharge
- Description of Suspect Discharge

6.5.2 Investigation Records

- Initial inspection date
- Initial inspection Inspector
- Initial inspection observations
- If follow-up investigations are required, the following should be noted for each trip:
    - Follow-up date
    - Follow-up inspection Inspector
    - Follow-up inspection observations

6.5.3 Resolution Records

- Enforcement action type
- Enforcement action date
- Date resolved
- Responsible party
- Responsible party address
- Identification as an authorized discharge or an illicit discharge
- Description of issue resolution

7

7 Contacting Other Agencies

Introduction

As discussed throughout this SOP manual, other agencies often have the necessary legal authorities and responsibilities to address suspect discharges. This chapter provides contact information for these agencies, indicators that a call is required, and what items to report.

The City promotes two phone numbers for reporting stormwater issues. For spills, releases and other stormwater issues requiring urgent response, staff should contact Emergency Services using the non-emergency number (540) 662-4131. For all other stormwater related issues, staff should report all other stormwater related issues using the Stormwater Reporting Hotline at (540) 542-1346.

Other Agencies

7.2.1 Frederick -Winchester Health Department

Responsibilities:	Failed Septic Systems
Address:	10 Baker Street, Winchester, VA 22601
Phone Number:	(540) 722-3470

7.2.2 DEQ

Responsibilities:	Suspect or Illicit Discharges Not Associated with the City of Winchester Storm Sewer System; Discharges Regulated Under the Virginia Pollutant Discharge Elimination System Permitting Program
Address:	Valley Regional Office 4411 Early Road/ P.O. Box 3000 Harrisonburg, VA 22801
Phone Number:	(540) 574-7800

7.2.3 VDOT

Responsibilities:	Illicit Discharges from VDOT Right-of-Way; VDOT MS4 Outfalls; VDOT MS4 Permit Compliance
Address:	Staunton District Office 811 Commerce Road Staunton, VA 24402-2249
Phone Number:	(540) 332-9075

7.3 Reporting Illicit Discharges Not Entering the City Stormwater System

If an illicit discharge is found but does not enter into the City's MS4, then the DEQ Valley Regional Office should be contacted as soon as possible. When contacting DEQ, DPS staff should be ready to provide the following information to DEQ:

- ☐ The location of the illicit discharge
- ☐ When the discharge was found
- ☐ The quantity of discharge found
- ☐ The parameters that were found at unacceptable levels and their test results
- ☐ The likely source of pollution

7.4 Reporting Discharges to Receiving Waters from City Outfalls

If an illicit discharge is found to be entering into the City stormwater system and is discharging to or has the potential to reasonably discharge to receiving waters, then division heads must contact the DEQ Valley Regional Office no later than 24-hours from the discovery of the discharge.

The City must also follow-up, within five (5) days of the notification, with a written report to the DEQ Valley Regional Office. This report should contain the following information:

- ☐ 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, the expected duration of continuation
- ☐ If the discharge is continuing, the expected total volume of the discharge

- ☐ Any steps that the City has planned or taken to reduce, eliminate, and prevent reoccurrence of the present discharge or any future discharges

8

8 Safety

Introduction

Safety procedures must be followed by all inspection staff. Specific health and safety hazards which DPS staff may encounter include:

- ☐ Exposure to hazardous waste and materials
- ☐ Removal of manhole covers
- ☐ Confined space entry
- ☐ Exposure to traffic operations
- ☐ Exposure to insects and wildlife
- ☐ Exposure to reagents used in water quality testing

General Safety

DPS staff should take general safety precautions during all activities. These include the following:

- ☐ Activities such as field screening and follow-up illicit discharge detection inspections should not be completed in less than teams of two.
- ☐ DPS staff should wear a City-issued safety vests at all times.
- ☐ DPS staff should visually survey the area attempting to be accessed in order to identify all potential hazards and should take all available efforts to minimize their exposure to those hazards.
- ☐ If exposure to an identified hazard cannot be eliminated or minimized, the DPS staff should contact their division head for guidance and not enter into a hazardous situation.
- ☐ DPS staff must follow Occupational Safety and Health Administration (OSHA) work safety standards and other applicable guidelines.
- ☐ DPS staff should direct any questions concerning safety to their immediate supervisor.

Hazardous Materials

DPS staff should avoid direct contact with hazardous materials at all times. Safety procedures and best professional judgment should be used to minimize exposure to hazardous materials.

8.3.1 Dangerous Gases

Dangerous gases, which are combustible or harmful if inhaled, can collect in confined spaces such as culverts. DPS staff is most likely to encounter these gases when removing manhole covers. DPS staff should be aware of the dangers of confined spaces and accumulating gases. DPS inspectors should not enter confined spaces as part of routine inspections. If a confined space must be entered, OSHA regulations shall be followed.

8.3.2 Water Quality Sampling Materials

When testing for water quality parameters using chemical reagents, DPS staff must follow the safety rules below:

- ☐ Follow test procedures carefully and observe all precautionary measures.
- ☐ Read the entire procedure carefully before beginning.
- ☐ Review material safety data sheets (MSDSs) for each reagent chemical used during testing.
- ☐ Do not smoke, eat, or drink in an area where toxic or irritating chemicals are used.
- ☐ Use reagents and equipment only as directed in the test procedure.
- ☐ Do not use damaged bottles or broken equipment.
- ☐ Minimize all chemical exposures.
- ☐ Do not breathe vapors or let chemicals touch your skin.
- ☐ Wear clothing that covers skin.
- ☐ Wear nitrile gloves.
- ☐ Wear safety goggles.
- ☐ DPS staff should become familiar with using portable eyewash units and carry one during all site visits.

Physical Hazards

8.4.1 Removing Manhole Covers

The following safety measures should be followed to avoid injury while opening manhole covers:

- Bend at the knees, not at the waist.
- Do not lift the manhole cover with your back muscles.
- Use leg muscles and avoid twisting.
- Wear steel-toed boots or safety shoes to protect feet.
- Do not move manhole covers with hands or fingers.
- Do not enter manholes as part of the routine inspection process.
- Confined space entry must only be done by properly trained and equipped persons, so any necessary entry must be coordinated with or through the City Engineer.

8.4.2 Traffic Safety

DPS staff should take extreme caution when working near moving traffic. At a minimum, staff should

- Mark the lane with traffic cones and/or signs to give adequate time and space for drivers to react and move around the work area.
- Wear safety vests and/or reflective clothing so that you will be visible to traffic.
- When access is required in extreme situations (e.g., busy highways, sharp turns), DPS staff should coordinate with the City Engineer in order to request assistance from the City of Winchester Police to direct traffic and provide additional safety.

8.5 If an Emergency Occurs

Immediately notify division heads using the most effective available mode of communication (cell phone, etc.) if any of the following situations arise:

- Any person is seriously injured or is in immediate danger of injury or death for any reason
- The gas monitor indicates hazardous or combustible gas
- The team suspects or discovers any situation requiring the immediate attention of emergency response teams

Division heads will call 911 and coordinate an emergency response. If contacting the division head first appears to pose an unacceptable risk, DPS staff should call 911 directly prior to contacting the division head. DPS staff should then move to a safe location, and wait for emergency responders to arrive.

When calling 911, callers should be prepared to provide the following information and remain on scene until emergency responders arrive:

- Reason for calling (injury, combustible gas, etc.)
- Name of caller
- Location of caller including address and nearest cross street
- Obvious details of the emergency situation
- Any other information requested by the 911 dispatcher

Appendix 1

Required Field Screening Equipment and Materials

Function	Item	Purpose
Structure Access	Manhole hook	Removes manhole cover
	Sledge hammer	Removes manhole cover
	High powered lamps/flashlights	View structure contents
	Field Map	Locate structures
Sample Collection	Long-handled sampling dipper	Collects samples from structure
	Medium-sized plastic waste bag	To dispose waste material
	250 mL Nalgene polypropylene beakers (one for each structure to be inspected)	Contains sample
Screening Samples	OAKTON Waterproof pH Testr 10 Meter	Test for pH and temperature
	HACH Nitrogen, Ammonia (Model NI-8) test kit	Test for ammonia
	HACH Total Chlorine Color Disc (Model CN-66T) test kit	Test for total chlorine
	Scissors or nail clippers	Opens reagent "powder pillow" packets
	Filtered deionized water and wash bottle	Calibration and cleaning between samples
	Buffer solution (pH 4.01, pH 7.00 and pH 10.01)	For OAKTON Waterproof pH Testr Tester calibration
	Extra batteries	For OAKTON Waterproof pH Testr Tester and camera
	Dipper ladle with extension pole	Collect sample when flow is in a confined space
	One liter plastic bottle and stop watch	Estimate flow
Record Data	Outfall Reconnaissance Inventory (ORI) form	Provided in appendices
	Log book	For general notes
	Digital camera with sufficient memory	For pictures at all structures
	Waterproof pen	For notes
Safety	Traffic cones	Traffic control
	High Visibility safety vests	For inspection team employees
	Portable eyewash kit	In case of chemical emergency
	Nitrile gloves	For collecting and testing samples
	Full coverage clothing (pants, long sleeves)	Should be worn at all times
	Eye goggles	Should be worn when using chemical reagents
	Steel-toed boots or safety shoes	Should be worn at all times

Appendix 2

Outfall Reconnaissance Inventory Field Sheet (ORI)

CITY OF WINCHESTER
OUTFALL RECONNAISSANCE INVENTORY FIELD SHEET

Section 1: Background Data

If discharge was observed, the estimated discharge rate (e.g., width and depth of discharge flow rate) and visual characteristics of the discharge (e.g., odor, color, clarity, floatables, deposits or stains, vegetation	
2. Today's date:	3. Time a.m. / p.m. (circle)
4.Staff Present:	
5. Temperature (°F):	6. Rainfall (in.): Last 48 hours:
7. Camera:	8. Photo #s:
9. Comments: / Notes (e.g.., origin of outfall, if known):	

Section 2: Outfall Description

10. TYPE	11. MATERIAL	12. SHAPE		13. DIMENSIONS (IN.)	14. SUBMERGED
☐**Closed Pipe**	☐RCP ☐CMP ☐PVC ☐HDPE ☐Steel ☐Other: _____	☐Circular ☐Elliptical ☐Box ☐Other: _____	☐Single ☐Double ☐Triple ☐Other: _____	Diameter/Dimensions: _____	In Water: ☐No ☐Partially ☐Fully With Sediment: ☐No ☐Partially ☐Fully
☐**Open drainage**	☐Concrete ☐Earthen ☐Rip-rap ☐Other: _____	☐Trapezoid ☐Parabolic ☐Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
15. Is Flow Present?	☐ Yes ☐No *If No, Skip to Section 5*				
16. Flow Description (If present)	☐Trickle ☐Moderate ☐Substantial				
	Volume, 1 liter	1 liter		**17. Estimated Flow, Liters/Second**	
	Time to Fill, seconds				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	**RESULT**	**UNIT**	**PASSING CRITERIA**	**EQUIPMENT**
18. Temperature		°F	Best Professional Judgment	OAKTON Waterproof pH Testr 10 Meter
19. pH		pH Units	6.0 -9.0	OAKTON Waterproof pH Testr 10 Meter
20. Ammonia, total		mg/L	< 1.0	HACH Nitrogen, Ammonia Test Kit, Model NI-8
21. Chlorine, total		mg/L	< 0.1	HACH Total Chlorine Color Disc Test Kit, Model CN-66T

CITY OF WINCHESTER
OUTFALL RECONNAISSANCE INVENTORY FIELD SHEET

Section 4: Physical Indicators for Flowing Outfalls Only

22. Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No *(If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
23. Odor	☐	☐Sewage ☐Rancid/sour ☐Petroleum/gas ☐Sulfide ☐Other: _____	☐1 – Faint	☐2 – Easily detected	☐3 – Noticeable from a distance
24. Color	☐	☐Clear ☐Brown ☐Gray ☐Yellow ☐Green ☐Orange ☐Red ☐Other:_____	☐1 – Faint colors in sample bottle	☐2 – Clearly visible in sample bottle	☐3 – Clearly visible in outfall flow
25. Turbidity	☐	See severity	☐1 – Slight cloudiness	☐2 – Cloudy	☐3 – Opaque
26. Floatables -Does Not Include Trash!!	☐	☐Sewage (Toilet Paper, etc.) ☐Suds ☐Petroleum (oil sheen) ☐Other:_____	☐1 – Few/slight; origin not obvious	☐2 – Some; indications of origin (e.g., possible suds or oil sheen)	☐3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for both Flowing and Non-Flowing Outfalls

27. Are physical indicators that are not related to flow present? ☐ Yes ☐ No *(If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
28. Outfall Damage	☐	☐Spalling, Cracking or Chipping ☐Peeling Paint ☐Corrosion	
29. Deposits/Stains	☐	☐Oily ☐Flow Line ☐Paint ☐Other:	
30. Abnormal Vegetation	☐	☐Excessive ☐Inhibited	
31. Poor pool quality	☐	☐Odors ☐Colors ☐Floatables ☐Oil Sheen ☐Suds ☐Excessive Algae ☐Other:	
32. Pipe benthic growth	☐	☐Brown ☐Orange ☐Green ☐Other:	

Section 6: Outfall Characterization

33. Likelihood of Illicit Discharge

☐ **Unlikely** ☐ **Potential** (presence of two or more indicators) ☐ **Suspect** (one or more indicators **with a severity of 3**) ☐ **Obvious**

Section 7: Water Quality Sampling Data Collection

34.	Sample for the lab?	☐Yes	☐No
35.	If yes, collected from:	☐Flow	☐Pool

Section 8: Additional Information

36. Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? _____

Appendix 3

VPDES Permits Issued Within the City of Winchester (May 2019)

Permit Number	Discharge Type	Facility Name	Facility Address	Zip
VA0051373	Individual-Industrial	National Fruit Product Co Inc.	550 Fairmont Ave	22601
VAR050810	General-Industrial Stormwater	O'Sullivan Films Inc.	1944 Valley Ave	22601
VAR050822	General-Industrial Stormwater	Winchester Public Works Department City Yards	301 E Cork St	22601
VAR050891	General-Industrial Stormwater	XPO Logistics Freight Inc.	700 North Cameron Street	22601
VAR050978	General-Industrial Stormwater	Rubbermaid Commercial Products LLC	3124 Valley Avenue	22601
VAR052317	General-Industrial Stormwater	Tag Lumber Services, LLC	600 N Kent Street	22601
VAR051650	General-Industrial Stormwater	Trex Co Inc.-Poly Processing	181 Battalie Drive	22603

Appendix C

Public Stormwater Management Facility Inspection Standard Operating Procedures Manual

Public Stormwater Management Facility Inspection Standard Operating Procedures Manual

May 2019 Edition

Department of Public Services
Engineering Division
15 North Cameron St.
Winchester, VA 22601
Phone (540) 667-1815

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Referenced Checklists

SWM Inspection Checklist # 1 — Bioretention Practices including Rain Gardens
SWM Inspection Checklist # 2 — Filtering Practices
SWM Inspection Checklist # 3 — Constructed Wetlands
SWM Inspection Checklist # 4 — Wet Ponds including Detention Ponds
SWM Inspection Checklist # 5 — Extended Detention Ponds
SWM Inspection Checklist # 6 — Underground Detention Facilities

1.1 Overview

Under the stormwater management program, the City has the responsibility to maintain its stormwater management facilities to ensure that they function as designed. In addition, the City's storm sewer system is identified as a municipal separate storm sewer system (MS4) and is regulated under the federal Clean Water Act, Virginia State Water Control Law, and Virginia General Permit for Stormwater Discharge from Small MS4s (MS4 General Permit). Therefore, the City must develop and enforce certain procedures to ensure and meet compliance with the regulations and the MS4 General Permit. This document indicates the Standard Operating Procedures (SOPs) that will be utilized to ensure operation and maintenance compliance for the City's publically owned and/or operated stormwater management facilities.

1.2 Requirements

The City has an obligation to develop and implement an inspection and maintenance program for its stormwater management facilities owned or operated by the City that discharges to the MS4 (Part I E 5 b):

1. *The permittee shall develop and maintain written inspections 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 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.*
3. *If the inspection of the stormwater management facility is determined to require maintenance, then the permittee shall conduct the maintenance in accordance with the written procedures developed in this document.*

The development and implementation of the SOP contained in this document allows the City to operate a public stormwater management facility inspection and maintenance program to meet compliance with the MS4 General Permit.

1.3 Roles and Responsibilities

The following roles and responsibilities are established in this SOP.

1.3.1 Inspections

The City of Winchester Department of Public Services – Engineering Division (DPSE) is responsible for conducting inspections all stormwater management facilities owned and/or operated by the City. Inspections shall be conducted at LEAST once per year on all facilities.

TV Inspections will be performed for underground detention facilities and intensive assessment of inlets and pipes. Prior to the inspection, the DPSE inspector should obtain a copy of the original design or as-built drawings of the stormwater management facility for review and use during the inspection. The inspector shall complete the appropriate SWM Inspection Checklist listed in Table 1 for each inspection completed, to document the results of the inspection.

The Checklists are the same from the 2014 MS4 Program Plan Update. They provide detail for each Stormwater Management Facilities and will be utilized for this MS4 General Permit Term. If there are any updates to these checklists, they shall be informed on the MS4 Annual Report.

Table 1: Public Stormwater Management Facilities Checklists

Checklist Number	Checklist Title
SWM Inspection Checklist #1	Bioretention Practices including Rain Gardens
SWM Inspection Checklist #2	Filtering Practices
SWM Inspection Checklist #3	Constructed Wetlands
SWM Inspection Checklist #4	Wet Ponds including Retention Ponds
SWM Inspection Checklist #5	Extended Detention Ponds
SWM Inspection Checklist #6	Underground Detention Facilities

When a stormwater management facility requires maintenance, the DPSE inspector shall provide copies of the SWM Inspection Checklist to the City of Winchester Division of Public Works (DPW) or the Department of Parks and Recreation (DPR).

Upon notification that DPW or DPR has completed the required maintenance, the DPSE inspector will conduct a follow-up inspection of the stormwater management facility to document that the required maintenance has been completed. A new inspection report will be written and act as an addendum to the original inspection to ensure all required maintenance items have been met.

1.3.2 Maintenance

DPW and DPR are responsible for conducting all required maintenance on stormwater management facilities. Upon receipt of notification that maintenance on a stormwater management facility is required, DPW/DPR will attempt to conduct the required maintenance within ninety (90) days. If the required maintenance is going to take longer than ninety (90) days, DPW/DPR shall notify the DPSE inspector for documentation purposes. Once DPW/DPR conducted the required maintenance, the DPSE inspector shall be notified for a follow-up inspection and documentation.

1.4 Inspection and Maintenance Records and Documentation

Documentation of inspection and maintenance is important in demonstrating MS4 General Permit compliance. Copies of all inspection checklists and associated documentation must be maintained by DPSE. It is strongly recommended that all documentation be organized by individual SWM Facility. For the purposes of this SOP, the date of the last inspection is the date of the inspection unless a follow-up site visit is required to document that maintenance has been completed. When a follow-up visit is necessary, the date of the follow-up site visit should be used as the date of the last inspection.

Physical copies of the inspection result documentation shall be kept five (5) years from the inspection date, and then they will be filed away as digital files within the City of Winchester Database Server.

1.5 Safety

Safety procedures must be followed by all inspection and maintenance staff. Specific health and safety hazards which staff may encounter include, but are not limited to:

- Exposure to hazardous waste, gases and materials
- Heavy lifting (e.g., removal of manhole covers)
- Confined space entry
- Exposure to traffic operations
- Exposure to insects and wildlife

1.5.1 General Safety

Staff should take general safety precautions during all activities. These include the following:

- Activities such as field screening and follow-up illicit discharge detection inspections should not be completed in less than teams of two.
- Staff should wear a City-issued safety vests at all times.
- Staff should visually survey the area attempting to be accessed in order to identify all potential hazards and should take all available efforts to minimize their exposure to those hazards.
- If exposure to an identified hazard cannot be eliminated or minimized, staff should contact their division head for guidance and not enter into a hazardous situation.
- Staff must follow Occupational Safety and Health Administration (OSHA) work safety standards and other applicable guidelines.
- Staff should direct any questions concerning safety to their division head.

1.5.2 Hazardous Materials

Staff should avoid direct contact with hazardous materials at all times. Safety procedures and best professional judgment should be used to minimize exposure to hazardous materials.

Dangerous gases, which are combustible or harmful if inhaled, can collect in confined spaces such as culverts. Staff is most likely to encounter these gases when removing manhole covers. Staff needs to be aware of the dangers of confined spaces and accumulating gases. DPSE inspectors shall not enter confined spaces as part of routine stormwater management facility inspections. If a confined space must be entered, OSHA regulations shall be followed.

1.5.3 Physical Hazards

1.5.3.1 Removing Manhole Covers

The following safety measures should be followed to avoid injury while opening manhole covers:

- Bend at the knees, not at the waist.
    - Do not lift the manhole cover with your back muscles.
    - Use leg muscles and avoid twisting.
- Wear steel-toed boots or safety shoes to protect feet.
- Do not move manhole covers with hands or fingers.
- Do not enter manholes as part of the routine inspection process.
    - Confined space entry must only be done by properly trained and equipped persons, so any necessary entry must be coordinated with or through the City Engineer.

1.5.3.2 Traffic Safety

Staff should take extreme caution when working near moving traffic. At a minimum, the following safety measures should be followed:

- Mark the lane with traffic cones and/or signs to give adequate time and space for drivers to react and move around the work area.
- Wear safety vests and/or reflective clothing so that you will be visible to traffic.
- When access is required in extreme situations (e.g., busy highways, sharp turns), staff should coordinate with their division head in order to request assistance from City of Winchester Police to direct traffic and provide additional safety.

1.5.4 If an Emergency Occurs

Immediately notify division heads using the most effective available mode of communication (cell phone, etc.) if any of the following situations arise:

- Any person is seriously injured or is in immediate danger of injury or death for any reason
- Staff suspects or discovers any situation requiring the immediate attention of emergency response teams

Division heads will call 911 and coordinate an emergency response. If contacting the division head first appears to pose an unacceptable risk, staff should call 911 directly prior to contacting the division head. Staff should then move to a safe location, and wait for emergency responders to arrive.

When calling 911, callers should be prepared to provide the following information and remain on scene until emergency responders arrive:

- Reason for calling (injury, combustible gas, etc.)
- Name of caller
- Location of caller, including address and nearest cross street
- Obvious details of the emergency situation
- Any other information requested by the 911 dispatcher

1.6 Public Stormwater Management Facilities

The current list of existing SWM Management Facilities is included in Table 2. This Table must be updated a minimum of once a year in conjunction with preparation of the MS4 Annual Report.

Table 2: City of Winchester Public Stormwater Management Facilities as of May 1, 2019

SWM Facility Type	BMP Number	Tax Map #	Project	Property Address	HUC6	Waterbody	Acres Treated
Rain Garden	0059 0060	234-01--14-	History and Tourism Center	1400 S. Pleasant Valley Rd.	PU17	Abrams Creek	3.4
SWM Pond	0025	230-05-A-130-	Cottages at Willow Lawn	Corner of Sterling and Harvest Drives	PU17	Abrams Creek	40.6
SWM Pond	0025	311-1--20-	Frederick Douglas School	100 West Cedarmeade Ave.	PU16	Buffalo Lick Run	78.9
SWM Pond	0041	175-1--23B-	Friendship Fire Hall	627 North Pleasant Valley Road	PU17	Abrams Creek	50.5
SWM Pond	0067	270-01--8-D	Hope Drive Subdivision	230 Hope Drive	PU17	Abrams Creek	66.0
SWM Pond	0100	250-04-B-89-	Park Place	760 Beehive Way	PU17	Abrams Creek	33.1
SWM Pond	0107	289-07--1-	Rolling Hills Park	702 Kennedy Drive	PU16	Buffalo Lick Run	4.5
SWM Pond	0110	172-01--17->A	Selma Medical	124 Selma Drive	PU17	Abrams Creek	7.5
SWM Pond	0143	269-04--A-	Westridge Section 1	2505 Goldenfield Lane	PU17	Abrams Creek	9.2
SWM Pond	0144	289-04-C-60-	Westridge Section 2	2653 Windwood Drive	PU17	Abrams Creek	15.1
SWM Pond	0146	171-6--A-, 171-6--C-	Whittier Ponding Basin	206 Walker Street	PU17	Abrams Creek	124.7
SWM Pond	0094	154-10-B-115-	Orchard Terrace	282 Green Street	PU18	Redbud Run	6.4
Underground Detention	0016	1-1--1-	Castleman Subdivision	Mosby Street ROW	PU17	Abrams Creek	6.39
Wetlands, Retention Pond	0093	188-06--61-	Morlyn Hills Subdivision	1643 Meadowbranch Avenue	PU17	Abrams Creek	--
Spring Street	0223 0224 0225	1-1--2-	Spring Street ROW	Spring Street ROW	PU17	Abrams Creek	0.56
Meadow Branch Avenue	0246 0247 0248	1-1--3-	Meadow Branch Avenue	Meadow Branch Avenue ROW	PU17	Abrams Creek	0.48

Meadow Branch Avenue	0249 0250 0251 0252 0253 0254 0255 0256 0257 0258 0259 0260 0261 0262 0263 0264 0265 0266 0267 0268	1-1--3-	Meadow Branch Avenue ROW	Meadow Branch Avenue ROW	PU17	Abrams Creek	5.87

Appendix C.1

Checklist 1 Bioretention Practices

CITY OF WINCHESTER, VA

Rouss City Hall * 15 North Cameron Street * 22601
540-667-1815 * www.winchesterva.gov

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Bioretention Practices-Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Contributing Drainage Area	Inadequate vegetation	Supplement as necessary			
	There is excessive trash/debris	Remove as soon as possible			
	There is evidence of erosion and / or bare or exposed soil	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There are excessive landscape waste or yard clippings	Remove as soon as possible and recycle or compost			
	Oil, grease or other unauthorized substances are entering the facility	Identify and control the source of this pollution. It may be necessary to erect fences, signs, etc.			
Pre-Treatment	There is inadequate access to the pre-treatment facility	Establish adequate access			
	Stormwater discharge is ponding at point of disconnection	Remove as soon as possible			
	There is evidence of clogging (standing water, noticeable odors, water stains, algae or floating aquatic vegetation, or oil/grease)	Identify and eliminate the source of the problem. If necessary, remove and clean or replace the clogged material			
	There is evidence of erosion and / or exposed soil	Depending on severity, monitor or stabilize the area (reseed/revegetate)			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Bioretention Practices-Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Pre-Treatment	There is dead vegetation/exposed soil in the grass filter	Restabilize and revegetate as necessary			
Inlets	Check for sediment build-up at curb cuts, gravel diaphragms or pavement edges that prevent flow from getting into the bed, and check for bypassing	Remove sediment and correct any other problems that block inflow			
	There is excessive trash/ debris/sediment	Remove as soon as possible			
	There is evidence of erosion and / or bare or exposed soil at or around the inlet	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	Inflow is hindered by trees and/or shrubs	Remove woody vegetation from points of inflow and directly above underdrains (Trees and shrubs may be located closer to the perimeter)			
Side Slopes	There is evidence of rill or gully erosion or bare soil	Identify the source of erosion damage and prevent it from recurring. Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There is excessive sediment accumulation	Remove as soon as possible			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Rouss City Hall * 15 North Cameron Street * 22601
540-667-1815 * www.winchesterva.gov

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Bioretention Practices-Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Side Slopes	Side slopes support nuisance animals	Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area			
Vegetation	Plant composition is inconsistent with the approved plans and any stakes or wires are in good condition	Determine if existing plant materials are at least consistent with general Bioretention design criteria and replace inconsistent species			
	There should be 75- 90% cover (mulch plus vegetation), and the mulch cover should be 2-3 inches deep	Supplement vegetation and mulch as needed			
	There is evidence of hydrocarbons or other deleterious materials, resulting in unsatisfactory plant growth or mortality,	Replace contaminated mulch. If problem persists, test soils for hydrocarbons and other toxic substances. If excess levels are found, the soils, plants, and mulch may all need to be replaced in accordance with the approved construction plans			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Bioretention Practices-Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Vegetation	Invasive species or weeds make up at least 10% of the facility's vegetation	Remove invasive species and excessive weeds as soon as possible and replace vegetation as needed			
	The grass is too high	Mow within a week. Grass species should be selected that have dense cover, are relatively slow growing, and require the least mowing and chemical inputs. Grass should be from 6-10 inches high			
	Vegetation is diseased, dying or dead	Remove and replace. Increase watering, but avoid using chemical fertilizers, unless absolutely necessary			
	Winter-killed or salt- killed vegetation is present	Replace with hardier species			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Rouss City Hall * 15 North Cameron Street * 22601
540-667-1815 * www.winchesterva.gov

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Bioretention Practices-Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Filter Media	The filter media is too low, too compacted, or the composition is inconsistent with design specifications	Raise the level, loosen and amend or replace the media, as needed, to be consistent with the state design criteria for Bioretention (85-88% sand, 8-12% soil fines, 3-5% organic matter in form of leaf compost). Other remediation options are described in the maintenance section of the state design criteria for Bioretention			
	The mulch is older than 3 years or is otherwise in poor condition	The mulch must be replaced every 2-3 years			
	There is evidence that chemicals, fertilizers, and/or oil/grease are present	Remove undesirable chemicals from media and facility as soon as possible. Replace mulch or media as needed			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Rouss City Hall * 15 North Cameron Street * 22601
540-667-1815 * www.winchesterva.gov

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Bioretention Practices-Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Filter Media	There is excessive trash/debris/sediment accumulation	Remove trash and debris as soon as possible. Check plant health and, without damaging plants, manually remove the sediment, especially if the depth exceeds 20% of the facility's design depth			
	There is evidence of concentrated flows, erosion or exposed soil	Identify the source of erosion damage and prevent it from recurring. Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	The filter bed is clogged and/or filled inappropriately	Redistribute the soil substrate and remove sediment within 2 weeks			
	The topsoil is in poor condition (e.g., the pH level is not 6-7, the composition is inappropriate, etc.)	Ensure a 3-inch surface depth of topsoil consistent with the state design criteria for Bioretention (loamy sand or sandy loam texture, with less than 5% clay content, and organic matter content of at least 2%). If the pH is less than 65, spread limestone			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Bioretention Practices-Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Underdrain/ Proper Drainage	The perforated pipe is not conveying water as designed	Determine if pipe is clogged with debris or if woody roots have pierced pipe, as necessary, clean out or replace the pipe			
	The underlying soil interface is clogged (there is evidence on the surface of soil crusting, standing water, the facility does not dewater between storms, or water ponds on the surface of basin for more than 48 hours after an event)	Measure draw-down rate of the observation well for 3 days following a storm event in excess of 1/2 inches in depth. After 3 days, if there is standing water on top but not in the underdrain, this indicates a clogged soil layer. If standing water is both on the surface and in the underdrain, then underdrain is probably clogged. This should be promptly investigated and remediated to restore proper filtration. Grading changes or underdrain repairs may be needed. The filter media may need to be raked, excavated, cleaned, or replaced to correct the problem. Holes inconsistent with design, allowing water to flow directly through a planter to the ground, must be plugged			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Bioretention Practices-Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Planters	The planter is unable to receive or detain stormwater prior to infiltration Water does not drain from the reservoir within 3- 4 hours of after a storm event	Identify and correct sources of clogging. Topsoil and sand/peat layer may need to be amended with sand or replaced all together			
	The planter has structural deficiencies, including rot, cracks, and failure, or the planter is unable to contain the filter media or vegetation	Make needed repairs as soon as possible			
Outlet/ Overflow Spillway	Outlets are obstructed or erosion and soil exposure is evident below the outlet	Remove obstructions and stabilize eroded or exposed areas			
	There is excessive trash/debris/sediment accumulation	Remove as soon as possible			
	Any grates present are in good condition	Repair or replace as necessary			
Observation Well	Is the observation well still capped?	Repair, as necessary			
	Access to the Infiltration facility or its components is inadequate	Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated			

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Bioretention Practices-Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Overall	There is evidence of standing water	Fill in low spots and stabilize. Correct flow problems causing ponding			
	Mosquito proliferation	Eliminate stagnant pools and establish vegetation; treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide (such as Bacillus thurendensis or Altoside formulations) can be applied, only if absolutely necessary			
	Complaints from local residents	Correct real problems			
	Encroachment on the bioretention area or easement by buildings or other structures	Inform involved property owners of BMPs status, and clearly mark the boundaries of the receiving pervious area, as needed			

Additional Notes/Comments:

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Appendix C.2

Checklist 2 Filtering Practices

Rouss City Hall * 15 North Cameron Street * 22601
540-667-1815 * www.winchesterva.gov

CITY OF WINCHESTER, VA

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Filtering Practices Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Contributing Drainage Area and Side Slopes	Inadequate vegetation	Supplement as necessary			
	There is excessive trash/debris	Remove as soon as possible			
	There is evidence of erosion and / or bare or exposed soil	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There are excessive landscape waste or yard clippings	Remove as soon as possible, and recycle or compost			
Pre-Treatment	There is inadequate access to the pre- treatment facility	Establish adequate access			
	Excessive trash/debris/sediment	Remove as soon as possible			
	There is evidence of erosion and / or bare or exposed soil	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There is dead vegetation	Replace dead vegetation as necessary			
	Perimeter turf (or a grass filter strip) is too high	Mow at least 4 times a year to keep the grass at a height of 4” to 9”. Remove grass clippings after mowing			
	There is evidence of oil, grease, clogging (standing water, noticeable odors, water stains, algae)	Identify and eliminate the source of the problem. If necessary, remove and clean, or replace the clogged material			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Filtering Practices Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Inlets	The inlet provides a stable conveyance into the swale	Stabilize as soon as possible and as needed, and clear blockages			
	There is excessive trash/debris/sediment	Remove as soon as possible			
	There is evidence of erosion and / or bare or exposed soil at or around inlet	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
Sedimentation Chambers	There is excessive trash/sediment	Remove as soon as possible (wet and dry chambers)			
Filter Media	If facility takes longer than 48 hours to drain or filter media is discolored, the media is probably clogged	Replace the top sand layer of an enclosed filter (typically done every 5 years). Till or aerate the surface to improve infiltration and grass cover of an open filter (also typically done every 5 years)			
Oil and Grease	Evidence of filter surface clogging	Clean or replace filter media, as necessary			

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Filtering Practices Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Underdrain	The underdrain is not conveying water as designed	To determine if the pipe is clogged, measure the draw-down rate of the observation well for three days following a storm event in excess of 1/2 inches in depth. After three days, if there is standing water on top but not in the underdrain, this indicates a clogged sand layer that must be replaced. If standing water is both on the surface and in the underdrain, then the underdrain is probably clogged. As soon as possible, clean out the pipe manually or, if needed, use a high-pressure hose. Replace the underdrain if it is structurally damaged			
Observation Well	Is the observation well still capped?	Repair, as necessary			
	The outlet provides stable conveyance	Remove blockages and stabilize, as needed			

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BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Filtering Practices Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Outlet	Evidence of flow bypassing facility	Repair as soon as possible			
	Outlets are obstructed or erosion and soil exposure is evident below the outlet	Remove obstructions and stabilize eroded or exposed areas			
Structural Components	Evidence of structural deterioration	Repair as necessary			
	Evidence of spalling or cracking of structural components	Depending on severity, patch or repair as soon as possible			
	Grates are not in good condition	Repair or replace, as necessary			
Pump (where applicable)	Catalog cuts and wiring diagram for pump available	If missing, obtain replacements			
	Waterproof conduits for wiring appear to be intact	Repair as necessary			
	Panel box is well marked	If not, mark it correctly			
	No evidence of pump failure (excess water in pump well, etc.)	Repair as necessary			
Overall	Access to the facility or its components is adequate	Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated			
	Condition of hydraulic control components	Repair, as necessary			

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Filtering Practices Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Overall	Complaints from local residents	Correct real problems			
	Noticeable odors outside facility	Determine source and eliminate it			
	Mosquito proliferation	Eliminate stagnant pools if feasible, and treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide (such as Bacillus thurendensis or Altoside formulations) can be applied, only if absolutely necessary			
	Encroachment on the filter or easement by buildings or other structures	Inform involved property owners of BMPs status. Clearly mark the boundaries of the receiving pervious area, as needed			

Additional Notes/Comments:

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Appendix C.3

Checklist 3 Constructed Wetlands

Rouss City Hall * 15 North Cameron Street * 22601
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CITY OF WINCHESTER, VA

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Constructed Wetlands Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Contributing Drainage Area	Inadequate vegetation	Supplement as needed			
	There is excessive trash/debris	Remove as soon as possible			
	There is evidence of erosion and/or bare or exposed soil	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There are excessive landscape waste and yard clippings	Remove as soon as possible and recycle or compost			
Pre-Treatment	There is inadequate access to the pre- treatment facility	Establish adequate access			
	There is excessive trash/debris	Remove as soon as possible			
	There is evidence of erosion and/or bare or exposed soil	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	Sediment deposits are 50% or more of forebay capacity	Dredge the sediment to restore the design capacity; sediment should be dredged from forebays at least every 5 years			
	The sediment marker is not vertical	Adjust the sediment depth marker to a vertical alignment			
	There is dead vegetation	Revegetate, as needed			
Inlets	The inlet does not provide a stable conveyance	Stabilize as soon as possible and as needed, and clear blockages			

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BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Constructed Wetlands Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Inlets	There is excessive trash/debris/sediment	Remove as soon as possible			
	There is evidence of erosion/undercutting at or around the inlet	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There is cracking, bulging, erosion or sloughing of the forebay dam	Repair and restabilize as soon as possible			
	There is woody growth on the forebay dam	Remove within 2 weeks of discovery			
	There is evidence of nuisance animals	Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from area			
Vegetation (trees, shrubs, aquatic plants)	Plant composition is inconsistent with the approved plans	Determine if existing plant materials are at least consistent with the general "Constructed Wetland" design criteria, and replace inconsistent species			

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BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Constructed Wetlands Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Vegetation (trees, shrubs, aquatic plants)	Invasive species are present	Remove invasive species as soon as possible, and replace vegetation as needed. As a general rule, control of undesirable invasive species (e.g., cattail and Phragmites) should commence when their coverage exceeds more than 15% of a wetland cell area. Although the application of herbicides is not recommended, some types - - such as Glyphosate - -have been used to control cattails with some success. Extended periods of dewatering may also work, since early manual removal provides only short-term relief from invasive species			
	Vegetation is dead or reinforcement planting is needed	Remove and replace dead or dying vegetation			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Constructed Wetlands Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Vegetation (trees, shrubs, aquatic plants)	Trees planted in the buffer and on wetland islands and peninsulas need watering during the first growing season	Consider watering every 3 days for first month, and then weekly during first year (April – October), depending on rainfall			
	Practice has become overgrown and is not developing into a mature wetland	Harvest vegetation periodically if the wetland becomes overgrown or to guide maturing of forested wetlands (typically 5 and 10 years after construction)			
Wetland Cells and Pools	Sediment accumulation is 50% or more of capacity	Dredge the sediment to restore the design capacity			
	There is evidence of floating debris, sparse vegetative cover, erosion or slumping of side slopes	Remove debris. Repair and stabilize, as soon as possible			
	Open water is becoming overgrown	Harvest the unwanted vegetation			
	There is evidence of nuisance animals	Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area			

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Constructed Wetlands Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Riser/Principle Spillway and Low-Flow Orifice(s)	There is inadequate access to riser for maintenance	Establish adequate access			
	Pieces of the riser are deteriorating, misaligned, broken or missing	Repair as soon as possible			
	Adjustable control valves are accessible and operational	Repair, as needed			
	Reverse-slope pipes and flashboard risers are in good condition	Repair, as needed			
	There is excessive trash/debris/other obstructions in the trash rack	Remove as soon as possible			
	Seepage into conduit	Seal the conduit			
Berm/Dam/ Embankment and Abutments	There is sparse veg cover, settlement, cracking, bulging, misalignment, erosion rills deeper than 2 inches, or sloughing of the dam	Repair and restabilize as soon as possible			
	There are soft spots, boggy areas, seepage or sinkholes present	Reinforce, fill and stabilize as soon as possible			

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Constructed Wetlands Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Berm/Dam/ Embankment and Abutments	There is evidence of nuisance animals	Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed form area			
	There is woody vegetation on the embankment	Removal of woody species near or on the embankment and maintenance access areas should be done when discovered, but at least every 2 years			
Emergency Spillway	There is woody growth on the spillway	Removal of woody species near or on the emergency spillway should be done when discovered, but at least every 2 years			

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Constructed Wetlands Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Emergency Spillway	There is excessive trash/debris/other obstructions	Remove as soon as possible			
	There is evidence of erosion/back-cutting	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There are soft spots, seepage or sinkholes	Reinforce, fill and stabilize as soon as possible			
Outlet	The outlet provides stable conveyance from the wetland	Stabilize as needed			
	There is excessive sediment accumulation	Remove as soon as possible			
	Released water is causing undercutting, erosion or displaced rip-rap at or around the outlet	Repair, reinforce or replace rip rap as needed, and restabilize			
	Woody growth within 5 feet of the outlet pipe barrel	Prune vegetation back to leave a clear discharge area			
	There is excessive trash/debris/other obstructions	Remove as soon as possible			

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Constructed Wetlands Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Overall	Access to the facility or its components is inadequate	Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated			
	Water levels in one or more cells are abnormally high or low	Clear blockages of the riser or orifice(s), and make other adjustments needed to meet the approved design specifications			
	Complaints from local residents	Correct real problems			
	Mosquito proliferation	Eliminate stagnant pools if feasible, and treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide (such as Bacillus thurendensis or Altoside formulations) can be applied, only if absolutely necessary. Can also stock the basin with mosquito fish to provide natural mosquito & midge control			

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Constructed Wetlands Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Overall	Encroachment on the wetland or easement by buildings or other structures	Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed			
	Safety signage is not adequate	Provide sufficient, legible safety signage			

Additional Notes/Comments:

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Appendix C.4

Checklist 4 Wet Ponds

Rouss City Hall * 15 North Cameron Street * 22601
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CITY OF WINCHESTER, VA

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Wetponds Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Contributing Drainage Area	Inadequate vegetation	Supplement as needed			
	There is excessive trash/debris	Remove as soon as possible			
	There is evidence of erosion and/or bare or exposed soil	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There are excessive landscape waste and yard clippings	Remove as soon as possible and recycle or compost			
Pre-Treatment	There is inadequate access to the pre- treatment facility	Establish adequate access			
	There is excessive trash/debris	Remove as soon as possible			
	There is evidence of erosion and/or bare or exposed soil	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	Sediment deposits are 50% or more of forebay capacity	Dredge the sediment to restore the design capacity; sediment should be dredged from forebays at least every 5-7 years (earlier if performance is being affected)			
	The sediment marker is not vertical	Adjust the sediment depth marker to a vertical alignment			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Wetponds Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Pre-Treatment	There is evidence of clogging	Clear blockages of the riser or orifice(s), and make other adjustments needed to meet the approved design specifications			
	There is dead vegetation	Revegetate, as needed			
Inlet	The inlet provides a stable conveyance into the pond	Stabilize as soon as possible and as needed, and clear blockages			
	There is excessive trash/debris/sediment	Remove as soon as possible			
	There is evidence of erosion/undercutting at or around the inlet	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There is cracking, bulging, erosion or sloughing of the forebay dam	Repair and restabilize as soon as possible			
	There is woody growth on the forebay dam	Remove within 2 weeks of discovery			
	There is evidence of nuisance animals	Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area			
	There is more than 1 inch of settlement	Add fill material and compact the soil to the design grade			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

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Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Wetponds Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Inlet	The inlet alignment is incorrect	Correct as soon as possible			
	Plant composition is inconsistent with the approved plans	Determine if existing plant materials are consistent with the general Wet Pond design criteria, and replace inconsistent species			
	Invasive species are present	Remove invasive species as soon as possible and replace vegetation as needed			
	Trees planted in the buffer and on wetland islands and peninsulas need watering during the first growing season	Consider watering every 3 days for first month, and then weekly during first year (April – October), depending on rainfall			
	Grass around the facility is overgrown	Mow (at least twice a year) to a height of 4”-9” high and remove grass clippings			
	Vegetation is dead or reinforcement planting is needed	Remove and replace dead or dying vegetation			
Permanent Pool and Side Slopes	There is excessive trash/debris	Remove as soon as possible			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

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Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Wetponds Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Permanent Pool and Side Slopes	There is evidence of sparse vegetative cover, erosion or slumping side slopes	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There is evidence of nuisance animals	Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area			
	There is excessive sediment accumulation	Conduct a bathymetric study to determine the impact to design volumes, and dredge if necessary			
Riser/Principle Spillway and Low-Flow Orifice(s)	There is inadequate access to the riser for maintenance	Establish adequate access			
	Pieces of the riser are deteriorating, misaligned, broken or missing	Repair as soon as possible			
	Adjustable control valves are accessible and operational	Repair, as needed			
	Reverse-slope pipes and flashboard risers are in good condition	Repair, as needed			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Rouss City Hall * 15 North Cameron Street * 22601
540-667-1815 * www.winchesterva.gov

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Wetponds Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Riser/Principle Spillway and Low-Flow Orifice(s)	There is evidence of clogging	Clear blockages of the riser or orifice(s), and make other adjustments needed to meet the approved design specs			
	Seepage into conduit	Seal the conduit			
	There is excessive trash/debris/other obstructions in the trash rack	Remove as soon as possible			
Dam/ Embankment and Abutments	There is sparse veg cover, settlement, cracking, bulging, misalignment, erosion rills deeper than 2 inches, or sloughing of the dam	Repair and restabilize as soon as possible, especially after major storms			
	There are soft spots, seepage, boggy areas or sinkholes present	Reinforce, fill and stabilize as soon as possible			
	There is evidence of nuisance animals	Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from area			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Wetponds Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Dam/ Embankment and Abutments	There is woody vegetation on the embankment	Removal of woody species near or on the embankment and maintenance access areas should be done when discovered, but at least every 2 years			
Overflow/ Emergency Spillway	There is woody growth on the spillway	Removal of woody species near or on the emergency spillway should be done when discovered, but at least every 2 years			
	There is excessive trash/ debris/other obstructions	Remove as soon as possible			
	There is evidence of erosion/back cutting	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There are soft spots, seepage or sinkholes	Reinforce, fill, and stabilize as soon as possible			
	Only one layer of stone armoring exists above the native soil	Reinforce rip-rap or other armoring materials			
Outlet	The outlet provides a stable conveyance from the pond	Stabilize as soon as possible and as needed, and clear blockages			
	There is woody growth within 5 feet of the outlet pipe barrel	Prune vegetation back to leave a clear discharge area			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Wetponds Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Outlet	There is excessive trash/ debris/other obstructions	Remove as soon as possible			
	Thereis excessive sediment accumulation at the outlet	Remove sediment			
	Discharge is causing undercutting, erosion or displaced rip-rap at or around the outlet	Repair, reinforce or replace rip rap as needed, and restabilize			
Overall	Access to the facility or its components is inadequate	Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated			
	Fences are inadequate	Collapsed fences must be restored to an upright position. Jagged edges and damaged fences must be repaired or replaced			
	Water levels in one or more cells are abnormally high or	Clear blockages of the riser or orifice(s), and make other			
	Complaints from local residents	Correct real problems			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Rouss City Hall * 15 North Cameron Street * 22601
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BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Wetponds Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Overall	Mosquito proliferation	Eliminate stagnant pools, and stock the basin with mosquito fish to provide natural mosquito & midge control. Treat for mosquitoes, as needed. If spraying, then use mosquito larvicide(e.g., Bacillus thurendensis or Altoside formulations), only if absolutely necessary			
	Encroachment on the pond or easement by buildings or other structures	Inform involved property owners of BMPs status, and clearly mark the boundaries of the receiving pervious area, as needed			
	Safety signage is not adequate	Provide sufficient, legible safety signage			

Additional Notes/Comments:

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Appendix C.5

Checklist 5 Extended Detention

CITY OF WINCHESTER, VA

Rouss City Hall * 15 North Cameron Street * 22601
540-667-1815 * www.winchesterva.gov

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Extended Detention Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Contributing Drainage Area	Inadequate vegetation	Supplement as needed			
	There is excessive trash/debris	Remove as soon as possible			
	There is evidence of erosion and/or bare of exposed soil	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There is excessive landscape waste and yard clippings	Remove as soon as possible			
Pre-Treatment	There is inadequate access to the pre- treatment facility	Establish adequate access			
	There is excessive trash/debris	Remove as soon as possible			
	There is evidence of erosion and/or bare of exposed soil	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	Sediment deposits are 50% or more of forebay capacity	Dredge the sediment to restore the design capacity; sediment should be dredged from forebays at least every 5-7 years (earlier when needed)			
	The sediment marker is not vertical	Adjust the sediment depth marker to a vertical alignment			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Extended Detention Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Pre-Treatment	There is evidence of clogging	Clear blockages of the riser or orifice(s), and make other adjustments needed to meet the approved design specifications			
	There is dead vegetation	Revegetate, as needed			
Inlet	The inlet provides a stable conveyance into the pond	Stabilize as soon as possible and as needed, and clear blockages			
	There is excessive trash/debris/sediment	Remove as soon as possible			
	There is evidence of erosion/undercutting at or around the inlet	Repair erosion damage and restabilize			
	There is cracking, bulging, erosion or sloughing of the forebay dam	Repair and restabilize as soon as possible			
	There is woody growth on the forebay dam	Remove within 2 weeks of discovery			
	There is evidence of nuisance animals	Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area			
	There is more than 1 inch of settlement	Add fill material and compact the soil to the design grade			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Rouss City Hall * 15 North Cameron Street * 22601
540-667-1815 * www.winchesterva.gov

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Extended Detention Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Inlet	The inlet alignment is incorrect	Correct as soon as possible			
Vegetation	Plant composition is inconsistent with the approved plans	Determine if existing plant materials are consistent with the general Wet Pond design criteria, and replace inconsistent species			
	Invasive species are present	Remove invasive species as soon as possible, and replace vegetation as needed			
	Trees planted in the buffer and on wetland islands and peninsulas need watering during the first growing season	Consider watering every 3 days for first month, and then weekly during first year (April – October), depending on rainfall			
	Grass around the facility is overgrown	Mow (at least twice a year) to a height of 4”-9” high and remove grass clippings			
	Vegetation is dead or reinforcement planting is needed	Remove and replace dead or dying vegetation			
Permanent Pool and Side Slopes	There is excessive trash/debris	Remove as soon as possible			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Extended Detention Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Permanent Pool and Side Slopes	There is evidence of sparse vegetative cover, erosion or slumping side slopes	Repair and stabilize physical damage, and reseed or plant additional vegetation			
	There is evidence of nuisance animals	Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area			
	There is excessive sediment accumulation	Conduct a bathymetric study to determine the impact to design volumes, and dredge if necessary			
Riser/Principle Spillway and Low-Flow Orifice(s)	There is inadequate access to the riser for maintenance	Establish adequate access			
	Pieces of the riser are deteriorating, misaligned, broken or missing	Repair as soon as possible			
	Adjustable control valves are accessible and operational	Repair, as needed			
	Reverse-slope pipes and flashboard risers are in good condition	Repair, as needed			
	Seepage into conduit	Seal conduit			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Extended Detention Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Riser/Principle Spillway and Low-Flow Orifice(s)	There is evidence of clogging	Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specs			
	There is excessive trash/ debris/other obstructions in the trash rack	Remove as soon as possible			
Dam/ Embankment and Abutments	There is sparse veg cover, settlement, cracking, bulging, misalignment, erosion rills deeper than 2 inches, or sloughing	Repair and restabilize as soon as possible, especially after major storms			
	There are soft spots, seepage, boggy areas or sinkholes	Reinforce, fill and stabilize as soon as possible			
	There is evidence of nuisance animals	Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area			
	There is woody vegetation on the embankment	Removal of woody species near or on the embankment and maintenance access areas should be done when discovered, but at least every 2 years			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Rouss City Hall * 15 North Cameron Street * 22601
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BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Extended Detention Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Overflow/ Emergency Spillway	There is woody growth on the spillway	Removal of woody species near or on the emergency spillway should be done when discovered, but at least every 2 years			
	There is excessive trash/ debris/other obstructions	Remove as soon as possible			
	There is evidence of erosion/back cutting	Repair erosion damage and reseed			
	There are soft spots, seepage or sinkholes	Reinforce, fill and stabilize as soon as possible			
	Only one layer of stone armoring exists above the native soil	Reinforce rip-rap or other armoring materials			
Outlet	The outlet provides a stable conveyance from the pond	Stabilize as soon as possible and as needed, and clear blockages			
	There is woody growth within 5 feet of the outlet pipe barrel	Prune vegetation back to leave a clear discharge area			
	There is excessive trash/ debris/other obstructions	Remove as soon as possible			
	There is excessive sediment accumulation at the outlet	Remove sediment			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Rouss City Hall * 15 North Cameron Street * 22601
540-667-1815 * www.winchesterva.gov

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Extended Detention Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Outlet	Discharge is causing undercutting, erosion or displaced rip-rap at or around the outlet	Repair, reinforce or replace rip rap as needed, and restabilize			
Overall	Access to the facility or its components is inadequate	Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated			
	Fences are inadequate	Collapsed fences must be restored to an upright position Jagged edges and damaged fences must be repaired or replaced			
	Water levels in one or more cells are abnormally high or low	Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specifications			
	Complaints from local residents	Correct real problems			

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Rouss City Hall * 15 North Cameron Street * 22601
540-667-1815 * www.winchesterva.gov

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.
*per VSMP Handbook, July 13 ed (draft)

BMP Type: Extended Detention Operation & Maintenance			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution***	**(Y/N)**	**Req'd.?**	**Comments**
Overall	Mosquito proliferation	Eliminate stagnant pools and stock the basin with mosquito fish to provide natural mosquito & midge control. Treat for mosquitoes as needed. If spraying, then use mosquito larvicide (e.g., Bacillus thurendensis or Altoside formulations), only if absolutely necessary			
	Encroachment on the pond or easement by buildings or other structures	Inform involved property owners of BMPs status, and clearly mark the boundaries of the receiving pervious area, as needed			
	Safety signage is not adequate	Provide sufficient, legible safety signage			

Additional Notes/Comments:

Follow-up Inspection Date: ___ ___/___ ___/20 ___ ___ **Follow-up Notes/Comments:**

Appendix C.6

Checklist 6 Underground Detention Facility

CITY OF WINCHESTER, VA

Rouss City Hall * 15 North Cameron Street * 22601
540-667-1815 * www.winchesterva.gov

BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.

BMP Type: Underground Detention Facility			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution**	**(Y/N)**	**Req'd.?**	**Comments**
Contributing Drainage Area	There is excessive trash and debris	Remove as soon as possible			
Inflows	There is excessive trash / Debris / Sediment	Remove as soon as possible			
	There is a _____% Blockage	Remove blockage			
	There is spalling	Depending on severity, patch or repair as soon as possible			
	There is erosion	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There is undermining	Depending on severity, monitor or repair the area			
	There is a damaged joint (Separation / Failure)	Repair/replace damaged pipe as soon as possible			
	There is a tree over / near the structure	Remove the tree, and cut so stump is flush with the ground			
Detention Pipe/ Chamber / Vault	There is excessive trash /debris /sediment	Remove as soon as possible			
	There is spalling	Depending on severity, patch or repair as soon as possible			
	There is erosion	Depending on severity, monitor or stabilize the area (reseed/revegetate)			

CITY OF WINCHESTER, VA

Rouss City Hall * 15 North Cameron Street * 22601
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BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.

BMP Type: Underground Detention Facility			**Checked? (Y/N)**	**Maint. Req'd.?**	**Comments**
BMP Elements	**Problems**	**Recommended Solution**			
Detention Pipe / Chamber / Vault	There is undermining	Depending on severity, monitor or repair the area			
	There is a damaged joint (Separation / Failure)	Repair/replace damaged pipe as soon as possible			
	There is a tree over / near the structure	Remove the tree, and cut so stump is flush with the ground			
	Ladder / Steps are in poor condition	Repair/replace ladder steps as needed			
	There are access issues	Ensure all manholes and/or access doors are operable			
Control Structure	There is excessive trash /debris /sediment	Remove as soon as possible			
	There is spalling	Depending on severity, patch or repair as soon as possible			
	There is erosion	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There is undermining	Depending on severity, monitor or repair the area			
	There is a damaged joint (Separation / Failure)	Repair as soon as possible			
	The Flow Restrictor is damaged	Repair or replace, as needed			

CITY OF WINCHESTER, VA

Rouss City Hall * 15 North Cameron Street * 22601
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BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.

BMP Type: Underground Detention Facility			**Checked? (Y/N)**	**Maint. Req'd.?**	**Comments**
BMP Elements	**Problems**	**Recommended Solution**			
Control Structure	The Flow Restrictor is missing	Replace missing Flow Restrictor			
	The Flow Restrictor is blocked/buried (_____%)	Remove blockage as soon as possible			
	The Trash Rack is damaged	Repair or replace, as needed			
	The Trash Rack is missing	Replace missing Trash Rack			
	The Trash Rack is Blocked/Buried (_____%)	Remove blockage as soon as possible			
	There are access issues	Ensure all manholes and/or access doors are operable			
Outfall	There is excessive trash / debris /sediment	Remove as soon as possible			
	There is a _____% Blockage	Remove blockage			
	There is spalling	Depending on severity, patch or repair as soon as possible			
	There is erosion	Depending on severity, monitor or stabilize the area (reseed/revegetate)			
	There is undermining	Depending on severity, monitor or repair the area			
	There is a damaged joint (Separation / Failure)	Repair/replace damaged pipe as soon as possible			

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Rouss City Hall * 15 North Cameron Street * 22601
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BMP #:_____ **Tax Map #:**_____ **Date:** ___ ___/___ ___ / 20___ ___

Project Name: _____ **Inspector:** _____

Note: Leave section blank, if item N/A.

BMP Type: Underground Detention Facility			**Checked?**	**Maint.**	
BMP Elements	**Problems**	**Recommended Solution**	**(Y/N)**	**Req'd.?**	**Comments**
Outfall	There is a tree over / near the structure	Remove the tree, and cut so stump is flush with the ground			

Additional Notes/Comments:

Appendix D

Municipal High Priority Facility Determination

Municipal High Priority Facility Determination

May 2019

Department of Public Services
Engineering Division
15 North Cameron St.
Winchester, VA 22601
Phone (540) 667-1815

Table of Contents

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Appendices

Appendix 1 Timbrook Center Municipal High Priority Facility Site Visit Evaluation Form

Appendix 2 City Yards Municipal High Priority Facility Site Visit Evaluation Form

Appendix 3 Jim Barnett Park Municipal High Priority Facility Site Visit Evaluation Form

1.1 Introduction

Under the Virginia Pollutant Discharge Elimination System (VPDES) MS4 General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4 General Permit), the City of Winchester must evaluate its facilities using a two-tier assessment process by June 30, 2014. The first step requires the City to determine which of its facilities meet the definition of a High-Priority Facility. High-Priority Facilities include:

- Composting facilities
- Equipment storage and maintenance facilities
- Materials storage yards
- Pesticide storage facilities
- Public works yards
- Recycling facilities
- Salt storage facilities
- Solid waste handling and transfer facilities
- Vehicle storage and maintenance yards

Secondly, facilities identified as High-Priority Facilities must then be evaluated to determine if they have a high potential to discharge pollutants. High-Priority Facilities are considered to have a high potential to discharge pollutants if any of the following materials are expected to have exposure to stormwater resulting from rain/snow/snowmelt/or runoff present; are not covered under a separate VPDES permit, and any of the following materials or activities occur:

- Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater
- Materials or residuals on the ground or in stormwater inlets from spills or leaks
- Material handling equipment (except adequately maintained vehicles)
- Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt)
- Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants)
- 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
- Waste material except waste in covered, non-leaking containers (e.g., dumpsters)

- Application or disposal of process wastewater (unless otherwise permitted)
- 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

City of Winchester-owned facilities that meet the definition of a High-Priority Facility and are considered to have the high potential for pollutant discharge must be identified by November 1, 2019. The City must continue to identify High-Priority Facilities by June 30 of each year, and then develop and implement individual Stormwater Pollution Prevention Plans (SWPPP) for these facilities no later than December 31 of that same year.

The City of Winchester contracted with GKY & Associates, Inc. (GKY) to identify and evaluate City facilities to determine those meeting the definition of High-Priority Facilities with a high potential to discharge pollutants and thus requiring a separate SWPPP.

1.2 City Facility Evaluation Protocol

City facilities were evaluated using the following protocols:

1. City parcels were identified using the latest GIS data supplied by the City of Winchester.
    a. Parcels owned by separate authorities or joint authorities were not included.

2. The 2010 Winchester aerial photography and latest available Google Earth photography were used to conduct desktop evaluation of City Facilities and identify which were potential High-Priority Facilities.

3. Staff conducted on-site reconnaissance of the potential High-Priority Facilities identified in the desktop evaluation to determine if those facilities actually met the definition of a High-Priority Facility.

    a. If so, staff further evaluated if there was a high potential for pollutant discharge.

    b. Evaluation forms were completed for each facility visited.

1.3 City Facility Evaluation Results

Review of the City Tax Parcel data identified eighty-two (82) parcels potentially owned by the City of Winchester. Of the eighty-two (82) parcels, twenty-four (24) parcels were owned by a separate public authority, joint public entity, or a non-profit organization, which were not included in the desktop evaluation.

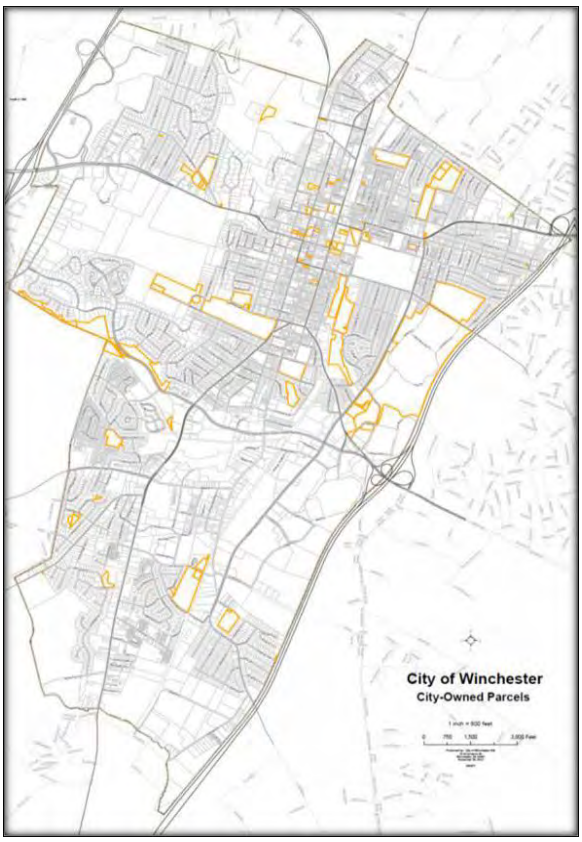

Figure 1- Winchester City-Owned Parcels

Desktop analysis of the remaining fifty-eight (58) parcels (Figure 1) identified three (3) parcels containing potential High-Priority Facilities:

- 231 East Piccadilly St.
- 301 - 303 E Cork St
- 1001 E Cork St.

On June 20, 2014, GKY staff conducted visual inspections at the three potential High-Priority Facilities to evaluate and confirm whether the facilities met the definition of High-Priority Facilities and, if so, met the regulatory threshold for having a High Potential for Pollution Discharge. Findings of the site visits are provided in Table 1. An individual site visit evaluation form is for each facility (see Appendices 1 through 3). Facility summaries are provided below.

1.3.1 Timbrook Center - 231 East Piccadilly Street

This facility includes police vehicle storage but does not appear to include vehicle maintenance (Appendix 1). As such, the facility does not meet the definition of a High-Priority Facility. The facility is well maintained, and there is no evidence of leaking vehicles.

1.3.2 City Yards - 301 - 303 E Cork Street

This two-parcel facility comprises the City Yards Facility. This facility meets the definition of a High-Priority Facility and has the High Potential for Pollutant Discharge (Appendix 2). However, as this facility is covered under a separate VPDES permit for industrial discharges (Permit #VAR050822); a separate SWPPP is not required under the MS4 General Permit.

In accordance with 9VAC25-890-20.F. of the MS4 General Permit, portions of Winchester's small MS4 that are covered under separate VPDES permits for industrial stormwater discharges shall follow the conditions established under the separate VPDES permit. If the City terminates separate VPDES permit coverage, a separate SWPPP will be required under the MS4 General Permit.

1.3.3 Jim Barnett Park – 1001 E. Cork Street

The primary use of this property is a park; however, the park equipment storage and maintenance facility is also located on this property (Appendix 3). The facility includes outside storage and has the High Potential for Pollutant Discharge. As such, a separate SWPPP, per the MS4 General Permit requirements, must be developed and implemented by June 30, 2017.

Table 1: Results of Site Visit Evaluations of Identified Potential High Priority Facilities

Address	Parcel Id. No.	High Priority Facility?	Reason	High Potential for Pollutant Discharge?	Reason	MS4 SWPPP Required?	Reason
231 East Piccadilly St.	173-01-Q-1	No	Vehicle storage only. No evidence of on-site maintenance.		–		–
301 - 303 E Cork St.	213-01-1 213-01-1A	Yes	City Yards facility including vehicle maintenance and equipment storage	Yes	Outside equipment and material storage	No	Separate VPDES Industrial Permit Coverage
1001 E Cork St.	253-01-1	Yes	Park Maintenance Facility	Yes	Outside equipment and material storage	Yes	Outside vehicle and material storage

1.4 High Priority Facilities with a High Pollutant Discharge Potential

At a minimum, the SWPPP must contain:

- A site description which includes a site map identifying all outfalls, direction of flows, existing source controls, and receiving water bodies
- A description and checklist of potential pollutants and pollutant sources
- A description of all potential non-stormwater discharges
- Written procedures designed to reduce and prevent pollutant discharge
- A description of the applicable training as required in Part I E 6 m of the MS4 General Permit
- Procedures to conduct an annual comprehensive site compliance evaluation
- 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.
- A log of each unauthorized discharge, release, or spill incident reported in accordance with Part III G including the following information:
    - Date of incident
    - Material discharged, released, or spilled
    - Estimated quantity discharged, released or spilled.

A copy of the SWPPP shall be kept at the facility, updated as necessary, and used as part of the training program required in Part I E 6 g of the MS4 General Permit.

Appendix 1

Timbrook Center
Municipal High Priority Facility
Site Visit Evaluation Form

Please fill in your Site information and then review each assessment section, below. If the determination for an assessment section is "Yes", then continue to the next assessment. If the determination for an assessment section is "No", then skip to the Final Determination section and complete. Please attach any site photos, if available, and submit your form to the location noted on the attached cover letter.

Facility Name: Timbrook Center **Date: June 20, 2014**

Location: W S 231 East Piccadilly Street **Tax ID: 173-01-Q-1- >**

Site Reviewer: Jason George and Alexandra Everhart

Assessment 1-High-Priority Facility Determination **Yes ☐ No ☒**

Please check any uses/activities, in this section, which are located at this facility. If more than one box is checked, then this facility is considered a high-priority facility. Mark appropriate determination box

☐ Compost facilities
☐ Materials storage yards
☐ Public works yards
☐ Salt storage facilities
☐ Recycling facilities
☐ Vehicle storage and maintenance yards
☐ Equipment storage & maintenance facilities
☐ Pesticide storage facilities
☐ Solid waste handling & transfer facilities

Assessment 2-High Potential for Pollutant Discharge Determination **Yes ☐ No ☐ N/A ☒**

Please check any uses/items, in this section, which are present or whose presence may be expected to be present at any given time at this facility. If more than one box is checked, then there is the high potential for pollutant discharge. Mark appropriate determination box.

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

Assessment 3-Permit status	**Yes ☐ No ☐ N/A ☒**

Are discharges from this facility covered under a separate VPDES permit (Mark appropriate determination box.)?

*If "Yes", note permit # -*_____

FINAL DETERMINATION	**Yes ☐ No ☒**

Does a Stormwater Pollution Prevention Plan need to be developed for this site under the MS4 General Permit? Mark appropriate determination box.

- If the first two assessments were "Yes", but there is no VPDES permit, then an MS4 Stormwater Pollution Prevention Plan will need to be developed under the MS4 General Permit.
-
- If all three assessments were "Yes", then you have coverage under a separate industrial permit and you must follow the Stormwater Pollution Prevention Plan developed under the permit listed in Assessment 3. (Mark "NO" for General Permit SWPPP required.)

Site/Aerial Photos

On the following page(s) Please insert or attach any site/aerial photos you have, using the noted format. Once completed, submit your form to the location noted on the attached cover letter.

Photo 1.1 Title-Timbrook
Description-Parking
Date Taken-6/20/2014

Photo 1.2 Title-Timbrook
Description-Parking
Date Taken-6/20/2014

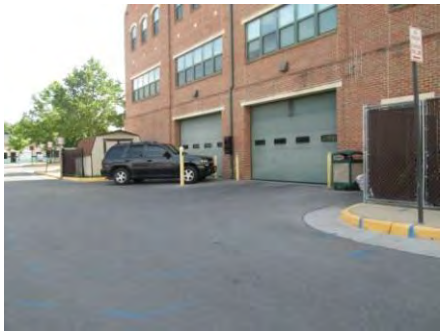

Photo 1.3 Title-Timbrook
Description-Back of Property
Date Taken-6/20/2014

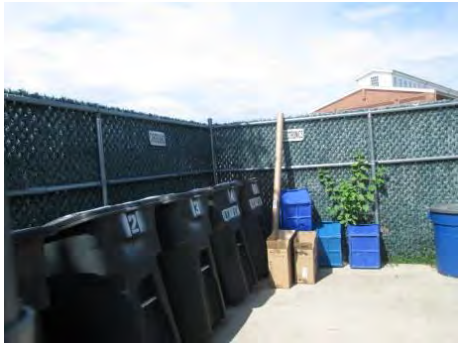

Photo 1.4 Title-Timbrook
Description-Covered Waste Containers
Date Taken-6/20/2014

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Appendix 2

City Yards
Municipal High Priority Facility
Site Visit Evaluation Form

Please fill in your Site information and then review each assessment section, below. If the determination for an assessment section is "Yes", then continue to the next assessment. If the determination for an assessment section is "No", then skip to the Final Determination section and complete. Please attach any site photos, if available, and submit your form to the location noted on the attached cover letter.

Facility Name: City Yard **Date: June 20, 2014**

Location: 301 E Cork Street **Tax ID: 213-01- - 1- >; 213-01- - 1A- >**

Site Reviewer: Jason George and Alexandra Everhart

Assessment 1-High-Priority Facility Determination **Yes ☒ No ☐**

Please check any uses/activities, in this section, which are located at this facility. If more than one box is checked, then this facility is considered a high-priority facility. Mark appropriate determination box.

☒ Compost facilities
☒ Materials storage yards
☒ Public works yards
☒ Salt storage facilities
☒ Recycling facilities
☒ Vehicle storage and maintenance yards
☒ Equipment storage & maintenance facilities
☒ Pesticide storage facilities
☒ Solid waste handling & transfer facilities

Assessment 2-High Potential for Pollutant Discharge Determination **Yes ☒ No ☐ N/A ☐**

Please check any uses/items, in this section, which are present or whose presence may be expected to be present at any given time at this facility. If more than one box is checked, then there is the high potential for pollutant discharge. Mark appropriate determination box.

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

Assessment 3-Permit status	**Yes ☒ No ☐ N/A ☐**

Are discharges from this facility covered under a separate VPDES permit (Mark Appropriate determination box.)?

If "Yes", note permit # - *VAR050822*

FINAL DETERMINATION (MS4 SWPPP required for General Permit)	**Yes ☐ No ☒**

Does a Stormwater Pollution Prevention Plan need to be developed for this site under the MS4 General Permit? Mark appropriate determination box.

- If the first two assessments were "Yes", but there is no VPDES permit, then an MS4 Stormwater Pollution Prevention Plan will need to be developed under the MS4 General Permit.
-
- If all three assessments were "Yes", then you have coverage under a separate industrial permit and you must follow the Stormwater Pollution Prevention Plan developed under the permit listed in Assessment 3. (Mark "NO" for General Permit SWPPP required.)

Site/Aerial Photos

On the following page(s) Please insert or attach any site/aerial photos you have, using the noted format. Once completed, submit your form to the location noted on the attached cover letter.

Photo 1.1 Title-City Yards
Description- Vehicle Storage
Date Taken-6/20/2014

Photo 1.2 Title-City Yards
Description-Road Paint
Date Taken-6/20/2014

Photo 1.3 Title-City Yards
Description-Maintenance Garage
Date Taken-6/20/2014

Photo 1.4 Title-City Yards
Description-Outside Storage
Date Taken-6/20/2014

Photo 1.5 Title-City Yards
Description-Salt and Sand Storage
Date Taken-6/20/2014

Photo 1.6 Title-City Yards
Description-Outside Storage
Date Taken-6/20/2014

Photo 1.7 Title-City Yards
Description-Outside Storage
Date Taken-6/20/2014

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Appendix 3

Jim Barnett Park
Municipal High Priority Facility
Site Visit Evaluation Form

Please fill in your Site information and then review each assessment section, below. If the determination for an assessment section is "Yes", then continue to the next assessment. If the determination for an assessment section is "No", then skip to the Final Determination section and complete. Please attach any site photos, if available, and submit your form to the location noted on the attached cover letter.

Facility Name: Jim Barnett Park Date: June 20, 2014

Location: 1001 E Cork Street Tax ID: 253-01- - 1- >

Site Reviewer: Jason George and Alexandra Everhart

Assessment 1-High-Priority Facility Determination **Yes ☒ No ☐**

Please check any uses/activities, in this section, which are located at this facility. If more than one box is checked, then this facility is considered a high-priority facility. Mark appropriate determination box

☒ Compost facilities
☒ Materials storage yards
☐ Public works yards
☐ Salt storage facilities
☐ Recycling facilities
☒ Vehicle storage and maintenance yards
☒ Equipment storage & maintenance facilities
☐ Pesticide storage facilities
☐ Solid waste handling & transfer facilities

Assessment 2-High Potential for Pollutant Discharge Determination **Yes ☒ No ☐ N/A ☐**

Please check any uses/items, in this section, which are present or whose presence may be expected to be present at any given time at this facility. If more than one box is checked, then there is the high potential for pollutant discharge. Mark appropriate determination box.

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

Assessment 3-Permit status	**Yes ☐ No ☒ N/A ☐**

Are discharges from this facility covered under a separate VPDES permit (Mark appropriate determination box.)?

*If "Yes", note permit # -*_____

FINAL DETERMINATION (MS4 SWPPP required for General Permit)	**Yes ☒ No ☐**

Does a Stormwater Pollution Prevention Plan need to be developed for this site under the MS4 General Permit? Mark appropriate determination box.

- If the first two assessments were "Yes", but there is no VPDES permit, then an MS4 Stormwater Pollution Prevention Plan will need to be developed under the MS4 General Permit.
-
- If all three assessments were "Yes", then you have coverage under a separate industrial permit and you must follow the Stormwater Pollution Prevention Plan developed under the permit listed in Assessment 3. (Mark "NO" for General Permit SWPPP required.)

Site/Aerial Photos

On the following page(s) Please insert or attach any site/aerial photos you have, using the noted format. Once completed, submit your form to the location noted on the attached cover letter.

Photo 1.1 Title-Jim Barnett Park Maintenance Facility
Description-Parking Area
Date Taken-6/20/2014

Photo 1.2 Title-Jim Barnett Park Maintenance Facility
Description-Equipment & Materials Storage
Date Taken-6/20/2014

Photo 1.3 Title-Jim Barnett Park Maintenance Facility
Description-Outside Waste Storage
Date Taken-6/20/2014

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Appendix E

Nutrient Management Plan Facility Determination

Nutrient Management Plan Facility Determination

May 2019

Department of Public Services Engineering Division
15 North Cameron St.
Winchester, VA
22601

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1.3 City Nutrient Management Plan Evaluation Results 1
1.4 Nutrient Management Planning 3

1.1 Introduction

Under the Virginia Pollutant Discharge Elimination System (VPDES) MS4 General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4 General Permit), the City of Winchester must identify all applicable lands where nutrients are applied to a contiguous area of more than one acre.

This evaluation identifies those areas for which nutrients are applied to more than one acre. For the purposes of this analysis, "contiguous" was attributed to whole tax parcels and not to portions of individual parcels, themselves. For example, a parcel that had two one-half acre turf areas separated by a sidewalk would be considered to have one-acre nutrient application. Similarly, if two (2) parcels were contiguous to each other and each had nutrients applied to one-half acre, they would be considered to have one-acre of nutrient application.

1.2 City Property Evaluation Protocol

City facilities were evaluated using the following protocols:

1. Parcels greater than 1.0 acre in size, owned by the City of Winchester or by the City of Winchester Public Schools, were identified using the latest GIS data supplied by the City of Winchester.
    a. Parcels owned by separate authorities or joint authorities were not included.

2. The estimated turf acreage for each parcel was calculated through GIS analysis of the 2010 City of Winchester aerial imagery.

3. A list of City parcels and City School parcels with turf estimated to be greater than 1.0 acre were submitted to the City of Winchester for review.

4. The City of Winchester identified those parcels upon which nutrients were applied.

1.3 City Nutrient Management Evaluation Results

Analysis of the City's aerial imagery identified nineteen (19) City of Winchester-owned parcels in which more than one-acre of turf was observed (Table 1). In addition, seven (8) City of Winchester Public School-owned parcels were also identified (Table 2).

Of the twenty-six (26) identified parcels, the following six (6) parcels were confirmed to have nutrients applied on a routine schedule:

- Jim Barnett Park, 1001 E. Cork Street, (39.1727797, -78.154889), 71.6 acres
- Friendship Park, 623 N. Pleasant Valley Rd, (39.1899529, -78.1508964), 9.3 acres
- Whittier Park, 900 Whittier Avenue, (39.1911247, -78.1779289), 5.9 acres
- Weaver Neighborhood Park, 167 Bruce Drive, (39.149049, -78.1757645), 5.1 acres
- Park Place Public Park, 2014 Harvest Drive, (39.1659935, -78.1887412), 4.0 acres
- West Ridge and Harvest Ridge Park, 805 Crestview Terrace SS, (39.1585249, -78.1931146), 1.4 acres

Figure 1 provides a geographic view of these locations identified in red.

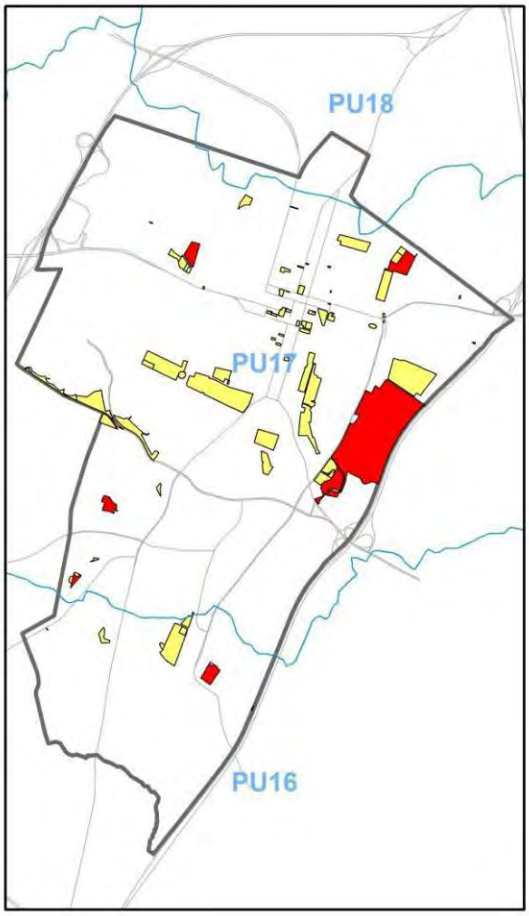

Figure 1: City-Owned Parcels Requiring Nutrient Management Plans

1.4 Nutrient Management Planning

Turf and landscape area Nutrient Management Plans for the six (6) identified City properties must be developed by a certified turf and landscape nutrient management planner, in accordance with § 10.1-104.2 of the Code of Virginia, and implemented by the City.

Given the fact that almost three-quarters of the acreage requiring Nutrient Management Plans is located at the Jim Barnett Park, with the remaining acreage scattered among the five other properties, the following development and implementation schedule is recommended:

- The City of Winchester should develop and implement a master Nutrient Management Plan for all turf and landscaped land uses on the six properties during Fiscal Year 2019 by the expiration date of the current Plans by 4/15/2019.
    - Duplicative information that would apply to all six properties would only need to be included once in the master Nutrient Management Plan. Individual site requirements would be included in individual chapters.
        - This would save the City considerable time and effort in updating the Nutrient Management Plans in the future.

Table 1: City of Winchester Public Properties with Greater than One (1.0) Acres of Turf*

Parcel ID No.	Address	Notes Regarding Use	Turf Acreage	Nutrients Applied	Latitude	Longitude
253-01- 1	*1001 E Cork St*	*Jim Barnett Park*	*71.6*	***Yes***	*39.1727797*	*-78.1548890*
175-01--23A	*623 North Pleasant Valley Rd*	*Friendship Park*	*9.3*	***Yes***	*39.1899529*	*-78.1508964*
171-01--11B	*900 Whittier Ave*	*Whittier Park*	*5.9*	***Yes***	*39.1911247*	*-78.1779289*
311-01-18	*167 Bruce Dr*	*Weaver Neighborhood Park*	*5.1*	***Yes***	*39.149049*	*-78.1757645*
250-04-B89	*2024 Harvest Dr*	*Park Place Public Park*	*4.0*	***Yes***	*39.1659935*	*-78.1887412*
269-05-B86	*805 Crestview Terrace SS*	*West Ridge & Harvest Ridge Park*	*1.4*	***Yes***	*39.1585249*	*-78.1931146*
209-01- 1	1643 Meadow Branch Ave	Abrams Creek Wetland Preserve	4.5	No	39.1738085	-78.1632222
188-06-61	1511 Stone House Court	Abrams Creek Wetland Preserve	3.1	No	39.1780701	-78.1961193
213-01- 2	301 East Pall Mall St	Shawnee Springs Preserve	2.4	No	39.1775122	-78.1625733
171-07- 3	853 Whittier Ave	Open parcel for Town Run	2.2	No	39.1901562	-78.1791487
291-01--5E1	100 West Tevis St	Retention Basin	2.1	No	39.1543132	-78.1786967
289-07- 1	702 Kennedy Dr	Retention Basin	2.0	No	39.1527912	-78.1895305
213-01- 1	301 303 E Cork St	City Yards	1.5	No	39.1762981	-78.1905257
233-07-E A	50 Montague Circle	Stormwater Conveyance	1.4	No	39.1700675	-78.1685056
234-01-14	1400 S Pleasant Valley Rd	Public Park	1.3	No	39.1685538	-78.1613155
253-01- 1 1	1360 S Pleasant Valley Rd	Public Park	1.3	No	39.1695974	-78.1602963
151-16- 1	1105 Whittier Ave (Rear Lot)	Open parcel for Town Run	1.2	No	39.1909314	-78.1801839
193-01-U14	215 East Cork St	Green Circle	1.2	No	39.1791061	-78.1632282
291-01--5E2	101 West Tevis St	Retention Basin	1.1	No	39.1533418	-78.1792227

*Shaded entries do not have nutrients applied on a routine schedule and do not currently require Nutrient Management Plans.

Table 2: City of Winchester Public Schools with Greater than One (1.0) Acres of Turf*

Parcel ID No.	Address	Notes Regarding Use	Turf Acreage	Nutrients Applied	Latitude	Longitude
211-01-1	425 Handley Boulevard	High School	17.8	No	39.1772319	-78.174353
190-01-2	536 Jefferson St	Elementary School	6.4	No	39.1798863	-78.1814772
215-01-2	48 South Purcell Ave	Middle School	17.4	No	39.1786764	-78.1499246
311-01- 20	100 West Cedarmeade Ave	Elementary School	10.0	No	39.1519455	-78.1805058
232-01-B	1300-1310 South Loudoun St	Elementary School	5.0	No	39.1724858	-78.1684497
154-01-I 1	598 North Kent St	Elementary School	4.5	No	39.1920587	-78.1571287
175-06- 8B	550 Virginia Ave	Elementary School	4.5	No	39.1878189	-78.1532216
149-01-7B	427 Meadow Branch Ave	Elementary School	4.5	No	39.1866440	-78.1909930

*Shaded entries do not have nutrients applied on a routine schedule and do not currently require Nutrient Management Plans.

Appendix F

City of Winchester Stormwater Training Plan

City of Winchester Stormwater Training Plan

May 2019 Edition

Department of Public Services
Engineering Division
15 North Cameron St.
Winchester, VA 22601
Phone: (540) 667-1815

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4 APPENDICES 8

1 Introduction

Under the terms of the reissued Virginia Stormwater Management Program (VSMP) General Permit for Discharges from Small MS4s (MS4 General Permit), the City of Winchester is required to develop and implement an employee training program to address the requirements of Minimum Control Measure #6 (Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee Within the MS4 Service Area). This training program will explain the procedures and techniques for pollution prevention and good housekeeping methods for all relative City employees.

This training plan includes the:

- Pollution prevention training schedule and presentations for relevant personnel on these topics:

    a. Illicit discharge recognition and reporting
    b. Roads, streets and parking lot maintenance
    c. Fleet and facility operations
    d. Park and grounds maintenance

- Other certification and training requirements, including the:

    a. Summary of the emergency response training and certification program
    b. Provisions under the Virginia Erosion and Sediment Control Law
    c. Provisions under the Virginia Stormwater Management Act
    d. Provisions under the Virginia Pesticides Control Act
    e. Provisions under the Virginia Fertilizer Act

2 Pollution Prevention Training

This training plan will increase the City employee's awareness and knowledge of illicit discharges, pollution prevention and good housekeeping techniques for City activities. The topics of this training plan includes:

- *The recognition and reporting of illicit discharges*

- *Good housekeeping and pollution prevention practices that are to be employed during road, street, and parking lot maintenance*

- *Good housekeeping and pollution prevention practices that are to be employed in and around maintenance and public works facilities*

- *Good housekeeping and pollution prevention practices that are to be employed in and around recreational facilities*

2.1 Stormwater Training and Schedule

The Department of Public Services has developed a training presentation in PowerPoint format. This presentation can be divided into four (4) sections:

- *Illicit Discharges*
  - Objective: Provide City staff a more clear understanding of what illicit discharges are and procedures to prevent, detect, and eliminate these discharges.

- *Pollution Prevention Practices*
  - Objective: Provide City staff a better understanding how to prevent and reduce stormwater pollution by adhering to SOPs and good housekeeping practices.

- *Required Certifications*
  - Objective: Provide City staff a better understanding of what types of certifications are required under certain laws and regulations.

- *Quiz*
  - Objective: To evaluate the effectiveness of the training presentation and determine any necessary changes are required moving forward.

To increase the effectiveness of these training modules, they will be updated every 24 months to ensure City staff are not viewing the same presentations.

2.2 Relevant Employee Identification and Training Requirements

The City has identified the relevant employees, who are required to attend the training presentation. Table 1 identifies employee job titles and a training schedule letter for each Division, which corresponds and aligns with the training schedule design detailed in Table 2. Each division is required to attend this training once every 24 months. To optimize the learning experience, divisions have been grouped and assigned a training schedule letter – this way, not all divisions will be attending at once. Employees that are unable to attend the training must attend another training presentation session as soon as possible.

Table 1: City of Winchester Relevant Staff Requiring Stormwater Training

Department / Division	Job Titles	Training Schedule Letter
Refuse	Sanitation Worker I, Sanitation Worker II, Crew Leader, Crew Supervisor,	**a**
Facilities Maintenance	Facilities Director, Assistant Facilities Director, Maintenance Tech, Laborer, Lead Cleaner, Custodian	**a**
Parks & Rec Maintenance	Grounds and Facilities Superintendent, Maintenance Tech 1, Maintenance Tech 2, Maintenance Tech NC/PT	**b**
Arborist	City Arborist, Maintenance Tech 1	**b**
Inspections	Building Official, Combination Inspector, Senior Code Compliance Inspector, Code Compliance Inspector	**b**
Utilities - Transmission	Utilities Maintenance Supervisor, Crew Supervisor, Sr. Utility Service Mechanic, Utility Service Mechanic III, Utility Service Mechanic II, Utility Service Mechanic I	**c**
Winchester Parking Authority	Maintenance Tech 2, Maintenance Tech 3, Enforcement Officer	**d**
Streets / Snow & Ice	Supervisor, Maintenance Tech 1, Maintenance Tech 2, Maintenance Tech 3	**d**
Hwy Maintenance Traffic	Signs & Marking Maintenance Tech, Signal Tech, Traffic Supervisor	**d**
Utilities - Engineering	City Engineer, Utility Engineer, Stormwater Engineer, Public Property Coordinator, Construction Inspector	*

* Engineering Staff will annually participate in at least one training presentation

Table 2: City of Winchester Training Schedule for Relevant Staff

FY2019	FY2020	FY2021	FY2022
a, c	**b, d**	**a, c**	**b, d**
c	**d**	**c**	**d**
a, c	**b, d**	**a, c**	**b, d**
a	**b**	**a**	**b**

2.3 Delivery and Documentation

Each presentation is planned to be delivered within 45- minutes, which includes discussions and questions/answers. The Public Services Engineering Division will coordinate the training presentation with the appropriate supervisors.

At the end of the each training presentation, a sign-in sheet will be provided to ensure all of the relative required employees have attended this training. Completed sign-in sheets should be filed with the Engineering Division along with the presented presentation slides as required by the MS4 General Permit. The sign-in sheets and presentation slides must be kept for a minimum of three years after each training event and will have the following information:

- Date of the training event.
- Number of employees attending the training event.
- Objective of the training event.

3 Other MS4 General Permit Training & Certification Requirements

In addition, the MS4 General Permit requires training, certification, and documentation of other specified employees.

3.1 Erosion and Sediment Control Certifications

3.1.1 MS4 General Permit Requirement

The MS4 General Permit requires that "Employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law."

3.1.2 Applicability

The City currently operates a Virginia Erosion and Sediment Control Program under Chapter 840 of the Virginia Administrative Code (Erosion and Sediment Control Regulations). As such, City staff responsible for implementation of this program must maintain the appropriate certifications for plan review, inspection, and program administration.

3.1.3 Current City Staff

The City has one program administrator, one combined administrator, and one inspector on staff. In accordance with § 62.1-44.15:53 B. of the Code of Virginia, these City staff have met the necessary requirements for certification under the Virginia DEQ Erosion and Sediment Control training and certification program. Certifications will need to be renewed in accordance to requirements established by the State Water Control Board. For more information, staff should see the relevant information contained here: http://www.deq.virginia.gov/connectwithdeq/trainingcertification.aspx.

The City also has one professional engineer on staff that are qualified to review ESC plans under the program. In accordance with § 62.1-44.15:53 C., professional registration in the Commonwealth pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1 meets the certification requirements, for the purposes of renewals.

3.1.4 Contractor Responsible Land Developer (RLD)

City Code (Section 9-38) requires that contractors have the required certificate of competence (RLD) as described in Virginia Code §62.1-44.15:58. The person in charge of and responsible for a land disturbing activity must be designated prior to the commencement of any land disturbing activity.

3.2 Virginia Stormwater Management Program Certifications

3.2.1 MS4 General Permit Requirement

The MS4 General Permit requires that "Employees and contractors implementing the stormwater program obtain the appropriate certifications as required under the Virginia Stormwater Management Act."

3.2.2 Applicability

The City currently operates a Virginia Stormwater Management Program (VSMP) under Chapter 870 of the Virginia Administrative Code. Through this regulation, City staff responsible for implementation of this program must maintain the appropriate certifications for plan review, inspection, and program administration. Training and certification is handled by DEQ.

3.2.3 Current City Staff

The City has one combined administrator on staff. In accordance with § 62.1-44.15:30 of the Code of Virginia, this City staff have met the necessary requirements for certification under the Virginia DEQ Stormwater Management training and certification program. Certifications will need to be renewed in accordance to requirements established by the State Water Control Board. For more information, staff should see the relevant information contained here:
http://www.deq.virginia.gov/connectwithdeq/trainingcertification.aspx.

3.3 Pesticide Application

3.3.1 MS4 Permit Requirement

The MS4 General Permit requires that *"Employees and contractors hired by the permittee (City of Winchester) 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)."*

3.3.2 Applicability

City employees that use pesticides as a government representative must obtain and retain certification under the Virginia Pesticide Control Act. No other City employee may apply pesticides as part of their job duties. Certification may require testing, on the job training, and classroom education. Information regarding certifications can be found at the Virginia Department of Agriculture and Consumer Services (VDACS) website, below, or by contacting VDACs directly at:

Virginia Department of Agriculture and Consumer Services
Pesticide Services
102 Governor Street, 1st Floor
Richmond, VA 23219
PHONE - 804.786.3798, FAX - 804.786.9149
http://www.vdacs.virginia.gov/pesticide-applicator-certification.shtml

3.3.3 City Employee Certifications under the Virginia Pesticide Control Act

As of January 24, 2019, the City has a total of five (16) individuals certified to apply pesticides as either a commercial applicator not for hire (government employee) or a technician.

3.3.4 Contractors

Businesses that apply pesticides for compensation must be registered with VDACS, and their employees must hold the appropriate certifications. As part of the City's procurement process, the City will require any business that it hires to provide documentation that the required registration and certifications have been satisfied.

3.4 Fertilizer Application

Virginia Administrative Code 2 VAC 5-405 (Regulations for the Application of Fertilizer to Nonagricultural Lands) requires training for local entities engaged in the commercial application of fertilizers to nonagricultural lands. Certified Fertilizer Applicators (CFAs) may apply fertilizer to nonagricultural land as part of their official duties. Trained Applicators under the control and instruction of CFAs may apply fertilizer without the CFA being physically present. Untrained employees may only apply fertilizer if they are under the direct supervision of a CFA. The City must maintain copies of all training for Trained Applicators.

Information regarding certifications and training is available at:
http://www.vdacs.virginia.gov/plant-industry-services-certified-fertilizer-applicator-training.shtml

As of January 24, 2019, the City has a total of five (5) individuals certified to apply pesticides as either a commercial applicator not for hire (government employee) or a technician.

3.5 Emergency Response Training Summary

3.5.1 MS4 Permit Requirement

The MS4 General Permit requires that "*The appropriate emergency response employees shall have training in spill responses. A summary of the training or certification program provided to emergency response employees shall be included in the first annual report.*"

3.5.2 Summary of Emergency Response Training

The City of Winchester Fire & Rescue Department (FRD) is a combination department consisting of four volunteer fire departments with staffing supplemented by career City fire department staff. The Fire Departments operate under the Incident Command System (ICS), which is an organized approach to effectively control and manage operations at emergency incidents, required under Paragraph 1910.120(q)(3)(ii) of the federal Occupational Safety and Health Standards. As part of implementing its ICS Program, FRD has established minimum training certification standards. The minimum certification level for firefighters and Emergency Medical Service (EMS) providers is certification in Hazardous Materials Awareness, with higher certification levels encouraged. Under OSHA, those certified under the Awareness level must have:

- An understanding of hazardous substances and the risks associated with such substances in an emergency
- An understanding of the potential outcomes associated with an emergency created when hazardous substances are present
- The ability to recognize the presence of hazardous substances in an emergency
- An understanding of the role of the first responder at the awareness level, including site security / control and use of the U.S. Department of Transportation's emergency response guidebook
- The ability to realize the need for additional resources and to provide good information to the communication center

3.5.3 Documentation

The FRD's training program is defined and regulated under separate federal and state regulations. SOPs and training events are designed and implemented in order to comply with those regulations. Training documentation will be maintained by the appropriate volunteer fire company or the FRD.

5 APPENDICES

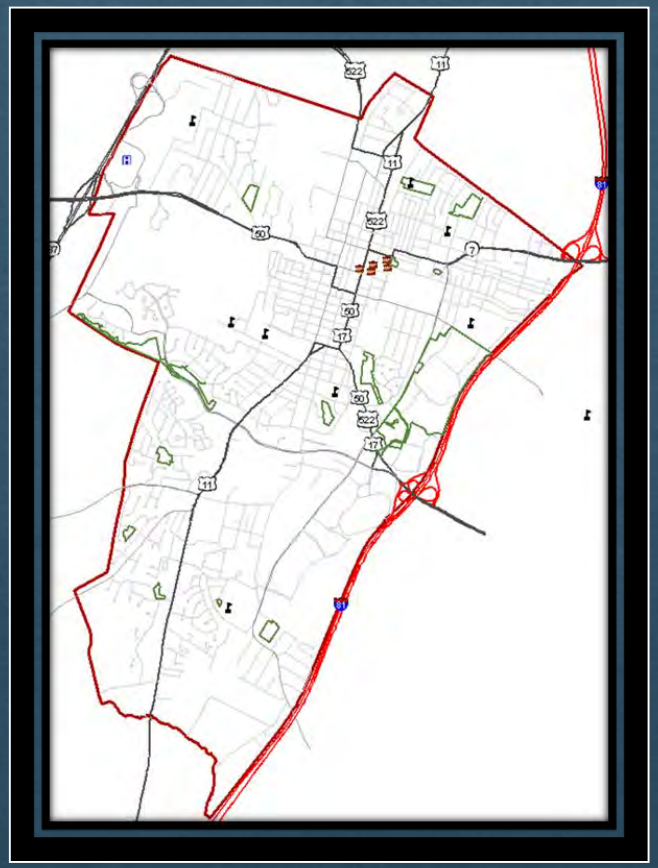
Attachment 1. City of Winchester Employee Stormwater Training 2019 Edition

City of Winchester Employee Stormwater Training

Prepared on: February 25, 2019

15 North Cameron Street
Winchester, VA 22601
(540) 667-1815
www.winchesterva.gov

Purpose of Training/Why Do We Care?



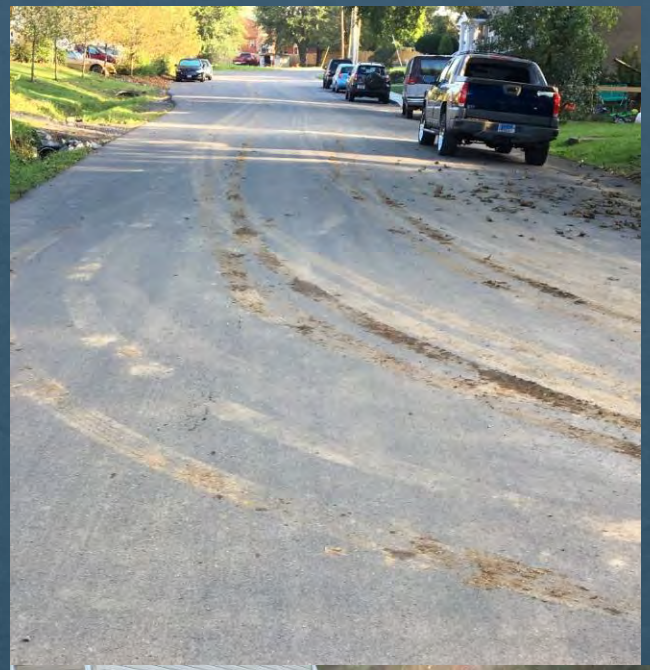
- City of Winchester is a MS4.
- Discharges from City's Storm Sewers are regulated by Virginia Department of Environmental Quality (DEQ) under Federal Clean Water Act.
- DEQ requires localities with a MS4 Permit to "develop, implement, and enforce a program to detect and eliminate illicit discharges."
- **All** City employees are responsible to ensure that the City complies with its MS4 Permit.
- Reduced illicit discharges mean less pollutant impacts on downstream water bodies
- Eliminating illicit discharges can help restore and protect urban waters.

Illicit Discharge

What is an Illicit Discharge?

- Any discharge to a municipal separate storm sewer (MS4) that is not composed entirely of stormwater. Some exemptions under City Ordinances.
- Important: MS4 means discharges are not treated. Discharges are released back into the environment and waterways.
- Examples: Used oil, pet waste, paint, sewage, chemicals, trash, dewatering discharges, cleaning products and solvents, and vehicle/equipment wash water.
- Exemptions: Water line flushing, VPDES permitted discharges, irrigation/lawn watering, "residential car washing", firefighting water, and air conditioning condensate.
- Sensitive areas:
  - Residential Car Washing
  - Pools - discharge less than 1 PPM of Chlorine.

Winchester
public services
Virginia



Identifying Illicit Discharges

Potential Illicit Discharges

- Dry Weather
  - Flow of Liquid Substance.
- Dry & Wet Weather
  - Color
  - Odor
  - Turbidity
  - Sheen
  - Floatable liquids
  - Dead fish
  - Algal blooms

Effects of Illicit Discharges

- Negatively impacts downstream waterbodies.
  - Aquatic organisms cannot survive with low dissolved oxygen levels, caused by excessive nutrients.

How You Can Help!

- Ensure chemicals are properly managed.
- Protect storm drain inlets during activities that can cause potential pollutants:
  - Concrete Pouring/Cutting
  - Soil Disturbance
  - Stockpiling
  - Salt Storage
- Identify and report questionable activities/discharges.

Reporting Illicit Discharges

- Information Required:
  - Who is reporting + contact information (can be anonymous)?
  - Who performed the illicit discharge?
  - What was the discharge?
  - Where was the discharge?
  - When was the discharge?
  - How much was the discharge?
  - Is anyone trying to clean the discharge?
  - Any photos?

Reporting Illicit Discharge Continued

1. If an illicit discharge smells and/or appears to contain petroleum and/or an other unknown/hazardous chemical(s)
   - Call 911
   - If the spill enters the City's storm system, call Engineering Department as well.
2. If an active dumping situation is occurring
   - Call Winchester Police Department: (540) 662-4131
   - If the dumping has already affected or will affect the storm sewer system or stream
     - Call DEQ Regional Office PREP Coordinator: (540) 574-7800
     - Call Engineering Department: (540) 667-1815
3. If an illicit discharge and/or connection is found in the city drainage system (MS4) and/or is impacting Waters of the State, notify:
   - Call DEQ Regional Office PREP Coordinator: (540) 574-7800
   - Engineering Division, Department of Public Services: (540) 667-1815
   - Stormwater Complaint Hotline: (540) 542-1346

Pollution Prevention Practices

Concrete

- Prevent Concrete Slurry from entering the storm system:
  - Collect slurry and dispose of waste and water

    OR
  - Allow slurry to dry and sweep up dried waste
- Designated location for concrete washouts are required to prevent wash water from entering storm drains, drainage ditches, and creeks.

Excavation

- Do not place excavated materials near the storm system.
- Have exposed materials in an impervious container when the material is not being used and during rain condition.
- Utilize Erosion and Sediment Controls.

Dewatering

- Do not pump contaminated water into the storm system.
- Contaminated water must pass through filters before entering the storm system.

Paving & Pavement Repair

- When milling, do not allow grindings to accumulate, where they can wash into the storm system. Clean up ASAP.
- Have exposed materials in an impervious container when the material is not being used and during rain condition.
- Clean trucks, equipment, and tools in designated wash facilities.
  - If no wash facility is available, then clean over a layer of absorbent material spread on a paved surface and/or heavy plastic sheeting.
    - Promptly sweep up absorbent material and dispose in accordance with established procedures.

Cleaning Storm Drain System

- During road and sidewalk work, ensure there is a positive grade to the inlet.
- Do not pave over inlets or manholes.
- Do not reduce the capacity of the inlets and inspect them for any damages or maintenance needs.
- Remove larger debris and trash such as large branches by hand.
- When cleaning storm drains by flushing, discharge the hose **upstream**.

Street Sweeping

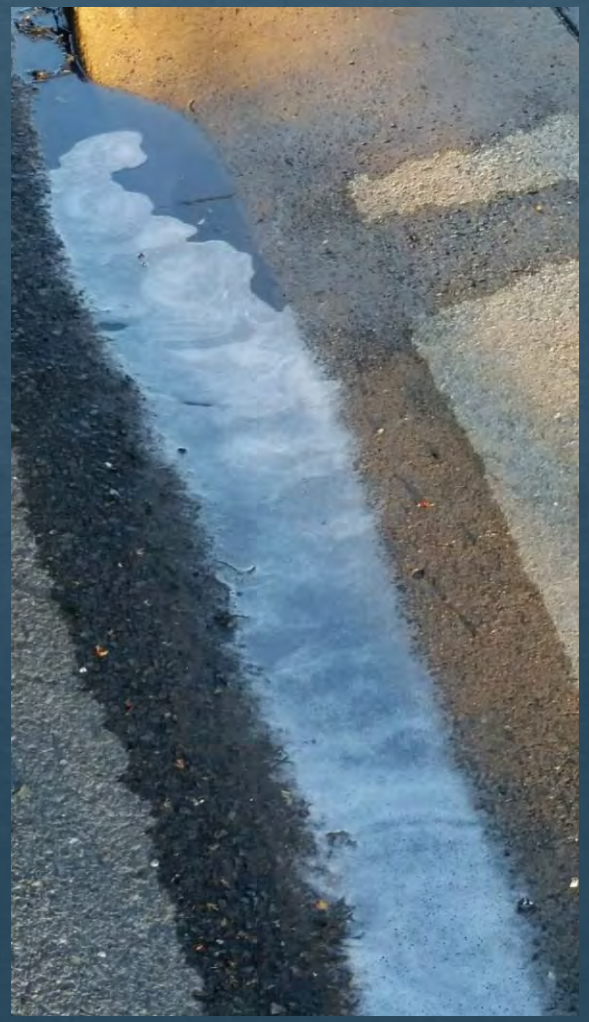
- Sweep as close to the curb as possible.
- Maintain an effective speed – effectiveness increases as speed decreases.
- Keep accurate logs of the amount of material collected.

Spills and Leaks

- Inspect vehicles/equipment regularly for any leaks.
  - Use drip pan or absorbent material to collect dripping fluids.
- Conduct spill cleanup using spill kits.
- Do not hose down spills – use the dry clean up method.
- If spill is greater than 5 gallons, then notify your supervisor.
- Immediately call 911 if a spill presents a threat to health or safety, or is otherwise considered an emergency.

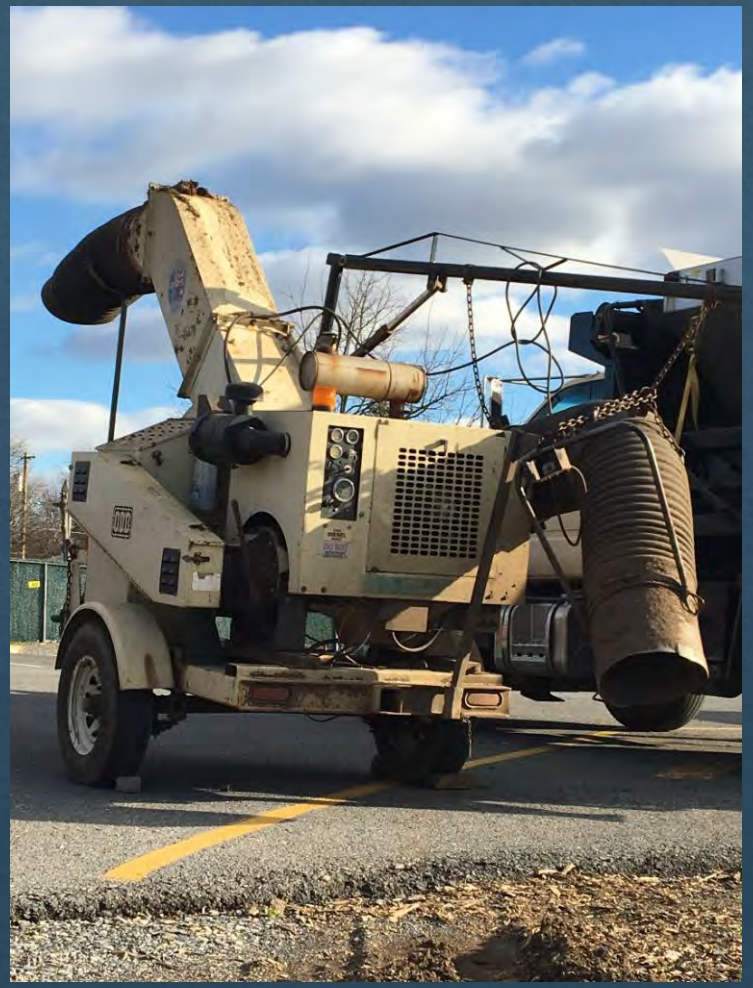
Waste Disposal Methods

- Collect, store, and label all used anti-freeze, motor oil, transmission fluid, and hydraulic fluid.
- Keep lids closed on dumpsters and trash cans.
- Never dispose used fluids, filters, or batteries in the trash.
- Contaminated absorbent materials, rags, and other such items should be stored in approved containers in the hazardous materials storage shed for pickup by the designated contractor.



Leaf Collection

- Important to remove leaves from gutters, ditches, and from/around storm inlets.
- Take collected leaves to City Yards for compost.
- Trash and debris cannot be composted.



Snow Removal

- Keep ice and snow chemicals covered/contained.
- Calibrate the spreaders so only the necessary amount will be applied.
- Do not use deicers containing urea.
- Do not use other materials that contain nutrients (i.e., fertilizers) as deicers.

Fueling

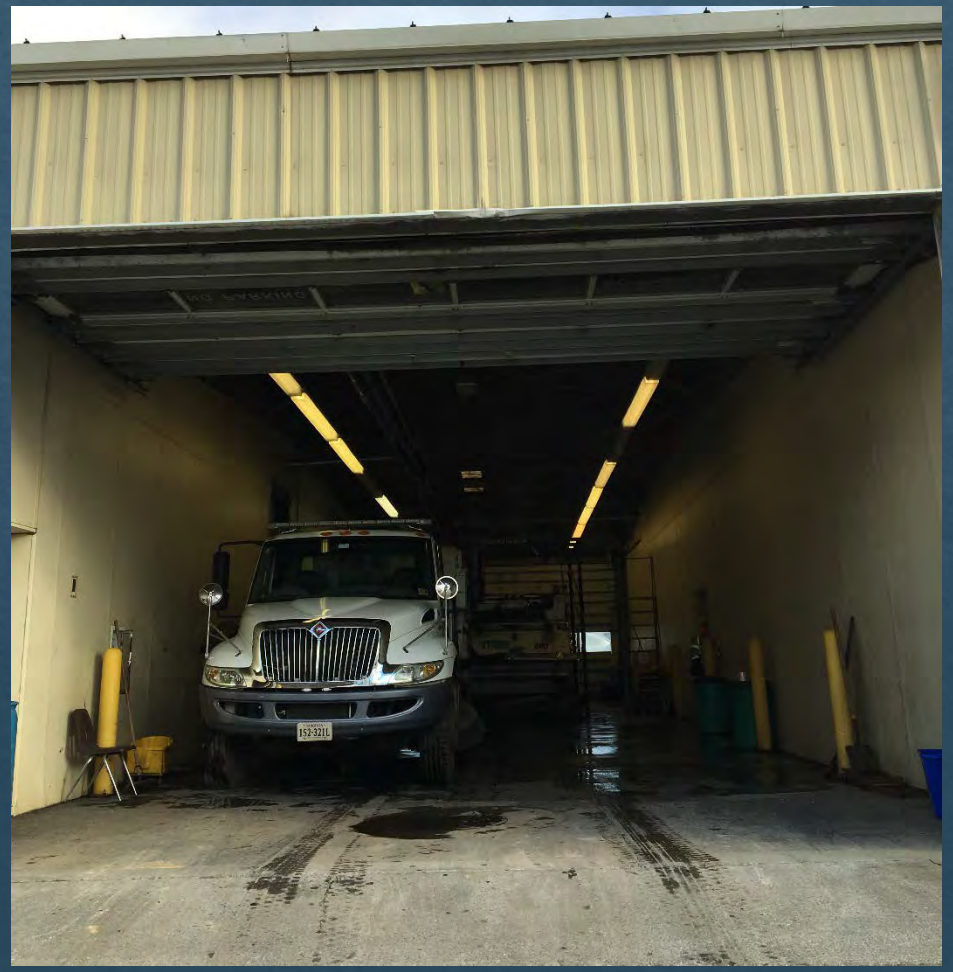
- Vehicle/equipment fueling is performed under cover at City Yards.
- Recommended to not top off the fuel tank.
- Always check for any leaks or spills.

Vehicle and Equipment Maintenance

- All maintenance activities must be performed in a bay inside the fleet maintenance garages.
- Drip pans must be placed underneath leaking vehicles/equipment that are awaiting maintenance.
  - Fluids collected must be disposed properly.
- Maintenance areas must be kept clean.

Washing Vehicles and Equipment

- All vehicles/equipment must be washed in the wash bay at City Yards.
- If equipment cannot be washed in the wash bay, then use a minimal amount of biodegradable soap and direct runoff to a grassy area away from storm systems.



Store and Handle Materials Safely

- Replace any containers that leak.
- Store/contain materials away from high traffic areas and in such that minimizes exposure to precipitation.
- Make sure containers are closed or sealed when not in use.
- Regularly inspect containers for corrosion or leaks
- Use spill containment.
- Storage areas outside should be bordered by a curb or berm to contain spills.

Debris Management

- Never dispose grass clippings, leaves, and other debris in storm drains.
- Remove accumulated debris from storm drain inlets.
- Dispose trash in covered containers
  - Place uncovered trash containers where runoff will filter through grass.

Dog Park

- Encourage Dog Park usage.
- Enforce requirements to pick up/dispose wastes.
- Maintain dog clean up signs.

Controlling Geese

- Use small native shrubs and wildflowers to landscape
  - Waterfowl perceive these vegetation as habitat for predators
  - These vegetation also improve water quality by trapping and taking up pollutants.
- Maintain the “Do Not Feed Geese” Signs.
- Clean Up after the Geese

Building Maintenance

- Do not use chemicals when power washing buildings and filter the contaminated water before it enters the storm system.

- Do not empty cleaning water outside – dispose them in an approved location to the sanitary sewer.

Land Disturbance

- Install PROPER erosion and sediment control measures to minimize erosion and prevent sediment from entering the storm system.

- Stabilize the site as soon as possible/practicable.

Refuse Collection

- Never pick up hazardous materials.
- Clean up spills immediately.
- Contact your supervisor immediately if a spill or release occurs while collecting trash.
  - Example: Broken hydraulic line.
- ‘Squeezings’ and other liquids that accumulated in the garbage trucks should be emptied at the landfill.

Stormwater Best Management Practices (BMPs)

- BMP – procedure or mechanism to reduce stormwater runoff and improve water quality.
- Ask or review for procedures on how to properly maintain BMPs (DEQ Green Book).
  - Certain BMPs do not need regular mowing.
- Remove any weeds or any invasive vegetation that does not belong in the BMP.

Lawn and Plant Management

- Stabilize on bare areas to prevent erosion.
- Convert wood debris to wood chips to recycle for City Parks or other City property/distributing to residents for landscape use.
- Do not over water, and repair any broken sprinklers.

Pesticide and Herbicide Practices

- Follow all directions and procedures in terms of safety, storage, disposal, and mixing.
- Mix pesticides and herbicides away from the storm system.
- Try to use non-toxic herbicides (citrus/water & vinegar).
- Apply pesticides and herbicides only where necessary.
- Do not apply during windy conditions or when rain is predicted within 24 hours.

Fertilizer Application

- NEVER apply fertilizers when the ground is frozen or plants are dormant.
- As mentioned earlier, do not use fertilizers as a deicer.
- Avoid using fertilizers near storm drains, lakes, streams, and channels.
- Prevent fertilizers to fall on impervious surfaces that will be washed away during a rainstorm
  - If cannot be prevented, then reduce and clean afterwards.
- Avoid using fertilizers before a rainstorm.
- Choose a fertilizer with slow release nitrogen.

Required Certifications

Pesticide/Herbicide & Fertilizer

Pesticide/Herbicide Application

- To apply pesticides (including herbicides) as a government employee, you must be certified by the Virginia Department of Agriculture and Consumer Services.
- For more information:
  - http://www.vdacs.virginia.gov/pesticide-applicator-certification.shtml

Fertilizer Application

- Localities that apply fertilizers to nonagricultural lands shall employ or retain the services of a certified fertilizer applicator (CFA).
- For more information: http://www.vdacs.virginia.gov/plant-industry-services-certified-fertilizer-applicator-training.shtml

Erosion & Sediment Control and Stormwater Management Certifications

- Program Administrator
- Inspector
- Plan Reviewer
- Responsible Land Disturber

DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

For More Information

- Contact the Stormwater Engineer
  - (540) 667-2376
- Visit the City's Stormwater Webpage
  - https://www.winchesterva.gov/engineering/stormwater
- Visit EPA's Pollution Prevention/Good Housekeeping for Municipal Operations
  - https://www.epa.gov/sites/production/files/2015-11/documents/guidance_document.pdf
- Review the City Yards SWPPP. The SWPPP is available in the bookcase at the Yard Office.

Quiz Time!

- City of Winchester is a MS4. True or False
- The information in the SWPPP does not have to be followed. True or False
- Eliminating illicit discharge can help improve the quality of the environment. True or False.
- The responsibility of complying with the MS4 permit only applies to the Engineering Department. True or False
- All BMPs are proposed to make the environment better. True or False.
- All Vegetation should be mowed regularly. True or False.
- Certification is required to apply pesticides/herbicides and fertilizers as a government employee. True or False.
- Preventing non-stormwater discharge into the Storm Sewer System is a high priority. True or False.

Sign-in Sheet!

Winchester Employee Stormwater Training

Training Date:_____ Total Number of Employees Attending:_____

Name	Department	Job Title

Name	Department	Job Title

Attachment 2. Pollution Prevention/Good Housekeeping for Municipal Operations - Standard Operating Procedures 2018 - 2023

MS4 General Permit Permit
No. VAR040053

Pollution Prevention / Good Housekeeping
For Municipal Operations

Standard Operating Procedures

2018 - 2023

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Section 1 Purpose and Scope

Per the requirements of the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 Permit), the City of Winchester shall develop and implement daily good housekeeping procedures, in accordance with Part I E 6 a, for facilities owned or operated by the City.

The scope of work includes daily good housekeeping procedures development in accordance with the MS4 Permit requirements for inclusion in the City's MS4 Program Plan.

Section 2 Background

Municipal operations such as vehicle/equipment storage and maintenance, grounds maintenance, and parking lot maintenance can be a source of stormwater pollution if good housekeeping practices are not implemented during active municipal operations. The Pollution Prevention/Good Housekeeping components of the MS4 Permit require municipalities to re-evaluate municipal operations and storm infrastructure management to develop written procedures that minimize or prevent pollutant discharge from their daily operations. The daily good housekeeping procedures assists the City of Winchester in meeting the MS4 Permit requirements and encourages City employees to use best management practices (BMPs) in their daily municipal operations.

Per Part I E 6 a of the MS4 Permit, the written procedures are designed to minimize or prevent pollutant discharge from (i) daily operations such as road, street, parking lot maintenance; (ii) equipment maintenance; and (iii) application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. These written procedures, at a minimum, are designed to:

1. Prevent illicit discharges;
2. Ensure the proper disposal of waste materials, including landscape wastes;
3. Prevent the discharge of wastewater or municipal 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;
7. Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.

To address the MS4 Permit requirements, six general operations within the City were identified and good housekeeping procedures were written for activities under each operation. These operations include:

1. Municipal Facilities/Operations
2. Parking Lot Maintenance
3. Vehicle/Equipment Maintenance
4. Grounds Maintenance
5. Municipal Operations
6. Utility Maintenance

The six City operations and associated procedures are described in Section 3 through Section 8. Unless otherwise stated, the City's Engineering Division, led by the City Engineer, is responsible for ensuring good housekeeping practices are implemented for all municipal facilities and operations. At the beginning of each section pertinent City departments responsible for implementing the good housekeeping procedures areidentified.

Each standard operating procedure by itself is not intended to meet every requirement per Part I E 6 a; abut the document as a whole meets all requirements listed.

Section 3 Standard Operating Procedures - Municipal Facilities

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

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

The City's Engineering Division will work in close coordination with each facility supervisor to ensure good housekeeping procedures are being applied and to ensure the City of Winchester remains compliant with the MS4 Permit requirements.

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

Practices:

- All operations and activities at the City yard facility are to be in accordance with the Stormwater Pollution Prevention Plan (SWPPP) developed under the VPDES General Permit for Discharges of Stormwater from Industrial Activities registration number VAR050822.
- Do not dispose of leaves, grass clippings, tree trimmings, trash, oil, fuel, sediment, or any other pollutant into a storm drain or water body.
- Keep open, exposed areas clean and protected from precipitation.
- Keep equipment, stockpiles, chemicals, paints, etc. covered.
- Post signs and labels in problem areas and areas containing hazardous materials.
- Consider additional control measures in conjunction with coverings; including curbing, grading, or elevating materials to divert stormwater run-on and to contain stormwater run-off.
- Identify and label any storm drain inlets at or near the facility to notify employees and contractors not to dispose of any materials or wastes.
- Do not wash down or hose down any outdoor work areas or trash/waste container storage areas except where wash water will only enter the sanitary sewer following treatment.
- Recycle wastes, used oil, solvents, grease rags, wash water, and other spent liquids. Store materials to be recycled under cover with secondary containment.
- Install secondary containment devices where appropriate. Secondary controls include curbing, drip pans, basins, sumps, oil/water separators, catch basin inserts, oil pads/skimmers, and impervious work areas.
- Use oil/water separators, or other commercially-available devices to minimize oil and grease discharge to stormwater runoff.
- Stabilize or cover exposed denuded areas to minimize erosion and sedimentation during rain events. This can be done by applying mulch or permanent vegetation that will hold the soils in place.
- Install erosion and sediment controls in accordance with the *Virginia Erosion and Sediment Control Handbook (VESCH)* as needed during construction and utility maintenance activities.
- Do not use chemicals when cleaning outside of buildings. Filter building wash water before it enters the storm drain.
- If possible, dispose of building wash water at approved location connected to sanitary sewer.

Inspections/Maintenance/ Spill Response /Reporting:

- Schedule routine inspections focusing on areas that have a greater potential to spill, leak, discharge into stormwater runoff.
- Monitor floor drains and storm inlets and/or catch basins, and inspect, remove/replace as appropriate.
- Inspect oil/water separators and floor drain systems periodically to determine maintenance needs.
- Inspect equipment and storage areas at regularly scheduled days/times for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

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

Practices:

- Do not use water to clean up spills/leaks.
- Do not wash spills/leaks into storm drain, ditch, creek, stream, pond, wetland or any other water body.
- Do not leave spill/leak without cleaning it up.
- Stop the source of the spill/leak immediately, if safe to do so.
- Contain any spilled/leaked liquids, if safe to do so.
- Clean up spill/leak in accordance with spill kit directions.
- Inspect City vehicles/equipment before leaving City property yard.
- Sweep up granules and dispose of properly.
- Install control measures on nearby storm drains and water bodies if spill could potentially reach the stormwater systems.
- Position mats to contain leaks from vehicles and equipment until they can be repaired.
- Use secondary containment under or around petroleum and chemical storage containers.
- Notify supervisor of any spills greater than five (5) gallons or any spill that reaches the storm drain. If a supervisor is unavailable, call the stormwater hotline (540)-542-1346 or the Police Department's non-emergency line (540)-662-4131. Immediately call 911 if a spill presents a threat to health or safety, or is considered an emergency.

Inspections/Maintenance/ Spill Response /Reporting:

- Develop and maintain a site specific spill prevention/spill response plan.
- Maintain a spill kit in areas where petroleum or hazardous materials are stored.
- Maintain spill kits on all City owned equipment/vehicles that are used for municipal operations.
- Notify supervisor of any spills greater than five (5) gallons or any spill that reaches the storm drain. If a supervisor is unavailable, call the stormwater hotline (540)-542-1346 or the Police Department's non-emergency line (540)-662-4131. Immediately call 911 if a spill presents a threat to health or safety, or is considered an emergency.

Training:

- Train applicable employees in site specific spill response procedures and equipment.
- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 4 Standard Operating Procedures – Road, Street, and Parking Lot Maintenance

Road, street, and parking lot maintenance activities have the potential to produce pollutants that may discharge into stormwater runoff if good housekeeping procedures are not implemented in and around municipal parking lots. Potential sources of these pollutants may include parked cars, dumpsters, trash cans, and material stockpiles.

Included in this section are good housekeeping practices for municipal road, street, and parking lot maintenance operations. The procedures are to be implemented on all City owned/operated roads, streets, and parking lots and all construction activities associated with these facilities.

The City's Department of Parks and Recreation (DPR) is responsible for ensuring that all applicable DPR employees comply with the following procedures for parking lots associated with City parks and recreation facilities. Likewise, the City's Department of Public Works (DPW) is responsible for ensuring that the Streets Division staff comply with these procedures for maintenance activities associated with roads and streets. If applicable, all inspections for municipally owned parks and recreation parking lots are to be completed and records maintained for inclusion in the facility's SWPPP binder.

The City's Engineering Division will work in close coordination with the DPR and DPW to ensure good housekeeping procedures are being applied to all municipally owned/operated roads, streets, and parking lots and during construction/maintenance operations to ensure that the City of Winchester remains compliant with the MS4 Permit requirements.

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

Practice:

- Sweep all City maintained roads and streets in accordance with the City's established street sweeping schedule.
- Dispose of street sweepings properly and never store street sweepings in areas where storm water could transport fines to the storm drain system or a waterbody.
- Locate trash cans and dumpsters in areas that are readily accessible to users.
- Do not hose down parking lots or sidewalks within parking lots.
- Do not sweep trash, sediment, or any other pollutants to or down a storm drain or water body.
- Do not place trash cans or dumpsters near a storm drain or water body.
- Do not place hazardous waste in a dumpster or trash can.
- Do not wash out dumpsters. Return to owner for cleaning at owner's facility. If municipally owned containers must be washed, do so in an approved location where wastewater is either recycled or treated before discharging to the sanitary sewer with approval.
- Locate trash cans or dumpsters on a flat concrete surface that does not drain towards a storm drain or water body.
- Ensure all trash cans and dumpsters within parking lots remain covered and have no leaks.
- Request/use dumpsters with properly plugged drain holes whenever possible.
- Pick up trash and debris and dispose of in covered trash can or dumpster.
- Empty trash cans and dumpsters scheduled days/times. Do not overfill trash cans or dumpsters.
- Provide properly-labeled recycling bins in an area readily accessible to users to reduce the amount of garbage disposed.

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect parking lots for trash and debris at regularly scheduled days/times.
- Inspect trash cans and dumpsters at regularly scheduled days/times for leaks, corrosion, broken/missing lids or leaking drain valves.
- Maintain street sweeping equipment for maximum effectiveness.
- Immediately repair or replace any damaged trash cans or dumpsters.
- Regularly inspect parking lots for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect catch basins for structural integrity, cracks, and leaks or other condition issues. Repair any structures found to be leaking or damaged as soon as possible.
- Create a checklist for catch basins to help classify which catch basins require maintenance and generally how often. Prioritize catch basins that need repair.
- Report any suspected illicit connections or dumping to supervisor.
- Keep up-to-date records of inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- Train applicable employees on proper storm drain system maintenance and cleaning practices.
- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan. Document all relevant inspection activities on the proper forms provided in the SWPPP.

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect, maintain, and repair control measures in accordance with the VESCH and the Virginia Erosion and Sediment Control Regulations and the Virginia Erosion and Sediment Control Law.
- Keep up-to-date records of inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 5 Standard Operating Procedures – Vehicle / Equipment Maintenance

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

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

The DPR is responsible for ensuring all applicable DPR employees comply with the following procedures. Inspections are to be completed and records maintained as specified in the following procedures for inclusion in the facility's SWPPP binder. If applicable, all inspections for municipally owned parks and recreation parking lots are to be completed and records maintained for inclusion in the facility's SWPPP binder.

The City's Engineering Division will work in close coordination with the DPR to ensure good housekeeping procedures are being implemented where vehicles and equipment are being stored and maintained to ensure that the City remains compliant with the MS4 Permit requirements.

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

Practice:

- Do not park vehicles or place equipment over, on, or near a storm drain or water body.
- Do not store vehicles or equipment near storm drains or water bodies.
- Do not dispose of fluids in storm drains or water bodies.
- Whenever possible, store vehicles and equipment inside to minimize the potential for pollutant discharge in stormwater runoff. Where indoor storage is not possible, store on paved areas and under a covered facility.
- If storing vehicles and equipment inside, ensure floor drains have been properly connected and do not outfall into storm drain system. If the drain does outfall to a storm drain system, floor drain should be sealed.
- Store drums, tanks, and containers in low-traffic areas and on pallets.
- Store cracked batteries in leak-proof secondary containers.
- Store drip pans and draining boards in designated and marked holding tubs for reuse.
- Store limited amounts of solvents, antifreeze, motor oil, fuel, grease, etc. to prevent surplus or expiration of fluids. Store in a dry controlled area.
- Store salt, sand, or deicer in limited amounts under cover. If stockpiled outdoors, cover with tarp to minimize stormwater runoff and install fabric barrier around to capture polluted runoff.
- Vehicle maintenance activities must be performed inside the fleet maintenance garages.
- Use drip pans and other containment devices to prevent spills when performing maintenance.
- Move leaking vehicles and equipment indoors or under cover as soon as possible and use a drip pan to contain any leaks as needed. If possible, drain the leaking fluid and tag the vehicle/equipment to alert others of the leak.
- Clean equipment prior to placing in storage. Equipment shall be washed in a controlled location in accordance with SOP 5.2.
- Clean trucks, equipment and tools in designated equipment wash facilities where wash water will not drain to a storm drain, ditch, creek, stream, pond, wetland or any other water body.
- Use non-hazardous cleaners when possible.
- Use steam cleaning, pressure washing, or aqueous washers instead of solvents.
- Drain all liquid filters before disposal or recycling and dispose of properly.
- Pour drip pan fluids in appropriate waste/recycle containers as the first step in clean up after repair work is completed.
- Dispose of or recycle all fluids properly.

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect parking areas for stains, leaks, and spills at regularly scheduled days/times.
- Inspect equipment, drums, tanks, and containers for leaks, condition, proper storage and proper labeling.
- Maintain vehicles and equipment on a regular basis to prevent leaks.
- Sweep maintenance areas at regularly scheduled days/times to remove dirt/debris.
- Pickup and dispose of waste materials and scrap equipment at regularly scheduled days/times.
- If leaks or spills occur, clean up in accordance with SOP 3.2.

- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

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

Practice:

- All vehicles must be washed in the City Yards wash bay.
- Clean trucks, equipment and tools in designated equipment wash facilities where wash water will not drain to a storm drain, ditch, creek, stream, pond, wetland or any other water body.
- Do not release vehicle/equipment wash water into a storm drain or water body without prior authorization under a separate VPDES permit.
- If no wash facility is available, clean equipment over a layer of absorbent material spread on a paved surface and/or heavy plastic sheeting and install curbs, berms, or dikes around outdoor wash area to control and contain wastewater. Use wet/dry vacuum or vacuum truck to collect wash water and discharge to the sanitary sewer.
- Use drain guards (filter inserts) or approved equivalent on nearby storm drain inlets to catch sediments and other pollutants that might enter the storm drains as a result of vehicle washing.
- Avoid detergents whenever possible. If detergents are necessary, a phosphate-free, non-toxic, biodegradable soap is recommended.
- Minimize water use when washing and rinsing.

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect and maintain washing equipment such as hoses, wands, and nozzles at regularly scheduled days/times to ensure said devices are delivering proper rate of water and shutoff automatically when not in use.
- Where wash racks are used, inspect for leaks, overspray, or other signs of ineffective containment. Immediately correct any observed defects. Clean periodically to remove particulate matter and other pollutants.
- Inspect plumbing, recycling, and pretreatment systems at regularly scheduled days/times to ensure they are functioning properly.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

- Train applicable employees and subcontractors on proper fueling methods and spill cleanup materials.
- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 6 Standard Operating Procedures - Grounds Maintenance

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

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

The DPR is responsible for ensuring all applicable DPR employees comply with the following procedures. If applicable, all inspections for municipally owned parks and recreation facilities are to be completed and records maintained for inclusion in the facility's SWPPP binder.

The City's Engineering Division will work in close coordination with the DPR to ensure good housekeeping procedures are being implemented during grounds maintenance operations to ensure that the City remains compliant with the MS4 Permit requirements.

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

Practice:

- Do not store pesticides, herbicides, and fertilizers near storm drains or water bodies.
- Do not dispose of pesticides, herbicides, and fertilizers near or in storm drains or water bodies.
- Store pesticides, herbicides, and fertilizers in accordance with manufacturer's specifications.
- Where possible, store pesticides, herbicides, and fertilizers in an enclosed, controlled area. (i.e. locked storage shed or cabinet)
- Use proper containers for storing chemicals and clearly label.
- Use and clearly label secondary containers.
- Store Material Safety Data Sheets (MSDS) near chemical storage areas.
- Order only the amount needed to prevent surplus or expired chemicals.
- Order chemicals just prior to usage to reduce storage time.
- Use entire order of chemicals to minimize disposal.
- If disposal is necessary dispose of fertilizers and pesticides in accordance with manufacturer's specifications and applicable regulations.
- Follow all applicable federal and state regulations for storing pesticides, herbicides, and fertilizers.
- Maintain dog park signs, enforce dog park rules as stated on signage and clean up after dogs as appropriate.
- Maintain "Do Not Feed Geese" signs and clean up after geese as appropriate.

Inspections/Maintenance/ Spill Response /Reporting:

- Annually check expiration dates and dispose of expired products in accordance with the manufacturer's specifications.
- Keep an up-to-date inventory of all pesticides, herbicides and fertilizers stored. The list should include the name of the product, the manufacturer, the number of bags/containers and expiration date.
- Compile a binder of all Material Safety Data Sheets (MSDS) for pesticide, herbicides and fertilizers and have a general location to store it.
- Keep an up-to-date list of all Certified Pesticide Applicators.
- Keep an up-to-date list of pesticides, herbicides and fertilizers being applied. The list should include the name of the product, employee who applied the product, date of application, amount applied and location.
- Inspect storage areas at regularly scheduled days/times for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- All applicable employees who handle or apply pesticides and herbicides shall be certified in accordance with the Virginia Pesticide Control Act through Virginia Department of Agriculture and Consumer Services (VDACS).
- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

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

Practice:

- Do not apply pesticides, herbicides, and fertilizers before a heavy rainfall.
- Do not dispose of pesticides, herbicides, and fertilizers in storm drains or water bodies.
- City employees who use or supervise the use of any pesticide on any area in the performance of their official duties must be certified as either commercial applicators not for hire or a registered technician.
- City employees who use or supervise the use of any fertilizer on any area in the performance of their official duties must be a certified fertilizer applicator.
- Use proper Personal Protection Equipment (PPE) when handling and applying pesticides, herbicides, and fertilizers.
- All employees handling, mixing, and applying pesticides, herbicides, and fertilizers should be knowledgeable of the corresponding MSDS for pesticides, herbicides, and fertilizers.
- Mix only enough chemical for immediate use.
- Follow manufacturer's recommendations for handling, mixing, and applying pesticides, herbicides, and fertilizers.
- Follow all federal and state regulations when handling, mixing, and applying pesticides, herbicides, and fertilizers.
- Mix pesticides, herbicides, and fertilizers in designated areas and away from storm drains or water bodies.
- Employees applying pesticides, herbicides, and fertilizers should read the MSDS for each product they use.
- Calibrate application equipment to ensure proper amount of product is applied.
- Use caution when broadcasting product near a waterway or storm drain structure.
- If fertilizer is broadcast or spilled on a sidewalk, street or driveway, sweep up the excess and dispose of in accordance with manufacturer's specifications.
- Promptly cleanup any spills or leakage. Use dry absorbent for liquids and sweep up solid product. Dispose of waste in accordance with manufacturer's specifications. Do not rinse with water.
- Use fertilizers with no phosphorous content.
- Pesticide application equipment should have an emergency shut-off switch.
- Use the least toxic product or method available to do the job.
- Use biodegradable products when available.
- Spot treat problem areas with pesticides rather than treating larger areas.
- Avoid broadcast spraying of pesticides or herbicides.
- Use the granular form of fertilizers, herbicides, and pesticides to minimize application losses. If using liquids, be aware of wind direction to avoid wind drift of chemicals.
- Wash equipment in accordance with SOP 5.2.
- Apply products when ground is thawed; if applicable, fertilizer in accordance with any pertinent Nutrient Management Plan (NMP), apply pesticides and herbicides only as needed.

Inspections/Maintenance/ Spill Response /Reporting:

- Annually check expiration dates and dispose of expired products in accordance with the manufacturer's specifications.

- Keep an up-to-date inventory of all pesticides, herbicides, and fertilizers stored. The list should include the name of the product, the manufacturer, the number of bags/containers and expiration date.
- Compile a binder of all MSDS for pesticides, herbicides, and fertilizers and have a general location to store it.
- Keep an up-to-date list of all Certified Pesticide Applicators.
- Keep an up-to-date list of pesticides, herbicides, and fertilizers being applied. The list should include the name of the product, employee who applied the product, date of application, amount applied and location.
- Regularly inspect storage areas for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- All applicable employees who handle or apply pesticides and herbicides shall be certified in accordance with the Virginia Pesticide Control Act through Virginia Department of Agriculture and Consumer Services (VDACS).
- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

- Store and maintain lawn care equipment in controlled location per SOP 5.1.
- Wash lawn care equipment in controlled location per SOP 5.2.
- Fill gas tanks in a controlled location per SOP 5.3.
- Regularly inspect lawn care equipment and storage areas for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Purpose:

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

Practices:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

- Inspect portable toilets daily to ensure proper functionality and to detect leaks or spills. In the event of a toilet unit being tipped over, immediately lift the unit back to its original position and inspect for spills, leakage, or damage to the unit. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 7 Standard Operating Procedures – Municipal Operations

Municipal operations such as paving, concrete replacement, refuse collection etc. have the potential to produce pollutant discharge if good housekeeping procedures are not implemented during municipal operations.

Included in this section are good housekeeping practices for municipal operations. The procedures are to be implemented during all City operations outside of City owned facilities.

Purpose: To protect stormwater from contaminates during municipal operations.

Practice:

- Concrete
  - Collect concrete slurry and dispose of waste and water or allow slurry to dry and sweep up direct waste
  - Require concrete trucks to wash out in a designated location where wash water will not drain to a storm drain, ditch, creek, stream, pond, wetland or any other water body.
- Paving and Pavement Repair
  - When milling, do not allow grindings to accumulate where they can wash into the storm drain, ditch, creek, stream, pond, wetland or any other water body.
  - Mix only the amount of patching material necessary to complete the repair.
  - Locate stockpiles of asphalt patching material on a paved surface. Cover stockpiles to prevent contact with rain.
  - Use less harmful products rather than diesel for asphalt patching and cleanup activities.
  - Promptly sweep up absorbent material and dispose of in accordance with established procedures.
- Street Sweeping
  - Keep street sweepers maintained and in operation.
  - Sweep as close to the curb as possible.
  - Maintain an effective speed.
  - Keep accurate logs of the lane miles swept and/or the amount of material collected.
- Leaf Collection
  - Remove leaves from gutters, ditches and around inlets.
  - Dispose of leaves at City Yards composting area.
- Refuse Collection
  - Do not pick up hazardous material
  - Empty accumulated liquids from trash collection activities at a properly permitted landfill.

Inspections/Maintenance/ Spill Response /Reporting:

- Store and maintain municipal equipment in controlled location per SOP 5.1.
- Wash municipal equipment in controlled location per SOP 5.2.
- Fill gas tanks in a controlled location per SOP 5.3.
- Regularly inspect equipment used for municipal operations for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 8 Standard Operating Procedures - Utility Maintenance

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

The City's Engineering Division will work in close coordination with the Department of Public Utilities (DPU) to ensure good housekeeping procedures are being followed during utility maintenance operations to ensure that the City remains compliant with the MS4 Permit requirements.

Purpose: To protect stormwater from contaminates during water line maintenance operations.

Practice:

- Install inlet controls and filtering devices for planned and previously approved discharges into storm drain.
- Prior to discharge, inspect discharge flow path and clear/cleanup any debris or pollutants found (i.e. remove trash, leaves, sediment, and wipe up liquids, including oil spills).
- Stop unplanned discharges as quickly as possible.
- Notify DPU of unplanned discharge and discharge extent.
- Identify unplanned discharge location and repair as needed.
- Inspect unplanned discharge flow path and repair damaged areas as needed.

Inspections/Maintenance/ Spill Response /Reporting:

- Store and maintain equipment in controlled location per SOP 5.1.
- Wash municipal equipment in controlled location per SOP 5.2.
- Fill gas tanks in a controlled location per SOP 5.3.
- Regularly inspect equipment used for utility operations for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Purpose: To protect stormwater from contaminates during sewer line maintenance operations.

Practice:

- Remove tree roots and other identified obstructions in sewer lines.
- Immediate clearing of blockage or repair is required where an overflow is currently occurring or for urgent problems that may cause an imminent overflow (e.g. pump station failures, sewer line ruptures, sewer line blockages).
- Clean sewer lines on a regular basis to remove grease, grit, and other debris that may lead to sewer backups.
- Review previous sewer maintenance records to help identify "hot spots" or areas with frequent maintenance problems and locations of potential system failure.
- Identify and track sanitary sewer discharges. Identify dry weather infiltration and inflow first. Wet weather overflow connections are very difficult to locate.
- Locate wet weather overflows and leaking sanitary sewers using conventional source identification techniques such as monitoring and field screening. Techniques used to identify other illicit connection sources can also be used for sewer system evaluation surveys.
- Implement community awareness programs for monitoring sanitary sewer wet weather overflows. A citizen's hotline for reporting observed overflow conditions should be established to supplement field screening efforts.
- When a spill, leak, and/or overflow occurs and when disinfecting a sewage contaminated area, take every effort to ensure that the sewage, disinfectant and/or sewage treated with the disinfectant is not discharged to the storm drain system or receiving waters.

Inspections/Maintenance/ Spill Response /Reporting:

- Store and maintain equipment in controlled location per SOP 5.1.
- Wash equipment in controlled location per SOP 5.2.
- Regularly inspect equipment used for utility operations for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- During routine maintenance and inspection note the condition of sanitary sewer structures and identify areas that need repair or maintenance.
- Establish routine maintenance program. Cleaning should be conducted at an established minimum frequency and more frequently for problem areas such as restaurants that are identified
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 9 Resources

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

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

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

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

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