

**Phase II MS4 General Permit  
Program Plan Update**

**Local TMDL Action Plan**



MARCH 2024

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## 1. INTRODUCTION

The City of Petersburg has prepared the Appomattox River Bacteria Total Maximum Daily Load (TMDL) Action Plan to address the Special Conditions for approved local TMDLs (Part II.B) in the City's Municipal Separate Storm Sewer System (MS4) General Permit. The City's approach for preparation of this Bacteria TMDL Action Plan is based on the requirements provided in the 2018-2023 MS4 General Permit and the Virginia Department of Environmental Quality (DEQ) Local TMDL Action Plan Guidance Document, released on November 21, 2016. This Action Plan is incorporated, by reference, into the City of Petersburg's MS4 Program Plan.

## 2. TMDL BACKGROUND

- 1.) ***Name of TMDL Final Report;***
- 2.) ***Pollutant causing the impairment;***
- 3.) ***WLAs assigned to the MS4 as individual WLAs.***

The City of Petersburg was assigned Waste Load Allocations (WLAs) for fecal coliform under the approved TMDL Final Report entitled *Total Maximum Daily Load Development for the Appomattox River Basin*, dated March 1, 2004 (Appendix A). Two Appomattox River segments within the City of Petersburg (Segment IDs VAP-J15R\_APP01A12 and VAP-J15R\_APP01A98) are listed as impaired on Virginia's Section 303(d) Total Maximum Daily Load Priority List and Report due to water quality violations of the general standard. Fecal coliform was listed as the most probable cause for the impairment and is the primary Pollutant of Concern (POC), therefore a TMDL was developed for *E. coli* to address the impairments in these segments.

The City of Petersburg was assigned the following WLAs in the Appomattox River Basin TMDL Final Report:

- Appomattox River (2) *E. coli* WLA: 1.31E+11 cfu/yr
- Appomattox River (3)-tidal *E. coli* WLA: 1.76E+12 cfu/yr

The following sections outline the City's plan for complying with the WLAs assigned to the City under the TMDL.

## 3. SIGNIFICANT SOURCES OF POC

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

The City of Petersburg evaluated City-owned properties for potential sources of bacteria for which the City was assigned a WLA in an approved TMDL. Utilizing the City's Geographic Information System (GIS), an initial potential pollutant source desktop evaluation was completed to identify and characterize 428 City owned properties within the City's regulated MS4 boundary. As part of the desktop analysis, each property was evaluated based on land use and potential to discharge bacteria to the stormwater

infrastructure system and/or natural waterways. If a property had a land use that was not considered to have a significant potential to discharge bacteria or whose bacteria concentrated discharges are directed to the City's sewer system, then the property was not considered a potential significant source of bacteria. Parks that featured predominately athletic facilities (basketball courts, fenced athletic fields, etc) were considered a low risk of discharge to stormwater infrastructure or waterways.

**Facilities not considered significant source of bacteria to waterways:**

- *Dogwood Trace Golf Course (3108 Homestead Dr.)* – The facility is located adjacent to a residential area and also adjacent to Petersburg High School. Pet owners are not allowed to bring their domestic pets onto the greens at this property. The facility is connected to the sanitary sewer system. Therefore, this property is not considered a significant source of bacteria to stormwater.
- *Albert Jones Football Field (806 Augusta Ave)* - The facility includes a fenced football field with perimeter track, and other large grassed fields (unfenced). Signs are posted prohibiting dogs within the football field and track areas. The facility does not present significant opportunity for dog owner recreation and therefore, this property is not considered a significant source of bacteria to natural waterways.
- *Berkley Manor Neighborhood Vest Pocket Park (3499 Normandy Dr.)* – The pocket park is located within a residential area and also borders wetland areas along its southern border. The park features a baseball diamond, basketball courts and small playground. Limited seating is provided at the facility and the baseball diamond is fenced, limiting access. The facility does not present significant opportunity for dog owner recreation. Therefore, this property is not considered a significant source of bacteria to natural waterways.
- *Farmer Street Park – Outdoor Pool – District Park (1219 Farmer St)* – The facility features a large tennis court area, outdoor pool, playground, covered seating areas, and large grassed lawn. While the park may present the opportunity for limited dog recreation activities from adjacent property owners, it is not considered a significant source of bacteria to local waterways.
- *Historic Cameron Field (427 Graham Rd)* – The athletic facility, located along Lieutenant Run, features a football field, soccer field, walking track, concession stand and restrooms. The facility does not present significant opportunity for dog owner recreation. Therefore, this property is not considered a significant source of bacteria to natural waterways.
- *Low Street Neighborhood Vest Pocket Park (339 Low Street)* – The park features a playground, swingsets, large grassed areas and covered pavilion with facilities. The facility does not present significant opportunity for dog owner recreation. Therefore, this property is not considered a significant source of bacteria to natural waterways.
- *McKenzie Street Neighborhood Vest Pocket (930 McKenzie Street)* – The park is located in close proximity to the Appomattox River. Park features include basketball courts, soccer field with perimeter walking path, small playground with covered seating area. The facility does not present significant opportunity for dog owner recreation. Therefore, this property is not considered a significant source of bacteria to natural waterways.

- *Petersburg Sports Complex (100 Ballpark Rd)* – The facility has numerous baseball fields and two large ponds. Dogs are not allowed within the athletic fields. The facility does not present significant opportunity for dog owner recreation. Therefore, this property is not considered a significant source of bacteria to natural waterways.
- *Petersburg Animal Control (1600 Johnson Rd)* – The Animal Services Unit operates the animal control facility and is tasked with holding domestic animals and is located immediately adjacent to Lieutenant Run. There is potential for animal waste outside the building to enter Lieutenant Run as runoff from the facility. However, the animals are housed indoors and potential for significant contaminated runoff is minimized. Therefore, this property is not considered a significant source of bacteria.

**Facilities considered significant source of bacteria to waterways:**

- *Central Park (243 S. Sycamore St)* – The park features large grassed fields and extended walking paths throughout the park. Signage about leash laws and picking up after pets are located within the park. Because the park does provide significant opportunity for dog owner recreation and drains directly into onsite inlets, the park can be considered a significant source of bacteria to natural waterways.
- *Appomattox River Park (various properties)*– A trail system consisting of 137 acres provide mostly undeveloped open wooded space containing hiking and biking trails, and access to the river for boating and fishing. The park is located near/along the Appomattox River and is frequented by dog owners. The park is considered a potentially significant source of bacteria.
- *Historic Lee Memorial Park (1614 Defense Rd) District Park & Wilcox Lake* – The park at Wilcox Lake features a trail system consisting thru mostly undeveloped open wooded space containing hiking and biking trails, and access to the lake. The park is frequented by dog owners. The park is considered a potentially significant source of bacteria.

The City will continue to monitor all City properties to identify any future sources of the POC or additional high priority locations. Other sources of bacteria in the City of Petersburg could be attributed to domestic pet waste, septic tanks, illicit discharges, irrigation, power-washing, and/or bird populations.

#### **4. EXISTING OR NEW BEST MANAGEMENT PRACTICES**

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

The City has incorporated many Best Management Practices (BMPs) into its MS4 Program Plan that target bacteria and focus on source control and education. The following is a list of MS4 Program Plan BMPs that the City is implementing to specifically address the reduction of bacteria pollutant loads from the City's MS4:

- a. City Stormwater Webpage – The City will maintain a webpage dedicated to the City’s stormwater management program and will be used to distribute stormwater program messages and related information to its citizens.
- b. Social Media – The City will use its social media accounts to deliver its stormwater program messages and to distribute stormwater related information to its citizens, see Public Education and Outreach Plan (Appendix C).
- c. Pet Waste Disposal Stations – The City will maintain pet waste disposal stations within City-owned parks and recreational facilities, see Public Education and Outreach Plan (Appendix C).
- d. Online “Report a Concern” Tool – The City will maintain the online “Report a Concern” link on the City’s website, see Illicit Discharge Detection and Elimination (IDDE) procedures (Appendix D).
- e. Legal Authority – IDDE – The City will maintain legal authority prohibiting illicit discharges into the MS4.
- f. IDDE Investigation and Follow-Up – The City will investigate and conduct follow-up on potential illicit discharges in accordance with procedures included in the City’s IDDE Procedures.
- g. MS4 Outfall Dry Weather Field Screening – The City will conduct dry weather screening on fifty (50) MS4 outfalls annually using procedures included in the City’s IDDE Procedures.
- h. Illicit Discharge Tracking and Documentation – The City will track and document suspected and illicit discharges, as well as, the City’s investigation, follow-up and enforcement actions in accordance with the procedures included in the City’s IDDE Procedures.
- i. Private SWM Maintenance Agreements – The City will continue to require executed maintenance agreements for private stormwater management facilities.
- j. City-Owned Stormwater Management Facility Inspections – The City will inspect stormwater management facilities owned/operated by the City annually using procedures identified in the MS4 Program Plan Stormwater Facility Inspection Procedures (Appendix F).
- k. Privately-Owned Stormwater Management Facility Inspections – The City will inspect privately owned stormwater management facilities a minimum of once every five years.
- l. City-Owned Stormwater Management Facility Maintenance – The City will conduct maintenance on city-owned Stormwater Management Facilities, as necessary, and in response to the regular inspections.
- m. Municipal High Priority Facilities SWPPP Inspections - The City will continue to develop and implement specific stormwater pollution prevention plans for all municipal high-priority facilities. Inspections will be conducted annually, and maintenance will follow as needed.
- n. Good Housekeeping Standard Operating Procedures – The City will continue to implement standard operating procedures for pollution prevention that have been

incorporated into daily operational activities, see Good Housekeeping Standard Operating Procedures (Appendix B).

- o. Municipal Employee Training – The City will conduct staff training in accordance with the training schedule and training modules included in the City of Petersburg Municipal employee Training Plan and Schedule (Appendix E).
- p. Classroom Visits – The City will visit Elementary students to educate on the impacts that litter and bacteria can have on stormwater and local waterways, see Public Education and Outreach Plan (Appendix C).

The City has a number of other best management practices in place to address bacteria identified below:

- a) Inflow & Infiltration Program (Sanitary Sewer) – The City Department of Public Utilities (DPU) continues the Inflow & Infiltration (I&I) program to find and address sanitary sewer connections to the storm sewer. The program includes smoke testing, line video inspection and other methods to locate sanitary connections to the storm sewer system and remedy those cross connections.
- b) Street Sweeping – The City will continue its street sweeping program and track the amount of litter, sediment and debris collected.
- c) Public Sewer Connections – Chapter 114 of the Petersburg Code of Ordinances mandates connection to public sewer if in proximity to such, and mandates standard practices of design/construction of new sewer.

In Part II.B.4 Bacterial TMDLs of the MS4 General Permit, the VSMP authority must implement three strategies from Table 5 (or similar strategies) to enhance load reductions. The City of Petersburg addresses sources from domestic waste, urban wildlife, and illicit connections in the BMP's listed above, as well as other sources.

The City plans to continue implementation of these BMPs to address the bacteria WLAs listed in the TMDL for the Appomattox River Basin. Additional practices, beyond the ones established above, may be implemented based on the results from the City's Action Plan assessment methodology (Section 9). This adaptive, iterative approach will be used to determine when and where more practices are necessary, as well as to enhance and replace BMPs to achieve the most effective plan for reducing the discharge of bacteria from the City's MS4 area. More detailed descriptions for each of these BMPs can be found in the City's MS4 Program Plan which is available for download on the [City of Petersburg Webpage \(http://www.petersburg-va.org/295/Stormwater-Management\)](http://www.petersburg-va.org/295/Stormwater-Management).

## 5. LEGAL AUTHORITIES

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

The City has reviewed its MS4 Program Plan and ordinances to evaluate its ability to comply with the Special Conditions for approved (other than the Chesapeake Bay TMDL) TMDLs (Part II.B) in the MS4 Permit. Based on this review, the City of Petersburg does not require any new or modified legal authorities or policies to meet the requirements of this special condition. The following is a list of current ordinances and legal authorities from the Petersburg, Virginia Code of Ordinances that are applicable to reducing the major sources of pollutant identified in the TMDL:

- Chapter 18 – Animals. Prohibits animals from running loose in the City, including livestock, fowl, and dogs; Requires sanitary condition of stables, sheds, etc.; Requires storage and removal of manure.
- Chapter 50 – Environment. Includes the Erosion and Sediment Control, and Stormwater Management ordinances;
- Chapter 58 – Floods. Includes provisions for floodplain management;
- Chapter 78 – Parks and Recreation. Includes provisions to protect managed turf and prohibits pollution of springs or lakes in any City park;
- Chapter 94 – Solid waste. Addresses littering and mandates removal of garbage/rubbish;
- Chapter 114 – Utilities. Mandates connection to public sewer if in proximity to such, and mandates standard practices of design/construction of new sewer; and
- Chapter 122 – Waterways. Chesapeake Bay Preservation Areas; Includes performance standards for development and redevelopment, including septic pump-out requirements, and prohibits illicit discharges to the storm sewer system.

## **6. ENHANCEMENTS TO PUBLIC EDUCATION, OUTREACH, & EMPLOYEE TRAINING**

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

The City will conduct employee training in compliance with the City’s Municipal Employee Training Plan and Schedule. Municipal employee training materials include two videos, “Municipal Stormwater Pollution Prevention: A Drop in the Bucket” and “Rain Check: Stormwater Pollution Prevention for MS4s”, which address Illicit Discharge Detection & Elimination (IDDE) and stormwater pollution prevention, including bacteria pollution. The videos also provide training for employees to continually be aware and abide by SWPPP requirements and procedures. Refer to the Public Education & Outreach Plan and the Municipal Employee Training Plan and Schedule for additional details (Appendix C & E).

Another enhancement to the City’s program designed specifically to address source control of bacteria is the City’s promotion of picking up pet waste by maintaining pet waste disposal stations within City-owned parks and recreational facilities, see Public Education and Outreach Plan (Appendix C). These signs along with park rules to clearly inform pet owners that they must clean up after their pets with waste bags and dispose of the bags in the provided sealed containers located in

the park. The City has developed an educational handout (Appendix C) to distribute through social media and at local events that discusses negative effects of domestic pet waste and bird population waste on stormwater and local waterways.

Through these enhancements to the City’s Public Education and Outreach Program, the City expects to further reduce the discharge of bacteria into local streams.

## 7. MILESTONES & IMPLEMENTATION

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

As permitted in Part I.B. of the MS4 General Permit and referred to in DEQ’s Local TMDL Action Plan Guidance Document, the City is proposing to implement this Action Plan in multiple stages over multiple permit cycles using an adaptive iterative approach. This approach will allow the City to gather the necessary data and information to determine the most effective BMPs/management strategies for controlling POC loads along with identifying targeted areas for their implementation to meet the TMDL WLAs for bacteria.

The following schedule is proposed for implementation of the BMPs and milestone activities included in this Action Plan for the current permit cycle ending on October 31, 2028.

- a. City Stormwater Webpage Updates.....Annually
- b. Social Media Posts.....Annually
- c. Pet Waste Disposal Station Maintenance..... Annually
- d. Online “Report a Concern” Tool..... Annually
- e. Legal Authority – IDDE .....Annually
- f. IDDE Investigation and Follow-Up..... As Required
- g. MS4 Outfall Dry Weather Field Screening .....Annually
- h. Illicit Discharge Tracking and Documentation ..... As Required
- i. Maintenance Agreements ..... As Required
- j. City-Owned Stormwater Management Facility Inspections .....Annually
- k. Privately Owned Stormwater Management Facility Inspections ..... Every 5 Years
- l. City Owned Stormwater Management Facility Maintenance ..... As Required
- m. Municipal High Priority Facilities SWPPP Inspections .....Annually
- n. Standard Operating Procedures Implementation.....Annually
- o. Municipal Employee Training.....Biennially

The following schedule is proposed for implementation of the other BMPs for the current permit cycle ending on October 31, 2028.

- a) Inflow & Infiltration Program (Sanitary Sewer) ..... Annually
- b) Standard Operating Procedure 4.1: .....Annually
- c) Standard Operating Procedure 6.4: .....Annually
- d) Street Sweeping .....Annually
- e) Public Sewer Connections .....Annually

## 8. METHODS TO ASSESS TMDL ACTION PLAN

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

The goal of this TMDL Action Plan is to reduce the fecal coliform loadings into the Appomattox river that runs adjacent to the City of Petersburg. Many of the best management practices that have been implemented and continue to develop are based on eliminating the pollutant from its source, whether it be from inspection and maintenance or educational outreach. These methods will help assess the effectiveness of the action plan and determine if other methods need to be implemented.

The method by which the strength of this action plan will be assessed is implemented through the annual reporting process. Each BMP in **Table 1** will be reviewed for effectiveness based on its given metrics and updated accordingly.

## 9. MEASUREABLE GOALS AND METRICS TO TRACK COMPLIANCE

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

To determine the effectiveness of educating the general public and reducing bacteria at key sources, the City will use the metrics established in **Table 1**. These measures of effectiveness will be assessed annually during the annual reporting process and adjusted if need be.

The City will continue to monitor the six high priority facilities to ensure Standard Operating Procedures (Appendix B) are being followed and are effective, as well as ensuring the SWPPPs are being kept up to date in accordance with the requirements of the permit. The City will also monitor non-high priority facilities and any future facilities that may develop potential sources for discharge of the POC and implement management practices as applicable.

Table 1. Summary of the metrics for each BMP described in the Action Plan

<b>Best Management Practices</b>	<b>Metrics</b>
City Stormwater Webpage	Maintain MS4 permit requirements on City website
Social Media	Number of posts regarding bacteria education
Pet Waste Disposal Stations	Number of stations maintained
IDDE Tracking and Documentation	Number of reports received/observed and actions taken

Outfall Dry Weather Screening	Number of outfalls inspected and maintenance actions taken
Private SWM Maintenance Agreements	Number of agreements in place.
City-Owned SWM Facility Inspections/Maintenance	Number of inspections and maintenance actions taken
Privately-Owned SWM Facility Inspections	Number of inspections and maintenance actions taken
High Priority SWPPP Inspections	Number of inspections and maintenance actions taken
Good Housekeeping Standard Operating Procedures	Maintain SWPPP at each High Priority site
Municipal Employee Training	Number of employees trained
Classroom Visits	Number of classrooms visited and materials distributed
Inflow and Infiltration Program	Number of system repairs and rehabilitation efforts
Street Sweeping	Maintain Street Sweeping Program
Public Sewer Connections	Maintain City inspections of all new sewer connections

## APPENDIX A

**Table 5.44 Average annual *E. coli* loads (cfu/year) modeled after TMDL allocation in the Appomattox River watershed impairments.**

Impairment	WLA (cfu/year)	LA (cfu/year)	MOS	TMDL (cfu/year)	
Angola Creek (1)	0.00E+00	6.76E+12		6.76E+12	
Angola Creek (2)	0.00E+00	1.80E+13		1.80E+13	
Appomattox River (1)	4.74E+12	6.86E+14		6.90E+14	
<i>Chesterfield</i> --VA0088609	6.64E+09		<i>Implicit</i>		
VAG402047	1.75E+09				
VAG404002	1.75E+09				
VAG404107	1.75E+09				
VAG404129	1.75E+09				
VAG404140	1.75E+09				
VAG404161	1.75E+09				
VA0083135	4.18E+12				
VAG407199	1.75E+09				
VAG407198	1.75E+09				
VAG404092	1.75E+09				
VA0057088	0.00E+00				
VA0089206	0.00E+00				
VA0086681	5.24E+11				
VA0020222	1.15E+10				
VA0089931	0.00E+00				
Appomattox River (2)	1.07E+13	5.90E+14			6.01E+14
<i>Chesterfield</i> --VA0088609	2.07E+11				
<i>Colonial Heights</i> --VAR040009	1.74E+10				
<i>Petersburg</i> --VAR040013	1.31E+11				
VAG402047	1.75E+09				
VAG404002	1.75E+09				
VAG404107	1.75E+09				
VAG404129	1.75E+09				
VAG404140	1.75E+09				
VAG404161	1.75E+09				
VA0083135	4.18E+12				
VAG407199	1.75E+09				
VAG407198	1.75E+09				
VAG404092	1.75E+09				
VA0057088	0.00E+00				
VA0089206	0.00E+00				
VA0086681	5.24E+11				
VA0020222	1.15E+10				
VA0089931	0.00E+00				
VA0020303	8.71E+11				
VA0090131	0.00E+00				
VA0023540	2.62E+10				
VA0005819	4.70E+12				
VA0059099	0.00E+00				
VA0089516	0.00E+00				

**Table 5.44 Average annual E. coli loads (cfu/year) modeled after TMDL allocation in the Appomattox River watershed impairments. (Continued)**

Impairment	WLA (cfu/year)	LA (cfu/year)	MOS	TMDL (cfu/year)
Appomattox River (3)-tidal	6.87E+13	7.22E+14	<i>Implicit</i>	7.91E+14
<i>Chesterfield</i> --VA0088609	1.14E+13			
<i>Colonial Heights</i> --VAR040009	2.49E+12			
<i>Hopewell</i> -- VAR040015	1.44E+12			
<i>Petersburg</i> --VAR040013	1.76E+12			
VAG402047	2.78E+09			
VAG404002	2.78E+09			
VAG404107	2.78E+09			
VAG404129	2.78E+09			
VAG404140	2.78E+09			
VAG404161	2.78E+09			
VA0083135	6.63E+12			
VAG407199	2.78E+09			
VAG407198	2.78E+09			
VAG404092	2.78E+09			
VA0057088	0.00E+00			
VA0089206	0.00E+00			
VA0086681	8.32E+11			
VA0020222	1.83E+10			
VA0089931	0.00E+00			
VA0020303	1.38E+12			
VA0090131	0.00E+00			
VA0023540	2.62E+10			
VA0005819	4.70E+12			
VA0059099	0.00E+00			
VA0089516	0.00E+00			
VA0025437	6.37E+13			
VA0028258	1.08E+11			
VA0059161	1.39E+12			
VA0006254	1.66E+10			
VA0023426	1.52E+11			
VA0020206	2.66E+10			
VA0027561	2.77E+10			
VA0090344	1.11E+11			
Briery Creek	5.56E+09	3.84E+13		3.84E+13
VAG407198	2.78E+09			
VAG404092	2.78E+09			
Bush River (1)	5.56E+09	9.03E+13		9.03E+13
VAG407198	2.78E+09			
VAG404092	2.78E+09			
Bush River (2)	5.56E+09	1.10E+14		1.10E+14
VAG407198	2.78E+09			
VAG404092	2.78E+09			

## APPENDIX B

**Phase III MS4 General Permit  
Program Plan Update**

**Good Housekeeping Standard Operating  
Procedures (SOPs)**



April 2024

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## **Section 1 Standard Operating Procedures - Municipal Facilities**

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

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

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

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

Practices:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

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

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

Practices:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

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



## Section 2 Standard Operating Procedures - Parking Lot Maintenance

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

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

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

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

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



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### **Section 3 Standard Operating Procedures – Vehicle / Equipment Maintenance**

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

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

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

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

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

Training:

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

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



## Section 4 Standard Operating Procedures - Grounds Maintenance

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

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

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

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

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

Training:

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

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

Practice:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

Training:

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

Purpose:

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

Practices:

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

Inspections/Maintenance/ Spill Response /Reporting:

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

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

Training:

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

### Purpose:

To protect stormwater from anti-icing and deicing agents by properly storing, transporting, and applying the appropriate agents.

### Practices

- All anti-icing or deicing agents applied must be free of urea or other forms of nitrogen and phosphorus and follow applicable nutrient management plans.
- Application:
  - Bulk products are to be applied to roads and parking lots by means of truck spreader.
  - Bagged products are to be applied to sidewalks by means of push spreader or mechanized spreader attached to the back of utility carts.
  - Product should be applied at a rate specified by the manufacturer.
- Transport:
  - Whenever possible, anti-icing and deicing agents should be transported under cover.
- Storage:
  - Whenever possible, bagged anti-icing and deicing agents should be stored, indoors or under cover.
  - Whenever possible, bulk anti-icing and deicing agents should be stored in concrete containment with tarp cover.
    - Excess bulk material left after a storm event should be bagged and stored indoors. This material should be used prior to new bulk material.

### Inspections/Maintenance/Spill Response/Reporting

- If anti-icing or deicing agents are spilled or overapplied during application, excess material should be swept and disposed of immediately.

### Training

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



## **Section 5 Standard Operating Procedures - Utility Maintenance**

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

The Department of Public Utilities (Utilities) will minimize pollutant discharge during sewer overflows. Per the MS4 Permit requirements, additional procedures for utility maintenance and construction work will be developed prior to June 30, 2020.

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



## Section 6 Resources

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

## APPENDIX C



# WE ALL SCOOP THE POOP!



## The Problem:

## The Solution!

1. Animal waste adds harmful nutrients and bacteria to water

2. These nutrients and bacteria trigger algae and weed growth

3. Water becomes green, murky, smelly, and unsafe to swim in

4. People and animals become sick from contact with contaminated water!



**Pick up after your pets!**  
Make use of provided pet waste stations around the City.

**Dispose of pet waste in the trash!** Compost may not destroy dangerous bacteria.

**Don't feed ducks, geese, or swans bread:**

1. It's not good for them and can cause long-term health problems.
2. It causes them to concentrate in one area, meaning more waste in the water.



# LET'S KEEP IT BEAUTIFUL, PETERSBURG!



**Protect local  
wildlife!**

**Prevent the  
spread of  
disease!**



**Put trash in the can, not on the ground!**



# WHAT CAN I RECYCLE?

## TOP 10 IN THE BIN



1. CARDBOARD
2. PAPER
3. FOOD BOXES
4. MAIL
5. BEVERAGE CANS
6. FOOD CANS
7. GLASS BOTTLES
8. JARS (GLASS & PLASTIC)
9. JUGS
10. PLASTIC BOTTLES AND CAPS

### ALSO RECYCLABLE BUT NOT IN CURBSIDE BIN

PLASTIC BAGS  
AND WRAPS



ELECTRONICS



TEXTILES



Find out about your local recycling options here:  
[www.iwanttoberecycled.org](http://www.iwanttoberecycled.org)

# DON'T trash CENTRAL VIRGINIA

## About Us

The Don't Trash Central Virginia campaign unites localities in Central Virginia in a fight against litter. The goals of the campaign are to increase awareness of litter and its negative impacts in the community, build knowledge about litter prevention strategies, and encourage action through participation in public clean up opportunities. The campaign welcomes businesses and organizations as campaign partners who share the vision of a litter-free Central Virginia.

Join us in an effort to rid our communities of the financial and environmental costs that come with litter.

### How can you help?

- Spread the word! Tell others about the campaign.
- Join our social media drive and repost our content!
- Organize, support, or join a nearby litter clean-up!



## TOP 20 ITEMS FOUND BY VOLUNTEERS IN VIRGINIA

(Based on 20 years of data)

- Cigarette Filters
- Beverage Bottles (Plastic)
- Bags
- Cups, Plates, Forks, Knives, Spoons
- Food Wrappers - Containers
- Beverage Cans
- Caps & Lids
- Beverage Bottles (Glass)
- Straws, Stirrers
- Building Materials
- Balloons
- Rope
- Clothing, Shoes
- Fishing Line
- Oil/Lube Bottles
- Tires
- Toys
- Fishing Buoys, Pots & Traps
- Cigarette Lighters
- Six-Pack Holders

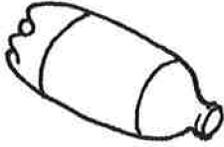
Virginia Coastal Zone Management Program—DEQ

# Sometimes items we recycle are made into cool new things!

We recycle these:

and they can be made into these:

Plastic Soda Bottles



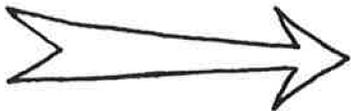
T-Shirts

Cereal Boxes



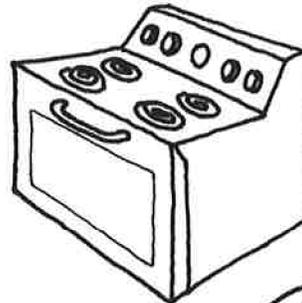
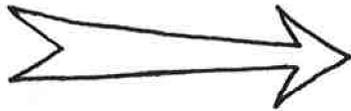
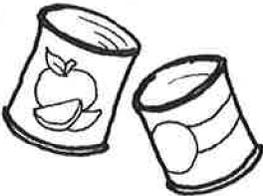
Notebooks

Soda Cans



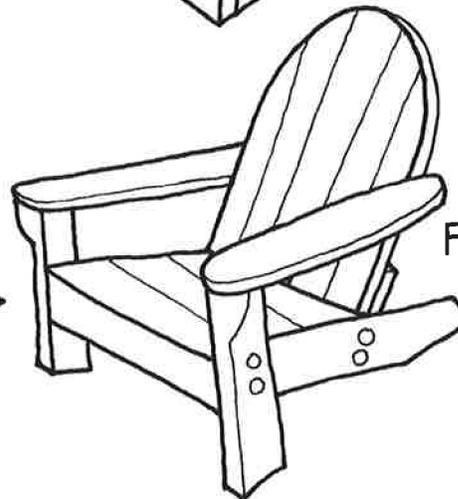
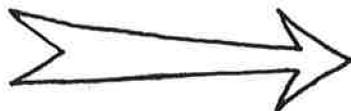
New Cans

Metal Cans



Stove

Plastic Milk Jugs



Plastic Lumber and Furniture

# Recycling Word Search

Name \_\_\_\_\_ Date \_\_\_\_\_

R R E C Y C L E V B I L M O  
 E G P O U I R S L W I U F B  
 P P N E N V I R O N M E N T  
 A L U I Q E K L E E B W R W  
 P A I B G A S C R O T E K N  
 S S Z C S A U U T F P S D E  
 W T A W Y D K T E A W Q A E  
 E I S T E X L C P R B J E W  
 N C R R S E U V A E G H C C  
 K G F Y S O C G N P Z L N X

BOTTLES  
 PACKAGING  
 RECYCLE  
 WASTE

ENVIRONMENT  
 PAPER  
 REDUCE

NEWSPAPER  
 PLASTIC  
 REUSE

# How to Maintain Your Stormwater Management Facility

Stormwater Management Facilities, also called BMPs, are designed to capture & treat stormwater using landscaping & structural features to remove pollutants as water heads toward streams, rivers, & the ocean.

Polluted water comes in



These BMPs look natural but still need care and maintenance to remain functional over the course of their lifetime!



Clean water goes out!

BMP Maintenance is required - the City can take enforcement actions if necessary.



# Sample Inspection and Maintenance Log

Facility Piece	Inlet Channel / Structure	Outlet Structure	Other
Trash, Debris, Sediment			
Erosion			
Vegetation			
Broken Parts			
Ponding Water			
Odor			
Pests			
Maintenance Actions Taken			

# Common

## Maintenance Items

1. Trash and Debris
  - a. Remove regularly to prevent clogging and odor.
2. Erosion
  - a. Establish grass in bare areas to keep structures functioning!
3. Structural Deficiencies
  - a. Cracks, rust, dents, & broken components should be repaired and replaced.
4. Vegetation
  - a. Maintain desired vegetation and regularly remove unwanted vegetation.
5. Sediment
  - a. Remove excess sediment to prevent clogging

### If you notice:

- Ponding Water
- Mosquitoes
- Pest animals
- Odors
- Excess sediment
- Bare spots

**Your BMP needs maintenance!**

# Inspection Schedule

Inspect your facility regularly – at least **twice a year and after heavy rainfalls** – for any common maintenance items (see left bar). See the table below for recommended seasonal maintenance!

Keep a **log of inspections and maintenance**, noting the date, components inspected, and maintenance performed.

Spring	Fall
Clean out trash/debris	Clean out trash/debris
Clean out weeds and unwanted plants	Remove weeds, plant debris, unwanted plants
Check for erosion (more than 1" soil lost)	Replace dead and dying plants
Check for pests and unusual odors	
Summer	Winter
Clean out trash/debris	Clean out trash/debris
When facility is dry, remove any sediment buildup	Check for ponding water
Make structural repairs	

Adapted from “How to Maintain Stormwater Management Systems at Home” by the James River Association

## APPENDIX D

**Phase III MS4 General Permit  
Program Plan Update**

**Illicit Discharge Detection and Elimination  
(IDDE) Procedures**



APRIL 2024

Prepared By:  
Timmons Group  
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Richmond, VA 232



**TIMMONS GROUP**  
YOUR VISION ACHIEVED THROUGH OURS.



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## Section 1 Introduction

The following *Illicit Discharge Detection & Elimination (IDDE) Procedures* document is intended to provide staff and contractors of the City of Petersburg with guidance for conducting detection, investigation, and elimination regarding illicit discharges in compliance with the City of Petersburg's Virginia Pollutant Discharge Elimination System (VPDES) permit, VAR040013. The General Permit (VAR04, effective November 1, 2023 - October 31, 2028) mandates that the operator (City of Petersburg) effectively prohibit non-stormwater discharges into the storm sewer system and develops, implements, and updates procedures to detect, identify, and address unauthorized non-stormwater discharges into the MS4. This document will also serve to provide guidance for conducting outfall reconnaissance.

## Section 2 Permit Requirements

The City is required to *“prohibit, through ordinance, policy, standard operating procedures, or other legal mechanism, to the extent allowable under federal, state, or local law, regulations, or ordinances, unauthorized non-stormwater discharges into the MS4. Non-stormwater discharges or flows identified in 9VAC25-890-20 D 3 must be addressed if they are identified by the permittee as a significant contributor of pollutants discharging to the MS4. Flows that have been identified by the department as de minimis discharges are not significant sources of pollutants to surface water.”*

The City is required to “maintain, implement, and enforce illicit discharge detection and elimination (IDDE) written procedures designed to detect, identify, and address unauthorized non-stormwater discharges including illegal dumping, to the MS4 to effectively eliminate the unauthorized discharge. ”

The City’s procedures must include *“dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4.”* The protocol will include:

- A prioritized schedule of field screening activities and rationale for prioritization determined by the operator based on such criteria as age of the infrastructure, land use, historical illegal discharges, dumping, or cross connections.
- A schedule to screen a minimum of 50 outfalls annually such that no more than 50% are screened in the previous 12-month period. The 50% criteria is not applicable if all outfalls have been screened in the previous three years.
- A risk-based approach may be adopted to dry weather screening identifying observation points based upon illicit discharge risks upstream of an outfall. Observation points may include points of interconnection, manholes, points of discharge, conveyances, or inlets suspected to have a high likelihood of receiving illicit discharges. Each observation point screened may be counted as one outfall screening activity equivalent and counted towards the requirements of Part I E 3 c (2) (b) or (2) (c) of the General Permit; however, at least 50% of the minimum annual screening events must include outfall screening.
- Illicit discharges reported by the public and subsequent investigations may not be counted as screening events; however once the resolution of the investigation and the date the



investigation was closed has been documented, an observation point may be established for future screening events.

- A checklist of mechanism to track the following information for dry weather screening events:
  - The unique identifier for the outfall or observation point;
  - Time and estimated quantity of the last precipitation event;
  - Site descriptions (e.g., conveyance type and dominant watershed land uses);
  - Observed indicators of possible illicit discharge events, such as floatables, deposits, stains, and vegetative conditions (e.g., dying or dead vegetation, excessive vegetative growth);
  - Whether or not a discharge was observed, and if a discharge was observed, the estimated discharge rate and visual characteristics of the discharge (e.g., odor, color, clarity) and the physical condition of the outfall; and
  - For observation points the location, downstream outfall unique identifier, and risk factors or rationale for establishing the observation point.
- A timeframe upon which to conduct an investigation to identify and locate the source of any observed unauthorized non-stormwater discharge. Priority of investigations shall be given to discharges of sanitary sewage and those believed to be a risk to human health and public safety. Discharges authorized under a separate VPDES or state permit require no further action under this permit.
- Methodologies to determine the source of an illicit discharges. If the permittee is unable to identify the source of an illicit discharge within six months of beginning the investigation then the permittee shall document that the source remains unidentified. If the observed discharge is intermittent, the permittee shall document that attempts to observe the discharge flowing were unsuccessful.
- Methodologies for conducting a follow-up investigation for illicit discharges that are continuous or that permittees expect to occur more frequently than a one-time discharge to verify that the discharge has been eliminated except as provided for in Part I E 3 c (4);
- A mechanism to track all illicit discharge investigations to document the following:
  - The dates that the illicit discharge was initially observed, reported, or both;
  - The results of the investigation, including the source, if identified;
  - Any follow-up to the investigation;
  - Resolution of the investigation; and
  - The date that the investigation was closed.

### **Section 3 Illicit Discharge Definition**

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



sources of pollutants of waters of the United States pursuant to section 122-107(c) of the City's Stormwater Ordinances.

## **Section 4 Illicit Discharge Contaminates and Sources**

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

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



## Section 5 Roles and Responsibilities

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

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

## Section 6 First Response/Legal Procedures

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



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

## **Section 7 Spills & Public Safety**

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

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

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

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

## **Section 8 Dry Weather Screening**

### **8.1 Storm Sewer Inventory Plan/Schedule of Activities**

The City has completed inventory of MS4 outfalls.

### **8.2 Dry Weather Screening Methodologies**

Beginning in fiscal year 2017, the City implemented standard IDDE outfall reconnaissance (dry weather screening) on the outfalls identified during the inventory. The City's inventory of outfalls exceeds 50 outfalls.

The permittee may adopt a risk-based approach to dry weather screening identifying observation points based upon illicit discharge risks upstream of an outfall. Observation points may include points of interconnection, manholes, points of discharge, conveyances, or inlets suspected to have a high likelihood of receiving illicit discharges. Each observation point screened may be counted as one outfall screening activity, however, at least 50% of the minimum annual screening events must include outfall screening. Illicit discharges reported by the public and subsequent investigations may not be counted as



screening events. However, once the resolution of the investigation and the date the investigation was closed has been documented, an observation point may be established for future screening events.

A separate MS4 Stormwater Outfall Screening Form (attached) should be completed for each outfall. Biological indicators of the presence of bacteria should be used whenever possible and recorded when observed. The following additional observations shall be recorded, when applicable: pet stations, septic systems, uncontrolled discharges, and wildlife activity present in the contributing drainage area.

The outfall screening form, at a minimum shall include:

- The unique identifier for the outfall or observation point;
- Time since the last precipitation event;
- The estimated quantity of the last precipitation event;
- Site descriptions (e.g., conveyance type and dominant watershed land uses);
- Observed indicators of possible illicit discharge events, such as floatables, deposits, stains, and vegetative conditions (e.g., dying or dead vegetation, excessive vegetative growth);
- Whether or not a discharge was observed;
- The discharge rate, visual characteristics of the discharge, and the physical condition of the outfall;
- If an observation point is used as an outfall screening activity; the location, downstream outfall unique identifier, and risk factors or rationale for establishing the observation point is required to use the observation point as an outfall screening activity.

In addition to visual observation and documentation on the MS4 Stormwater Outfall Screening Form, photo-documentation of each outfall shall also be recorded, including: the outfall; the receiving channel; and a broad perspective site photograph. Further, when applicable and feasible, the following additional parameters should also be photographed, particularly during the initial reconnaissance visit: representative land use/ land cover of the contributing drainage area; any outfalls observed, but not yet inventoried; and any notable evidence of bacteria sources in the contributing drainage area.

## **Section 9 IDDE Tracking, Elimination, and Documentation**

### **9.1 Investigations**

Investigations should be conducted in one of the following manners:

- Storm drain network investigations: This isolates the discharge to a specific section of the drainage network through strategic manhole inspections.
  - Manhole inspections – Moving through the storm sewer system upstream from the outfall point or point in the system where an illicit discharge has been identified. Manholes closest to the outfall or discharge point should be investigated first, with staff progressively moving up the storm sewer system and inspecting manholes until it can be determined either where the source is coming in or between which two manholes the source is coming into the system. Visual observations should be used to look for



presence of flow, colors, odors, floatable materials, or deposits or stains. **Do not enter the pipe** unless properly equipped for confined space entry. Photographs should be taken whenever possible.

- Drainage area investigations: Conducting surveys and analyses of the drainage area where the discharge has been located. This method is useful when the discharge has distinct or unique characteristics that can be linked to a specific business or operation.
  - Can include drive-by surveys of the drainage area to locate possible generating sites; and/or
  - GIS analysis to identify potential properties with septic systems, industrial and other potential generating sites.
- On-site investigations: Once the segment of the storm sewer system has been identified, one of the following on-site investigative strategies should be considered:
  - Video inspection (CCTV)
  - Dye and/or smoke testing

A separate Illicit Discharge Investigation Form (attached) should be completed for each suspected illicit discharge. Biological indicators of the presence of bacteria should be noted whenever possible and recorded when observed. The following observations shall be recorded, when applicable: location; time; date; name of observer; presence of flow; odors; color and presence of sheen; presence of floatables; stains/algae; and vegetative conditions.

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

## 9.2 Source Tracking and Follow-up Procedures

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

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

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



the field crew will be individuals with analytical and investigative skills and have knowledge of basic hydrology, biology, and chemistry. It is advantageous if members of the crew are familiar with the drainage area to identify potential sources of the illicit discharge.

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

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

### **9.3 Documentation**

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

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

Upon return from outfall reconnaissance, data recorded on the MS4 Stormwater Outfall Screening Form shall be entered into the City of Petersburg's SWM tracking database, including download of photographs. The completed forms shall then be stored for the duration of the permit term by the Stormwater Program Manager. In addition to maintaining a current SWM tracking database with all outfall reconnaissance inventory data, the location of all identified outfalls shall be recorded or verified using GIS following outfall reconnaissance & field inventory activities.

## APPENDIX E

**Phase II MS4 General Permit  
Program Plan Update**

**Municipal Employee  
Training Plan and Schedule**



FEBRUARY 2020

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**TIMMONS GROUP**  
YOUR VISION ACHIEVED THROUGH OURS.



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## Section 1 - Introduction

The City has developed and implemented a training plan and schedule for all applicable employees per Part I E. 6. m. of the current MS4 Permit. The training plan documents the applicable employees or positions to receive each type of training. If the training topic is not applicable to the City's operations, training for that topic is not required, however the lack of applicability must be documented in the MS4 Program Plan. The training requirements may be fulfilled, in total or in part, through regional training programs involving two or more MS4 permittees; however, the City shall remain responsible for ensuring compliance with the training requirements.

## Section 2 - Training Plan

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

1. ***"Field personnel receive training in the recognition and reporting of illicit discharges no less than once per 24 months."***

The City will provide training in recognition and reporting of illicit discharges to all applicable field personnel within the Public Works and Utilities field personnel, Petersburg Area Transit Facility personnel, Public Schools personnel, Park & Leisure and Dogwood Trace Golf Course employees, Code Enforcement, and the Fire Marshal. Training will be conducted by means of two videos called "Municipal Stormwater Pollution Prevention: A Drop in the Bucket" and "Rain Check: Stormwater Pollution Prevention for MS4s" (from EXCAL Visual). The videos will be shown in a group setting.

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

The City of Petersburg will provide training in good housekeeping and pollution prevention to all applicable Public Works and Public Utilities employees biennially. Training will be conducted by means of two videos called "Municipal Stormwater Pollution Prevention: A Drop in the Bucket" and "Rain Check: Stormwater Pollution Prevention for MS4s" (from EXCAL Visual). The video will be shown in a group setting.

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

City of Petersburg will provide training in good housekeeping and pollution prevention to all applicable Public Works & Utilities, Public Schools, Parks & Leisure Services, Dogwood Trace Golf Course, and Petersburg Area Transit Maintenance Facility employees biennially. Training will be



conducted by means of two videos called “Municipal Stormwater Pollution Prevention: A Drop in the Bucket” and “Rain Check: Stormwater Pollution Prevention for MS4s” (from EXCAL Visual).

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

All applicable Public Works, Parks & Leisure Services, Dogwood Trace Golf Course, and Public Schools employees and contractors who apply pesticides and herbicides will obtain training and certification in accordance with the Virginia Pesticide Control Act.

5. ***“Employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations.”***

City of Petersburg requires all plan reviewers, inspectors, program administrators, and construction site operators within the Public Works department to obtain the required Virginia SWM and ESC certifications. All re-certifications will be completed every three years as required through the Virginia DEQ.

6. ***“Employees and contractors implementing the stormwater program obtain the appropriate certifications as required under the Virginia Stormwater Management Act and its attendant regulations.”***

The City will continue to require applicable employees and contractors implementing the stormwater program to obtain the required Virginia ESC and SWM certifications. Re-certifications will be completed every three years as required through the Virginia DEQ.

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

City of Petersburg provides spill response training to the Fire Marshal and all applicable Fire and Rescue and Code Enforcement personnel along with all applicable Petersburg Area Transit and Public Schools staff at time of hire. All training will be completed through VDFP using the VDEM curriculum. A summary of the training/certification program provided to emergency response employees will be included in the first annual report.

8. ***“The permittee shall maintain documentation on each training event conducted by the permittee to fulfill the requirements of Part IE6m for a minimum of three years after the training event. The documentation shall include the following information:***



- 
- a. The date of the training event;***
  - b. The number of employees attending the training event; and***
  - c. The objective of the training event."***

City of Petersburg will document all training by recording the date of the training event, the number of employees attending the training event, and the objective of the training event. Individual online training will be documented through a system of reporting. Employees who complete the training will inform their Supervisor and the Supervisor will report to the Stormwater Program Manager. A record of the training will be maintained for a period of three years after each training event.



### Section 3 - Training Schedule

Below is a summary of the City of Petersburg’s Municipal Employee Training Schedule.

**Table 3-1**

Topic	Trainee	Frequency	MS4 Permit Year (July 1 – June 30)
Recognition and Reporting of Illicit Discharges	Public Works & Utilities	Every 2 years	2 & 4
	PAT Facility Employees		2 & 4
	Public Schools		2 & 4
	Parks & Leisure Services and Dogwood Trace Employees		2 & 4
	Code Enforcement		2 & 4
	Fire Marshal		2 & 4
Pollution Prevention / Good Housekeeping	Public Works & Utilities	Every 2 years	2 & 4
	Public Schools		2 & 4
	Parks & Leisure Services and Dogwood Trace Employees		2 & 4
	Petersburg Area Transit Employees		2 & 4
	Fire Marshal		2 & 4
	Code Enforcement		2 & 4
Pesticide Applicator Training & Certification	Public Works	Certification is good for 3 years with re-certification course	On-Going
	All Parks & Leisure Services and Dogwood Trace Golf Course employees who apply pesticides and herbicides		On-Going
	Public Schools		On-Going
E&S Training and Certification	Public Works ESC reviewers, inspectors, program administrators, and construction site operators	Certification is good for 3 years with re-certification course	On-Going
Spill Prevention & Spill Response	Fire Marshal	Time of Hire	On-Going
	Fire and Rescue		On-Going
	Code Enforcement		On-Going
	Petersburg Area Transit Employees		On-Going
	Public Schools		On-Going

## APPENDIX F



CITY OF PETERSBURG, VIRGINIA  
LOCAL TMDL ACTION PLAN



**Table 1: Land Cover Characterization**

Land Cover Class Name	Area (SF)	% Impervious	% Managed Turf	% Open Space
No Data	0	0%	0%	0%
Water	3093040	100%	0%	0%
Pavement	92574353	100%	0%	0%
Rooftop	3011555	100%	0%	0%
Residential/Industrial	181089426	38%	62%	0%
Natural Barren	0	100%	0%	0%
Mine/Quarry	1504522	100%	0%	0%
Hardwood Forest	52286053	0%	0%	100%
Pine Forest	37198597	0%	0%	100%
Mixed Forest	13078426	0%	0%	100%
Forest Harvest	14060918	0%	0%	100%
Grassland	1072888	0%	100%	0%
Crop	21963468	0%	100%	0%
Bare Soil	6402362	0%	100%	0%
Salt Marsh	350160	100%	0%	0%
<b>Total</b>	<b>427685768</b>	<b>sf</b>		
	<b>9818.314233</b>	<b>ac</b>		
Impervious	169347611.9	sf	40%	% Impervious
Managed Turf	141714162.1	sf	60%	% Pervious
Forest/Open Space	116623994	sf		
<b>Total to Appomattox</b>	<b>427685768</b>	<b>sf</b>		
	<b>9818</b>	<b>ac</b>		



**Table 2: *E. coli* Loading Rates for Appomattox River (2) and Appomattox River (3)-Tidal Using the City's GIS Land Cover Data and the Simple Method w/ the Loading Rates from the TMDL Final Report**

<b>Appomattox River (2)</b>					
<b>MS4 Watershed</b>	<b>Drainage Area</b>		<b>Est. Volume of Stormwater (ft<sup>3</sup>)</b>	<b>Fecal Coliform (cfu/yr)*</b>	<b>E. Coli (cfu/yr)*</b>
	<b>(sf)</b>	<b>(ac)</b>			
Appomattox Riverfront	11,087,378	255	7,395,281	2.55E+12	2.49E+11
Rohoic Creek	56,008,665	1,286	37,357,780	1.29E+13	1.10E+12
Brickhouse Run	61,756,897	1,418	41,191,850	1.42E+13	1.21E+12
Cross Street	2,889,637	66	1,927,388	6.64E+11	7.24E+10
Fleet Street East	948,610	22	632,723	2.18E+11	2.60E+10
Fleet Street West	2,664,290	61	1,777,081	6.12E+11	6.72E+10
Anchor Sheds	4,751,500	109	3,169,251	1.09E+12	1.14E+11
Battersea	5,357,484	123	3,573,442	1.23E+12	1.28E+11
West Street	3,539,115	81	2,360,590	8.13E+11	8.73E+10
<b>Total</b>	<b>149,003,576</b>	<b>3,421</b>	<b>99,385,386</b>	<b>3.42E+13</b>	<b>3.06E+12</b>
<b>Appomattox River (3) - Tidal</b>					
<b>MS4 Watershed</b>	<b>Drainage Area</b>		<b>Est. Volume of Stormwater (ft<sup>3</sup>)</b>	<b>Fecal Coliform (cfu/yr)</b>	<b>E. Coli (cfu/yr)</b>
	<b>(sf)</b>	<b>(ac)</b>			
Harrison Creek	41,189,178	946	27,473,182	9.39E+13	6.86E+12
River Street	3,190,033	73	2,127,752	7.28E+12	6.54E+11
Old Church Street	2,746,976	63	1,832,233	6.26E+12	5.70E+11
Pocahontas	2,428,607	56	1,619,881	5.54E+12	5.09E+11
Poor Creek (Poe Creek)	74,461,773	1,709	49,666,003	1.70E+14	1.18E+13
Lieutenant Run	154,739,404	3,552	103,211,182	3.53E+14	2.32E+13
<b>Total</b>	<b>278,755,971</b>	<b>6,399</b>	<b>185,930,233</b>	<b>6.36E+14</b>	<b>4.36E+13</b>
<b>Mean Concentration [cfu/100mL] for Appomattox (2)</b>				1,214	
<b>Mean Concentration [cfu/100mL] for Appomattox (3)-Tidal</b>				1,205	
<b>*cfu/yr derived using the Simple Method (output = annual load in billions of colonies) multiplied by one billion.</b>					
Total City of Petersburg	14,669	ac			
Total to Others	4,849	ac			
Total to Appomattox	9,820	ac			
Within the combined Appomattox Watersheds					
Impervious	40%				
Total Rainfall	20.01	inches			