



Prince William County

Municipal Separate Storm Sewer System (MS-4) Permit Program Plan

Permit No.
VA0088595

Prince William County Department of Public Works
Watershed Management Branch
5 County Complex Court, Suite 170
Prince William, Virginia 22192

FY2025

Appendices

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MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
	A. DISCHARGES AUTHORIZED UNDER THIS STATE PERMIT			
	A.1. Authorized Discharges			
A.1.a.	<i>This state permit authorizes the discharge of stormwater from all existing and new municipal separate stormwater point source discharges to surface waters from the Municipal Separate Storm Sewer System (MS4) owned or operated by the County of Prince William in Virginia.</i>			
A.1.b.	<i>The following discharges, whether discharged separately or commingled with municipal stormwater, are also authorized by this state permit for discharge through the MS4:</i>			
A.1.b.1.	<i>Non-stormwater discharges and stormwater discharges associated with industrial activity (defined at 9VAC25-31-10) that are authorized by a separate Virginia Pollutant Discharge Elimination System (VPDES) permit;</i>			
A.1.b.2.	<i>Discharges from construction activities that are regulated under the Virginia Stormwater Management Program (VSMP) (9VAC25-870-10 et seq.) and authorized by a separate VSMP authority permit or state permit; and</i>			

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A.1.b.3.	<p><i>The following non-stormwater discharges unless the State Water Control Board or the permittee determines the discharge to be a significant source of pollutants to surface waters:</i></p> <ul style="list-style-type: none"> <i>(a) water line flushing, managed in a manner to avoid instream impact;</i> <i>(b) landscape irrigation;</i> <i>(c) diverted stream flows;</i> <i>(d) rising ground waters;</i> <i>(e) uncontaminated ground water infiltration (as defined at 40 CFR Part 35.2005(20));</i> <i>(f) uncontaminated pumped ground water;</i> <i>(g) discharges from potable water sources, managed in a manner to avoid instream impact;</i> <i>(h) foundation drains;</i> <i>(i) air conditioning</i> <i>(j) condensation; irrigation water;</i> <i>(k) springs;</i> <i>(l) water from crawl space pumps;</i> <i>(m) footing drains;</i> <i>(n) lawn watering;</i> <i>(o) individual residential car washing;</i> <i>(p) flows from riparian habitats and wetlands;</i> <i>(q) dechlorinated swimming pool discharges, managed in a manner to avoid instream impact;</i> <i>(r) street wash water that do not contain cleaning additives or otherwise managed in a manner to avoid instream impact;</i> 	DPW, EMD, COD	<ul style="list-style-type: none"> • Non-stormwater discharges are tracked as part of the Illicit Discharge Detection and Elimination program. • See MS4 Action ID B.2.e.1. 	

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	<p><i>(s) routine external building was down provided no soaps, solvents, or detergents are used, external building surfaces do not contain hazardous substances, and the wash water is filtered, settled, or similarly treated prior to discharge;</i></p> <p><i>(t) discharges or flows from fire fighting activities;</i></p> <p><i>(u) discharges or flows of water for fire protection or firefighting training activities managed in a manner to avoid instream impact in accordance with § 9.1-207.1 of the Code of Virginia;</i></p> <p><i>(v) discharges from noncommercial fundraising car washes if the washing uses only biodegradable, phosphate-free, water-based cleaners in accordance with § 12.2-2114.1 of the Code of Virginia; or</i></p> <p><i>(w) other activities generating discharges identified by the Department as not requiring VPDES authorization.</i></p>			

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A.1.b.4.	<p><i>Materials from a spill are not authorized unless the discharge of material resulting from a spill is necessary to prevent loss of life, personal injury, or severe property damage. The permittee shall take, or require the responsible party to take, all reasonable steps to minimize or prevent any adverse effect on human health or the environment in accordance with the permittee's program under Part I.B.2.f). (Spill Prevention and Response). This state permit does not transfer liability for a spill itself from the party(ies) responsible for the spill to the permittee nor relieve the party(ies) responsible for a spill from the reporting requirements of 40 CFR Part 117 and 40 CFR Part 302. The permittee is responsible for any reporting requirement listed under Part III.G of this state permit.</i></p>			
	A.2. Permittee Responsibilities			

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A.2.	<p><i>This state permit establishes the specific requirements applicable to the permittee for the term of this state permit. The permittee is responsible for compliance with this state permit. The permittee shall implement and update the MS4 Program Plan (as set forth in Part I.B) to ensure compliance with this state permit. The Department has determined that implementation of the MS4 Program Plan reduces the discharge of pollutants to the maximum extent practicable. Where wasteloads have been allocated for pollutant(s) of concern in an approved Total Maximum Daily Load (TMDL), the permittee shall implement the special conditions as set forth in Part I.D of this state permit. Compliance with the requirements of this state permit shall also constitute adequate progress for this permit term towards complying with the assumptions and requirements of the applicable TMDL wasteload allocations such that the discharge does not cause or contribute to violations of the water quality standards.</i></p>			

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A.2-1.	<p><i>The permittee shall clearly define the roles and responsibilities of each of the permittee's departments, divisions or subdivisions in maintaining permit compliance. If the permittee relies on another party to implement portions of the MS4 Program Plan, both parties must document the agreement in writing. The agreement shall be retained by the permittee with the MS4 Program Plan. Roles and responsibilities shall be updated as necessary. Where the permittee relies on another party to implement a portion of this state permit, responsibility for compliance with this state permit shall remain with the permittee.</i></p>	DPW, EMD, COD	<ul style="list-style-type: none"> • Roles and responsibilities are provided as part of the County's MS4 program plan. Roles and responsibilities can be reviewed as part of each BMP section within the MS4 Program Plan. • The county has written agreements with the following organizations to support implementation of portions of the MS4 Program Plan: <ul style="list-style-type: none"> o Prince William County Soil and Water Conservation District (PWCSWCD) o Keep Prince William Beautiful (KPWB) o Northern Virginia Regional Commission (NVRC) Clean Water Partners o Prince William Water (Previously known as Prince William County Service Authority) o Virginia American Water o Upper Occoquan Service Authority (UOSA) 	<p><i>Each annual report shall include a current list of roles and responsibilities</i></p>

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A.2-2.	<p><i>In the event the permittee is unable to meet conditions of this state permit due to circumstances beyond the permittee's control, a written explanation of the circumstances that prevented permit compliance shall be submitted to the Department in the annual report. Circumstances beyond the permittee's control may include abnormal climatic conditions; weather conditions that make certain requirements unsafe or impracticable; or unavoidable equipment failures caused by weather conditions or other conditions beyond the reasonable control of the permittee (operator error and failure to properly maintain equipment are not conditions beyond the control of the permittee). The failure to provide adequate program funding, staffing or equipment maintenance shall not be an acceptable explanation for failure to meet permit conditions. The Department will determine, at its sole discretion, whether the reported information will result in an enforcement action. In addition, the permittee must report noncompliance which may adversely affect surface waters or endanger public health in accordance with Part III.I.</i></p>	DPW, EMD, COD	If Prince William County is unable to meet the conditions of this permit due to circumstances beyond its control, the county will provide a list of circumstances that prevented permit compliance.	<p><i>Each annual report shall include a list of those circumstances of non-compliance outside of the permittee's control.</i></p>
A.3. Legal Authority				

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A.3.	<p><i>The permittee shall maintain and utilize its legal authority authorized by the Commonwealth of Virginia to control discharges to and from the MS4 in the manner established by the specific requirements of this state permit. The legal authority shall enable the permittee to:</i></p>		<p>Prince William County will maintain and utilize its legal authority authorized by the Commonwealth of Virginia to control discharges to and from the MS4 in the manner established by the specific requirements of this state permit. The legal authority shall enable the permittee to control the contribution of pollutants to its MS-4; prohibit illicit discharges; control the discharge of spills and the dumping or disposal of materials other than stormwater; require compliance with conditions in ordinances, permits, and contracts; and carry out all inspections necessary to determine compliance and noncompliance with permit conditions. Legal authorities to control discharges to and from the County's MS-4 are outlined in each section of this Program Plan.</p>	
A.3.a.	<p><i>Control the contribution of pollutants to the MS4;</i></p>	<p>DPW, EMD, COD</p>	<ul style="list-style-type: none"> • These regulations are contained in section 700 of the County's Design & Construction Manual Standards Manual (DCSM), and Chapter 23.2, Article IV - Stormwater Management in Prince William County Code. 	

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A.3.b.	<i>Prohibit illicit discharges to the MS4;</i>	DPW, EMD, COD	<ul style="list-style-type: none"> These regulations are contained in section 700 of the County's Design & Construction Manual Standards Manual (DCSM), and Chapter 23.2, Article IV - Stormwater Management in Prince William County Code. 	
A.3.c.	<i>Control the discharge of spills and the dumping or disposal of materials other than stormwater (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the MS4;</i>	DPW, EMD, COD	<ul style="list-style-type: none"> These regulations are contained in section 700 of the County's Design & Construction Manual Standards Manual (DCSM), and Chapter 23.2, Article IV - Stormwater Management in Prince William County Code. 	
A.3.d.	<i>Require compliance with conditions in ordinances, permits, contracts, inter-jurisdictional agreements, or orders; and,</i>	DPW, EMD, COD	<p>The county has the authority to require compliance related to implementing the permit requirements, including but not limited to:</p> <ul style="list-style-type: none"> Conditions in ordinances (including permits and orders issued under ordinances): The county has authority as authorized by state law and as stated in local ordinances, including options for escalating enforcement steps as appropriate in the county's exercise of its enforcement discretion as the regulator of covered third party activities. 	
A.3.e.	<i>Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the MS4.</i>	DPW, EMD, COD	The county has authority to conduct inspections/monitoring etc. related to implementing the permit requirements.	

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A.3-1.	<i>The permittee shall review and update its ordinances and other legal authorities such as permits, orders, contracts and inter-jurisdictional agreements as necessary to continue providing adequate legal authority to control discharges to and from the MS4.</i>	DPW, EMD, COD	Prince William County's current ordinances and other legal authorities provide adequate legal authority to control discharges to and from the MS4. Ordinances and other legal authorities will be reviewed annually as part of the Program Plan review.	<i>Each annual report shall provide a list of any updates to applicable ordinances, permits, orders, contracts, and/or agreements performed over the reporting year.</i>
A.4. MS4 Program Resources				
A.4.	<i>The permittee shall submit to the Department a copy of each fiscal year's budget including its proposed capital and operation and maintenance expenditures necessary to accomplish the activities required by this state permit. The permittee shall describe its method of funding the stormwater program with the copy of the fiscal year budget.</i>	DPW, EMD, COD	Prince William County will submit to the Department a copy of each fiscal year's budget including its proposed capital and operation and maintenance expenditures necessary to accomplish the activities required by this state permit. The County will describe its method of funding for the stormwater program and include a copy of the fiscal year's budget with proposed capital and operation and maintenance expenditures necessary to accomplish the activities required by this state permit, with each Annual Report.	<i>A copy of the fiscal year's budget including its proposed capital and operation and maintenance expenditures necessary to accomplish the activities required by this state permit shall be submitted with each annual report.</i>
A.5. Permit Maintenance Fees				
A.5.	<i>Permit maintenance fees shall be paid in accordance with Part XIII of the VSMP regulations (9VAC25-870-700 et seq.).</i>	DPW, EMD, COD	Permit maintenance fees will be paid in accordance with Part XIII of the VSMP regulations (9VAC25-870-700 et seq.). A statement regarding payment of the applicable MS4 permit maintenance fee, including check date and check number shall be included with each Annual Report.	<i>A statement regarding payment of the applicable MS4 permit maintenance fee, including check date and check number shall be included with each annual report. Note: Please do not include copies of checks or other bank records.</i>
A.6. MS4 Program Plan				

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A.6.	<p><i>The permittee shall maintain, implement and enforce an MS4 Program Plan accurately documenting the MS4 Program including all additions, changes and modifications. For the purposes of this state permit, the MS4 Program Plan is considered a single document, but may actually consist of separate documents (e.g., dry weather screening plans, wet weather monitoring plans, TMDL Action Plans, annual reports). Policies, ordinances, strategies, checklists, watershed plans and other documents may be incorporated by reference provided the latest revision date is included in the MS4 Program Plan and all documents are available upon request. Specific reference shall be made to any ordinance more stringent than the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq) and VSMP regulations (9VAC25-870 et. seq.), the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq.) and Regulations (9VAC25-840 et seq.) and the Chesapeake Bay Preservation Act (§ 62.1-44.15:67 et seq.) and Chesapeake Bay Preservation Area Designation and Management Regulations (9VAC25-830 et seq).</i></p> <p><i>The permittee shall updated the MS4 Program Plan annually and the most up-to-date version of the MS4 Program Plan shall be posted on the permittee's website within 30 days of updating the</i></p>	DPW, EMD, COD	<p>The Program Plan is considered a “working document” as updates and modifications will be incorporated throughout the life of the current MS-4 permit. Requests or notifications shall be made in writing to the Department (DEQ) and signed in accordance with 9VAC25-870-370 of the VSMP regulations. Modification to the MS4 Program Plan shall become effective and enforceable upon written approval from the DEQ. Major modifications to the MS4 Program Plan as defined in 9VAC25-870-10 may require that the permit be reopened and modified pursuant to 9VAC25-870-630.</p>	<p>The annual report shall include a summary of any updates to the MS4 Program Plan made during the reporting year.</p>

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	<p><i>MS4 program Plan. The most recent MS4 Program Plan shall be maintained on the permittee's website and provided in at least one other location easily accessible to the public.</i></p>			
	<p>A.7. MS4 Program Review and Updates</p>			
<p>A.7.</p>	<p><i>MS4 Program Review: The permittee will review the current MS4 Program Plan annually, in conjunction with the preparation of the annual report required under Part I.E of this state permit.</i></p>	<p>DPW, EMD, COD</p>	<p>The MS4 Program Plan will be reviewed annually and updated as needed.</p>	<p>All modifications and proposed modifications shall be reported in accordance with this section of the permit.</p>
<p>A.7.a.</p>	<p><i>MS4 Program Updates and Modifications: Modifications to the MS4 Program Plan are expected throughout the life of this state permit as part of the iterative process to reduce pollutant loading and protect water quality. As such, modifications made in accordance with this state permit as a result of the iterative process do not require modification of this state permit unless the Department determines the changes meet the criteria referenced in 9VAC25- 870-630 or 9VAC25-870-650. Updates and modifications to the MS4 Program Plan may be made during the life of the permit in accordance with the following procedures:</i></p>			

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A.7.a.1.	<p><i>Adding (but not eliminating or replacing) components, controls, or requirements to the MS4 Program Plan may be made by the permittee at any time. Additions shall be reported as part of the annual report.</i></p>			
A.7.a.2.	<p><i>Updates and modifications to specific standards and specifications, schedules, operating procedures, ordinances, manuals, checklists and other documents routinely evaluated and modified are authorized under this state permit provided that the updates and modifications are performed in a manner (i) that is consistent with the conditions of this state permit, (ii) that ensure public notice and participation requirements established in this state permit are followed, and (iii) that the updates and modifications are documented in the annual report.</i></p>			

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A.7.a.3.	<p><i>Replacing, or eliminating without replacement, any ineffective or infeasible strategies, policies and Best Management Practices (BMPs) specifically identified in this state permit with alternate strategies, policies, and BMPs may be requested at any time. Such requests shall include the following:</i></p> <p><i>(a) An analysis of how and/or why the BMPs, strategies, or policies are ineffective or infeasible including information on whether the BMPs, strategies, or policies are cost prohibitive;</i></p> <p><i>(b) Expectations on the effectiveness of the replacement BMPs, strategies, or policies;</i></p> <p><i>(c) An analysis of how the replacement BMPs are expected to achieve the goals of the BMPs to be replaced;</i></p> <p><i>(d) A schedule for implementing the replacement BMPs, strategies, and policies; and</i></p> <p><i>(e) An analysis of how the replacement strategies and policies are expected to improve the permittee's ability to meet the goals of the strategies and policies being replaced.</i></p>			<p>Requests or notifications shall be made in writing to the Department and signed in accordance with 9VAC25-870-370 of the VSMP regulations. Modification to the MS4 Program Plan shall become effective and enforceable upon written approval from the Department. Major modifications to the MS4 Program Plan as defined in 9VAC25-870-10 may require that the permit be reopened and modified pursuant to 9VAC25-870-630.</p>

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A.7.b.	<p><i>MS4 Program Updates Requested by the Department: In a manner and following procedures in accordance with the Virginia Administrative Processes Act, the VSMP regulations and other applicable State laws, statutes and regulations, the Department may request changes to the MS4 Program Plan to assure compliance with the statutory requirements of the Virginia Stormwater Management Act and associated regulations and to:</i></p> <ol style="list-style-type: none"> <i>1) Address impacts on receiving water quality caused by discharges from the MS4;</i> <i>2) Include more stringent requirements necessary to comply with new State or Federal statutory or regulatory requirements; or</i> <i>3) Include such other conditions necessary to comply with State or Federal statutory or regulatory requirements.</i> 			<ul style="list-style-type: none"> <i>• Proposed changes requested by the Department shall be made in writing and set forth the basis for and objective of the modification as well as the proposed time schedule for the permittee to develop and implement the modification. The permittee may propose alternative program modifications and/or time schedules to meet the objective of the requested modification, but any such modifications are at the discretion of the Department.</i> <i>• All modifications and proposed modifications shall be reported in accordance with this section of the permit.</i>
	<p>B. STORMWATER MANAGEMENT <i>The following subparts describe the requirements for the permittee to implement in its MS4 Program Plan during this state permit term:</i></p>			
	B.1. Planning			

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B.1-1.	<p><i>No later than 12-months after the effective date of this state permit, the permittee shall submit to the Department, a cost benefit analysis of the stormwater pollutant reduction utilized to select priority projects from the conceptual stormwater projects including those identified in the permittee’s completed watershed studies. The permittee shall include in their development of the cost benefit analysis the number of BMP acres treated, impervious area draining into BMP, condition of the downstream channel, amount of pollutant reduction, feasibility for implementation, the unit costs for pollutant reduction and other benefits from the proposed BMP. The cost benefit analysis shall include a prioritized list of the identified conceptual projects for consideration of implementation. The permittee shall continue to seek public comment in development of the plan. A copy of the completed plan shall be placed on the permittee’s website no later than 30 days after any updates are made.</i></p>	DPW, EMD, COD	<p>Prince William County will submit to DEQ a cost benefit analysis of pollutant reduction priority projects. These projects will be selected from completed watershed studies and will be prioritized according to a number of metrics determined by County. The County’s cost benefit analysis can be found in the Watershed Management Plan. See appendix 2 for Watershed CIP Policies and Procedures.</p>	<p><i>The permittee shall provide the Department a current web link to the watershed management plan no later than 12 months after the effective date of this state permit.</i></p>
	B.2. MS4 Program Implementation			
	B.2.a. Construction Site Runoff and Post Construction Runoff from Areas of New Development and Development on Prior Developed Lands			

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B.2.a.1.	<p><i>The permittee shall implement a local erosion and sediment control program consistent with the Virginia Erosion and Sediment Control Law §62.1-44.15:51 of the Code of Virginia and Virginia Erosion and Sediment Control Regulations 9VAC25-840 et seq. and a stormwater management program consistent with the Virginia Stormwater Management Act §62.1-44.15:24 of the Code of Virginia and Virginia Stormwater Management Program Regulations 9VAC25-870 et seq.</i></p>	DPW, EMD, COD	<p>Prince William County implements an erosion and sediment control program consistent with the Virginia Erosion and Sediment (E&S) Control Law §62.1-44.15:51 of the Code of Virginia and Virginia Erosion and Sediment Control Regulations 9VAC25-840 et seq. Since the entire County is designated as the Chesapeake Bay Preservation & Management Area, the minimum threshold for requiring E&S permit is 2,500 square feet. Prince William County maintains a Stormwater Management (SWM) program that is consistent with the Virginia Stormwater Management Act §62.1-44.15:24 of the Code of Virginia and Virginia Stormwater Management Program Regulations 9VAC25-870 et seq. The SWM requirements for Development on Prior Developed Lands are consistent with the State regulations. The land development plan review, inspection and enforcement of E&S and SWM regulations are performed by a single agency in Prince William County. The Environmental Management Division of the Department of Public Works is directly responsible for administering the program. The County continues to require the Responsible Land Disturbance (RLD) certifications prior to issuing the land disturbance permits. Prince William County continues to implement a robust program to address the post-construction discharges from new developments and</p>	<ul style="list-style-type: none"> • <i>Each annual report shall contain the number of regulated land disturbing activities approved and the total number of acres disturbed.</i> • <i>Each annual report shall contain the number of land disturbing activity inspections conducted and the number and type of each enforcement action taken.</i>

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			<p>redevelopments by ensuring the long-term operation and maintenance of these SWM controls. The County has developed a mobile application that works alongside its EnerGov Enterprise software to increase the efficiency and consistency of the land development/re-development process. This application is designed to manage the land disturbance, Erosion and Sediment control, and Construction General Permit process, including the coordination of follow-up inspections and tracking of enforcement actions.</p>	

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B.2.a.2.	<p><i>The permittee shall identify in the MS4 Program Plan all legal authorities for erosion and sediment control and stormwater management that are more stringent than those required under 9VAC25- 840 et seq. and/or 9VAC25-870 et seq. that have been adopted in accordance with § 62.1-44.15:65 and/or § 62.1-44.15:33 of the Code of Virginia.</i></p>	DPW, EMD, COD	<p>The County’s SWM regulations are more stringent than the State regulations only in certain areas. VSMP regulations allowed the localities to adopt criteria more stringent than VSMP with proper justification based on specific watershed studies. Alternatively, more stringent regulations that pre-existed prior to January 1, 2013 were exempt. Based on this exemption, Prince William County retained more stringent regulations on flood control in critical watersheds to control the 25-year storm to prevent localized flooding events. In addition, the County retained its authority to require the control of the 100-year flood for proposed developments located upstream of existing residential developments with required minimum lot sizes less than one acre and adjoining special flood hazard areas. These requirements are in addition to the required control of 2-year and 10-year frequency storms per state regulations.</p> <p>Governing Policy:</p> <ul style="list-style-type: none"> o Prince William County Design & Construction Standards Manual Section 700 (DCSM) o Chapter 23.2 – Storm Water Management in Prince William County Code 	<ul style="list-style-type: none"> • <i>The initial annual report shall include the permittee's strategy to address maintenance of stormwater management controls that are designed to treat stormwater runoff solely from the individual residential lot on which they are located</i> • <i>The initial annual report shall include a list of all known land disturbing projects that qualify under the 'Grandfathering' provision of the VSMP regulations found at 9VAC25-870-48.</i> • <i>Each annual report shall include a summary of actions taken by the permittee to implement Part I.B.2.a)1) and 2) of this state permit.</i>

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	B.2.b. Retrofitting on Prior Developed Lands			
B.2.b.	<p><i>From the list of stormwater management projects included in the analysis required in Part I.B.1, the permittee shall select at least seven (7) projects no later than the expiration date of this state permit. Projects implemented to meet the requirements of Part I.D of this state permit (TMDL Action Plan and Implementation for the Chesapeake Bay Special Condition or TMDL Action Plans other than the Chesapeake Bay TMDL) may be used to meet the requirements of this special condition.</i></p> <p><i>For retrofit projects that do not serve to meet the requirements of Part I.D, the permittee shall submit a summary of projects implemented during the reporting period with each annual report including type of land use being retrofitted, retrofit performed, completion date or anticipated completion date, total acreage retrofitted, total impervious and pervious acreage, and location by latitude and longitude (decimal degrees).</i></p>	DPW, EMD, COD	<p>Prince William County will select projects in coordination with the cost benefit analysis presented in the County’s Watershed Management plan (Section III). Retrofit requirements may be fulfilled by projects initiated in response to the Chesapeake Bay and local TMDL action plan conditions, or the Chesapeake Bay Special Condition as described in Part I.D of the County’s permit. This includes stream restoration projects, reforestation projects, and BMP retrofits. As required, a summary of projects that do not confirm with section I.D of the County’s MS-4 permit will be provided as part of the Annual Report in the manner as described in section I.B.2.b) of the permit. This will include the type of land use retrofitted, the type of retrofit performed, the completion date, total acreage contributing to the drainage area of the retrofit, total pervious and impervious area within that drainage area, and the location of the project.</p>	<p><i>Each annual report shall include a status update for those projects for which implementation began during the reporting period.</i></p>
	B.2.c. Roadways			

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B.2.c.	<i>Streets, roads, and parking lots maintained by the permittee shall continue to be operated and maintained in a manner to minimize discharge of pollutants, including those pollutants related to deicing or sanding activities.</i>	DFFM	The county meets this requirement through implementation of the actions described below.	
B.2.c.1.	<i>The permittee shall maintain an accurate list of permittee-maintained roads, streets, and parking lots that includes the street name, the miles of roadway not treated by BMPs, and miles of roadway treated with BMPs.</i>	DFFM	Although the Virginia Department of Transportation (VDOT) maintains a majority of the roadways and right of way areas within Prince William County, the County is responsible for the maintenance of some roadways and parking lots. VDOT operates under its own phase II stormwater permit, and coordination regarding issues with MS-4 physical-interconnectivity is required as part of both permittee’s MS-4 requirements (see section IV.m). The County currently operates and maintains parking lots associated with County facilities. Governing Policy: o Prince William County Design & Construction Standards manual Section 600	

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B.2.c.2.	<p><i>The permittee shall implement written protocols for permittee-maintained road, street and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.</i></p>	DFFM	<p>The County maintains streets, roads, and parking lots in a manner to minimize the discharge of pollutants to the maximum extent practicable. Prince William County contracts out most maintenance activities for County maintained parking lots, streets, and roadways. These activities include sweeping, line painting, and asphaltting. Due to this, a minimal amount of materials are stored as part of Buildings and Grounds (B&G) roadway maintenance activities. These protocols are applied across the County, and deal with issues such as equipment maintenance, material storage, and minimizing pollutant discharges.</p> <p>Governing Policy:</p> <ul style="list-style-type: none"> o SOP - Illicit Discharge Elimination and MS4 Permit Compliance (see Appendix 10) o Appendix 3 - Road Maintenance Procedures 	<p><i>The permittee shall include an updated version of the written protocols identified in Part I.B.2.c)(2) if any changes are made during the reporting year.</i></p>
B.2.c.3.	<p><i>Within 24 months of permit issuance, the permittee shall develop or review and update, if necessary, its existing procedures for snow and ice management, as well as identify opportunities to implement best management practices that promote efficient management and application of anti-icing and deicing agent applications to any permittee-maintained parking lots, roadways, and sidewalks or other paved surfaces.</i></p>	DFFM		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.c.4.	<i>Materials utilized for deicing and sanding activities shall remain covered from precipitation until application.</i>	DFFM	Prince William County Buildings and Grounds is responsible for snow removal at all county facilities maintained by Buildings and Grounds. Snow removal activities are not performed on any other County-maintained roads, streets, or parking lots. Any materials used for deicing and sanding activities are stored and maintained in a manner to prevent runoff from precipitation. Prince William County established a county-wide IDDE policy to promote good housekeeping practices across all municipal facilities.	
B.2.c.5.	<i>The permittee shall not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks or other paved surfaces.</i>	DFFM	Salt, sand, and calcium chloride are the specified materials used in snow removal activities and no urea, or nitrogen or phosphorous based products are used.	
B.2.d. Pesticide, Herbicide, and Fertilizer Application				
B.2.d.	<i>The permittee shall continue to control the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied to permittee rights of way, parks, and other permittee property, as follows:</i>	DFFM, DPRT	The county meets this requirement through implementation of the actions described below.	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.d.1.	<i>The permittee shall implement and maintain turf and landscape nutrient management plans that have been developed by a certified nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia on all lands owned or operated by the MS4 permittee where nutrients are applied to a contiguous area greater than one acre. Nutrient management plans shall be submitted to the Department of Conservation and Recreation (DCR) for approval no later than 30 prior to plan expiration. No nutrient management plans maintained by the permittee shall be considered expired while DCR is reviewing the plan for approval.</i>	DFFM, DPRT	The County has successfully implemented Turf and Landscape nutrient management plans for County lands where nutrients are applied to greater than one contiguous acre. As of January, 2019, all applicable County lands are covered by Nutrient Management Plans (NMPs). NMPs are prepared by certified nutrient management planners in accordance with § 10.1-104.2 of the Code of Virginia. The County will track the total acreage of lands upon which nutrients are applied, as well as the acreage of County lands where turf and landscape NMPs are required and implemented as required by the permit.	
B.2.d.1.a.	<i>The permittee shall maintain a list of all permittee lands where nutrients are applied to a contiguous area of more than one acre (including latitude and longitude).</i>	DFFM, DPRT	County staff has identified all county lands where nutrients are applied to a contiguous area of more than one acre. A list of these lands, including latitude and longitude will be updated and reported in the annual report. This data will be used to determine where NMPs need to be developed.	
B.2.d.1.b.	<i>The permittee shall annually track the following: (1) The total acreage of permittee lands upon which nutrients are applied and controlled using general permittee guidelines or standard operating procedures; (2) The acreage of permittee lands where turf and landscape nutrient management plans are required; and, (3) The acreage of permittee lands covered by turf and landscape nutrient management plans have been implemented.</i>	DFFM, DPRT	<ul style="list-style-type: none"> • County staff will track the total acreage where nutrients are applied on identified county lands with a contiguous area greater than one acre. • County staff will track the acreage where turf and landscape nutrient management plans are required. • County staff will track the acreage of county lands covered by turf and landscape nutrient management plans. 	<i>Each annual report shall include the three elements under Part I.B.2.d)1)(b) above and list of properties identified under Part I.B.2.d)1)(a) including the approval date of the most recent nutrient management plan.</i>

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.d.2.	<i>The permittee shall continue to employ good housekeeping/pollution prevention measures in the application, storage, transport and disposal of pesticides, herbicides and fertilizers.</i>	DFFM, DPRT	<ul style="list-style-type: none"> • Prince William County currently works with its municipal facilities to ensure good housekeeping practices are followed. This includes the storage, transport, and disposal of pesticides, herbicides, and fertilizers. The County follows all guidelines set forth in the Pesticide Applicators and Fertilizer Applicators licensing for storage and use, as well as the manufactures storage, disposal and use recommendations. All pesticides, herbicide, and fertilizer applications are performed by commercial applicators or registered technicians. Applicators are required to receive training regularly. • The Virginia Cooperative Extension Service helps support Prince William County applicators and distributors with proper training and coordination with the Virginia Department of Agriculture and Consumer Services (VDACS). • VDACS provides ongoing communication with all certified applicators and distributors. • The Virginia Cooperative Extension Service provides education on the use, application, and disposal of pesticides, herbicides, and fertilizers. 	
B.2.d.3.	<i>The permittee may regulate the use, application, or storage of fertilizers pursuant to §3.2-3602 of the Code of Virginia.</i>	DFFM, DPRT	No additional local fertilizer requirements are in place at this time beyond state requirements.	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.d.4.	<i>The permittee shall track the acreage of county lands managed under Integrated Pest Management Plans.</i>	DFFM, DPRT	All County owned and maintained lands are covered under an Integrated Pest Management Plan. Currently the County maintains lands under IPM plans with the mission of the program to survey, reduce, and control populations of mosquitoes and forest pests when possible. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment. The data gathered in the process is analyzed and used to track population trends, determine appropriate control measures and evaluate effectiveness of the control efforts. Reduction and response consists of implementing IPM pest control measures to suppress populations of mosquitoes, gypsy moths and fall cankerworms. Selective application of environmentally-compatible, EPA-registered products are utilized to control these pests. Several factors from our surveillance program and other environmental factors help in determining treatment options.	<i>Each annual report shall include the number of acres managed under Integrated Pest Management Plans.</i>
<i>B.2.e. Illicit Discharges and Improper Disposal</i>				

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.e.	<i>Discharges to the MS4 not authorized by this state permit shall be effectively prohibited.</i>	DPW, EMD, COD	<p>Prince William County effectively prohibits non-authorized stormwater discharges through implementation of the County Fire Protection, Zoning, Building Development, and Stormwater Management ordinances. Unlawful discharges to the County's MS4 are specifically addressed in Chapter 23.2, Article II, Stormwater Pollution, of the Prince William County Code of Ordinances, Section 23.2-4.1(b) of the Prince William County Code of Ordinances defines authorized nonstormwater discharges. These discharges are the same as those listed in Part I.A.1.b) of the County's MS4 permit. The County will prohibit, on a case-by-case basis, any individual nonstormwater discharge (or class of non-stormwater discharge) otherwise allowed in Part I.A.1.b) that the County determines to contributing significant amounts of pollutants to the MS4.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.e.1.	<p><i>In accordance with Part I.A.1.b), certain non-stormwater discharges to the MS4 need not be addressed as illicit discharges or improper disposal. The MS4 Program Plan shall identify any nonstormwater discharges listed under Part I.A.1.b), where the permittee has imposed any conditions on the discharges to the MS4. The permittee shall prohibit, on a case-by-case basis, any individual nonstormwater discharge (or class of non-stormwater discharges) otherwise allowed under this paragraph that is determined to be contributing significant amounts of pollutants to the MS4.</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B 2 a 2	<p><i>The permittee shall continue to follow-up with the PWCSA to identify the efforts taken to limit the exfiltration of sanitary sewage into the MS4 including maintenance and repair activities.</i></p>	<p>DPW, EMD, COD</p>	<p>Wastewater treatment in Prince William County is comprised primarily of two sanitary sewer systems and individual septic systems. The sanitary sewer systems are maintained and operated by Prince William Water (formerly known as Prince William County Service Authority) and Virginia American Water, both of which operate under their own VPDES permits. Prince William Water (PWW) is a public authority while Virginia American Water is a private entity. Prince William County is not responsible for the inspection and maintenance of the sanitary sewer system; however, the County works closely with the PWW to identify and correct deficiencies within their sanitary sewer network. PWW has an ongoing infiltration and inflow check program for identifying and correcting defects in its sanitary sewer systems. The identification and correction of deficiencies is aided by Prince William County through its Dry Weather Monitoring, Stormsewer Maintenance, General Stormwater Discharge, and Stream Restoration programs. Cross connections, leaks, and other maintenance issues are discovered as non-stormwater discharges within the stormsewer network through the County's Dry Weather Monitoring and Stormsewer Maintenance programs. Citizens can report leaks and cross connections discovered discharging through the stormsewer system through the</p>	<p><i>Each annual report shall include the amount of linear feet of sanitary sewer inspected PWCSA during the reporting year.</i></p>

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D-2-C-2		PWW, EMD, CDD	<p>County's Stormwater Webpage. Sanitary sewer infrastructure exposed to potential damage as a result of degrading streams and waterways are protected through projects associated with the County's Stream Restoration Program. Prince William County reports concerns to PWW when sanitary sewer system maintenance and repairs are needed. Additionally, the County will meet with PWW periodically to identify unknown high-risk parcels through use of PWW Industrial Waste Survey. The County maintains communication with PWW to document follow-up actions taken on maintenance issues. PWW oversees all new construction on sanitary sewer system components and is responsible for the proper installation and operation of the system.</p> <p>o Article II, Chapter 23 of Prince William County Municipal Code</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.e.3.	<p><i>The permittee will continue to implement a program to reduce the discharge of floatables (e.g. litter and other human-generated solid refuse) in accordance with Part I.C.3.</i></p>	DPW, EMD, COD	<p>Prince William County participates in the following programs to help reduce the discharge of floatables:</p> <ul style="list-style-type: none"> • Adopt-A-Spot Program: litter cleanup and recycling program managed by Keep Prince William Beautiful (KPWB). • Adopt-A-Stream Program: stream cleanup program managed by the Prince William County Soil & Water Conservation District (SWCD). • Floatables Monitoring Program: program administered by SWCD, designed to assess refuse loading to 5 selected stream sites throughout the County. • KPWB Storm Drain Labeling Program: identify storm drains as draining into the Chesapeake Bay, as well as remind citizens not to dump items/fluids into them. • Public Works Litter Control Crew: team established by PWC Public Works to pick up highly traveled roadways, handle cleanups of illegal dumpsites, and haul material from community cleanup events. • Prince William County Public Works, Environmental Management Division, manages a Bandalong Litter Trap in the Neabsco Creek. 	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.e.4.	<p><i>The permittee shall prohibit the dumping or disposal of used motor vehicle fluids, household hazardous wastes, sanitary sewage, grass clippings, leaf litter, and animal wastes into the MS4. The permittee shall ensure the implementation of programs to collect used motor vehicle fluids (such as oil and antifreeze) for recycling, reuse, or proper disposal and to collect household hazardous waste materials (including paint, solvents, pesticides, herbicides, and other hazardous materials) for recycling, reuse, or proper disposal. Such programs shall be readily available to all private residents and shall be publicized and promoted on a regular basis but not less than twice per year.</i></p>	DPW, EMD, COD	<p>Prince William County residents may properly dispose of used motor vehicle fluids and household hazardous waste (HHW) at the Prince William County Landfill and Balls Ford Road Compost Facility. There is no charge to County residents for this service. The program is publicized and promoted continuously on the County's Household Hazardous Waste Webpage. In accordance with the MS4 permit, the program will be publicized and promoted to residents through another mechanism at least twice per year. See appendix 6 for the County's Solid Waste Procedure Manual.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.e.5.	<p><i>The permittee shall continue to implement a program to locate and eliminate illicit discharges and improper disposal into the MS4. This program shall include dry weather screening activities to locate portions of the MS4 with suspected illicit discharges and improper disposal, as described in Part 1.B.2.l)(1) of this state permit.</i></p>	DPW, EMD, COD	<p>Prince William County hosts several programs under its IDDE program dedicated to the detection, identification, and elimination of unauthorized discharges to its MS-4 system. These programs include the Dry Weathering Monitoring, General Discharge, Wet Weather Monitoring, PWW Inflow and Infiltration Program, and Industrial and High Risk Monitoring Programs. In addition to the monitoring programs, Prince William County promotes discharge identification and elimination awareness through its public outreach programs and the training of County staff. The County also conducts shopping center surveys to evaluate the pollution discharge potential on site. These surveys involve checking all dumpsters, grease tanks, inlets, outfalls, salt/sand stockpiles and more.</p>	
B.2.e.6.	<p><i>The permittee shall require the elimination of illicit discharges and improper disposal practices within 30-days of discovery. Where elimination of an illicit discharge within 30-days is not possible, the permittee shall require an expeditious schedule for removal of the discharge. In the interim, the permittee shall require the operator of the illicit discharge to take all reasonable and prudent measures to minimize the discharge of pollutants to the MS4.</i></p>	DPW, EMD, COD	<p>By issuance of a Notice of Violation, illicit discharges are required to be eliminated within 30 days of discovery, unless removal is not possible within that timeframe. In these instances, reasonable and prudent measures to minimize discharge will be taken and an action plan for mitigation/removal will be required. See appendix 14 for detailed illicit discharge detection elimination procedures.</p>	<p><i>Each annual report shall include a list of illicit discharges identified, the source, a description of follow-up activities and whether the illicit discharge has been eliminated.</i></p>
B.2.f. Spill Prevention and Response				

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.f.	<p><i>The permittee shall continue to implement a program that coordinates with the Fire Department and other permittee-operated departments to prevent, contain, and respond to spills that may discharge into the MS4. The spill response program may include a combination of spill response actions by the permittee (and/or another public or private entity), and legal requirements for private entities within the permittee's jurisdiction.</i></p>	DFR	<p>The County has designated a full-time Hazardous Materials Officer. Prince William County participates in the Commonwealth Department of Emergency Management Services' regional Hazardous Materials response programs and maintains a National Incident Management System Type I HAZMAT Team for emergency response. The County's Fire and Rescue System responds to all complaints of hazardous spills and hazardous illicit discharge. If the complaints relate to sewage, the appropriate agency, such as, PWW or Virginia American Water will be contacted. The complaints on the failing septic systems and drain fields are referred to the County's Health Department. The County staff makes every effort to direct complaints to the appropriate agency as expeditiously as possible. See appendix 7.</p>	<p><i>Each annual report shall include a list of spills, the source (identified to the best of the permittee's ability), and a description of follow-up activities taken.</i></p>
B.2.g. Industrial & High Risk Runoff				
B.2.g.	<p><i>The permittee shall implement a program to identify and control pollutants in stormwater discharges to the MS4 from industrial and high risk runoff facilities (e.g., municipal landfills; other treatment, storage, or disposal facilities for municipal waste; hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313). Facilities with individual VPDES stormwater permits or coverage under the industrial stormwater general permit may be included in the program at the discretion of the permittee.</i></p>	DPW, EMD, COD	<p>High Risk and Industrial VPDES permitted facilities that are found to be contributing significant pollutants to the storm sewer system will be referred to DEQ for compliance review.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.g.1.	<p><i>The permittee shall maintain, and update as necessary, a list of all known industrial and high-risk dischargers to the MS4.</i></p>	DPW, EMD, COD	<p>The County maintains a list of all known VPDES Industrial Stormwater permitted and High Risk facilities. The identification and monitoring of Industrial and High risk dischargers of Prince William County is accomplished through Prince William County’s Illicit Discharge Detection and Elimination Program. These facilities are identified as those who are monitored under the States VPDES Industrial Stormwater program, and those determined to be “High Risk”. A high risk discharger is described as any municipal landfills; other treatment, storage, or disposal facilities for municipal waste; hazardous waste treatment, storage, disposal and recovery facilities; or facilities that are subject to EPCRA Title III, Section 313. Any industrial or commercial discharger deemed to be contributing a significant pollutant load to the County’s MS-4 is also classified as a High Risk facility. High Risk and VPDES Industrial Stormwater permitted facilities are identified through coordination with DEQ. The County requests updated lists of VPDES, “no exposure”, and individually permitted facilities from DEQ NVRO on a periodic basis. This list is provided in each Annual Report.</p>	<p><i>The annual report shall include a list of all known industrial and high risk dischargers including any non-VPDES regulated industrial and commercial stormwater dischargers determined by the permittee as contributing a significant pollutant load and that discharge to the MS4 system, a schedule of inspections and procedures for inspecting outfalls.</i></p>

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.g.2.	<p><i>The permittee shall maintain a list of any industrial and/or commercial stormwater dischargers not regulated under the Virginia State Water Control Law that it determines may be contributing a significant pollutant loading to the MS4. This list may be individual discharges or categories of discharges.</i></p> <p><i>(a) The list shall include, but shall not be limited to: major automotive facilities such as repair shops, body shops, auto detailers, tire repair shops and service stations.</i></p> <p><i>(b) Visual inspections of exposed areas and points of connections to the MS4 or outfalls at these facilities shall be conducted, in accordance with the schedule outlined in the MS4 program Plan, to identify potential sources of pollutants that could enter the MS4 and surface waters.</i></p> <p><i>(c) The permittee shall require control measures as necessary and/or appropriate for stormwater discharges from these dischargers to the MS4.</i></p>	DPW, EMD, COD	<p>As outfalls for facilities determined to have a high risk for pollutant discharge are inspected, those which do not fall under VPDES permitting requirements or Virginia State Water Control Law are included under the County's Non-VPDES High Risk Designation. Potential Non-VPDES High Risk facilities are identified, along with associated outfalls, through GIS desktop analysis. Using County land-use information, land-uses that are identified to have a high potential for the discharge of pollutants are isolated. As with VPDES permitted facilities, a buffer is placed around a high risk parcel and the containing outfalls are identified. These outfalls are considered to be potentially High Risk outfalls. During Dry Weather Monitoring activities, outfalls determined to potentially contribute a significant source of pollutants to the storm sewer system are identified and added to the list of high risk discharges.</p>	<p><i>Each annual report shall include a report on implementation of the inspection schedule and include a list of the facilities and/or facility outfalls or points of connection to the permittee's MS4 inspected during the reporting period.</i></p>
B.2.g.3.	<p><i>The permittee may conduct monitoring, or may require the facility to conduct monitoring, of any stormwater discharges it believes may be a source of significant pollutant loadings to the MS4.</i></p>	DPW, EMD, COD	<p>Prince William County requests and reviews Discharge Monitoring Reports (DMRs) from all applicable (non-exempt) VPDES permitted facilities that discharge into the County's MS-4. Prince William County may conduct additional monitoring, or may require the facility to conduct additional monitoring, of any stormwater discharges it believes may be a source of significant pollutant loadings. Facilities that discharge in to the County's MS-4 and do not provide the DMR's will be directed to DEQ for compliance review.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.g.4.	<p><i>The permittee shall coordinate with the Department to report any non-VPDES permitted industrial facility from which the permittee has evidence that a significant pollutant load is entering the MS4 system. Inspections of facilities for which the permittee has evidence of significant pollutant loading may be carried out in conjunction with other county programs.</i></p>	DPW, EMD, COD	<p>As outfalls for facilities determined to have a high risk for pollutant discharge are inspected, those which do not fall under VPDES permitting requirements or Virginia State Water Control Law are identified. These facilities non-VPDES High Risk facilities are identified through a robust GIS analysis. Using County land-use information, land-uses that are identified to have a high potential for the discharge of pollutants are isolated and identified. Alternatively, during IDDE program activities additional facilities which are determined to potentially contribute pollutants to the stormsewer system are identified and added to the list of non-VPDES High Risk discharges. Outfalls from these facilities are included in the prioritized outfall inspection schedule described in section g.2. Any facility found to be discharging significant pollutants to the stormsewer system will be required to adopt control measures to prevent these discharges from entering the County’s MS-4 under appropriate regulatory ordinance since they cannot be referred to DEQ for VPDES compliance permitting review. If access to facilities that fall under these conditions cannot be obtained by Environmental Management staff, assistance from the PWC Fire Marshal’s office will be requested.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.g.5.	<i>The permittee shall refer the following facilities to the Department of Environmental Quality, Northern Regional Office, for Department compliance review under the Virginia State Water Control Law any industrial or commercial facility, if the permittee becomes aware of a violation of any industrial stormwater management requirement contained in an individual or general VPDES permit issued to the facility by the Department.</i>	DPW, EMD, COD	Prince William County will report these facilities to the DEQ for compliance review under the Virginia State Water Control Law.	<i>Each annual report shall include a list of referrals to the Department including a document detailing any coordination activities with the Department.</i>
B.2.h. Stormwater Infrastructure Management				
B.2.h.	<i>The permittee shall continue to maintain and implement programs to maintain the permittee's stormwater infrastructure and to update the accuracy and inventory of the storm sewer system.</i>	DPW, EMD, COD	Prince William County conducts routine inspection of its storm drainage system, inspecting the entire system within the permit term. Storm sewer is inspected using visual inspection techniques, as well as using CCTV. The County continues to implement a program to inspect all new drainage systems (eligible for County maintenance) using video cameras, prior to accepting the systems into the County's maintenance program.	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.h.1.	<p><i>For stormwater management (SWM) facilities and infrastructure maintained by the permittee including residential properties where SWM facilities, BMP and Storm Drainage Systems qualify for permittee maintenance (excluding apartments and mobile home parks), the following conditions apply:</i></p> <p><i>(a) The permittee shall provide for adequate long-term operation and maintenance of its SWM facilities owned or operated by the permittee in accordance with written inspection and maintenance procedures included in the MS4 Program Plan.</i></p> <p><i>(b) The permittee shall inspect annually all SWM facilities owned or operated by the permittee. The permittee may choose to implement an alternative schedule to inspect these SWM facilities based on a risk assessment that includes facility type and expected maintenance needs provided that the alternative schedule is included in the MS4 Program Plan in accordance with plan modifications as listed in Part I.A.7.a) of this state permit.</i></p> <p><i>(c) The permittee shall conduct maintenance on SWM facilities owned or operated by the permittee as necessary to ensure the facilities function as designed.</i></p> <p><i>(d) The permittee shall continue its stormwater system inspection program and shall either</i></p> <p><i>a. implement a department approved risk-based</i></p>	DPW, EMD, COD	<p>Prince William County continues a program for the inspection and maintenance of SWM facilities maintained by the County. Publicly maintained facilities include those owned by HOA's and residential communities or by the County Board of Supervisors. At these facilities basic maintenance such as mowing and trash removal are the responsibility of the property owner while more extensive, "major", maintenance responsibilities are performed by County staff. This may include the replacement of fencing, replacement of signage, dredging, and the repair of dam embankments or drainage structures. County Maintained SWM/BMP facilities are typically inspected under two scenarios; through the general inspection program, which occurs at a minimum once a year, or as requested by an impacted property owner. All inspections are managed by Environmental Management Staff through the use of a mobile application. This application tracks required inspection and follow-up dates, prioritizes maintenance needs, assists in assigning maintenance responsibilities to appropriate staff, manages/compiles maintenance reports, and promotes efficiency and consistency across inspections. Maintenance is prioritized by the severity of maintenance needed for the facility. Maintenance on publicly maintained SWM facilities</p>	<ul style="list-style-type: none"> • <i>The permittee shall submit with the initial annual report the written inspection and maintenance procedures.</i> • <i>Each annual report shall include a list of activities including inspections, maintenance, and repair of stormwater infrastructure operated by the permittee as required in Part I.B.2.hi)1) including the type and number of stormwater structures owned or operated by the permittee: the total linear feet of storm sewer system owner and/or operated by the permittee, and the linear feet of storm sewer system inspected.</i>

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
	<p><i>prioritization inspection program for the stormwater system within 12 months or</i></p> <p><i>b.</i> <i>inspect not less than 15% of the MS4 annually and 80% of the system during the term of the permit. The permittee shall perform maintenance as necessary based on findings during the inspection. If for any reason an inspection cannot be conducted, the permittee shall document the reason in the annual report.</i></p> <p><i>(e) The permittee shall dispose of all wastes and wastewaters collected during stormwater system cleaning in accordance with local, state, and federal laws and regulations.</i></p> <p><i>(f) The permittee shall obtain any required state or federal permit necessary to complete maintenance activities.</i></p>		<p>is performed by Prince William County Construction Services as necessary. All applicable permitting requirements will be met during maintenance activities and all wastes/wastewaters collected during stormwater system cleaning will be disposed of in accordance with appropriate laws and regulations. In addition, Prince William County conducts routine inspection of its storm drainage system, inspecting no less than 20% of the MS-4 annually. Stormsewer is inspected using visual inspection protocols, as well as using CCTV. The County continues to implement a program to inspect all new drainage systems (eligible for County maintenance) using video cameras, prior to accepting the systems into the County's maintenance program. See appendix 9 for more information.</p>	
B.2.h.2.	<p><i>For SWM facilities not maintained by the permittee and that discharge into the MS4, the following conditions apply:</i></p>	DPW, EMD, COD	The county meets this requirement through implementation of the actions described below.	
B.2.h.2.a.	<p><i>The permittee shall continue to implement a program to ensure proper maintenance of each privately maintained SWM facility that discharges into the MS4 system. The program shall include the following elements:</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.h.2.a.1.	<p><i>Beginning with the effective date of this state permit and in accordance with 9VAC25-870-112 B, maintenance agreements may be used but are not required for stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot on which they are located provided that the permittee has developed and implemented a strategy to address maintenance of such stormwater management controls. Should the permittee choose a strategy other than a maintenance agreement, such a strategy shall be provided in writing no later than 12 months after the effective date of this state permit and shall include an inspection schedule, homeowner outreach and education, or other methods targeted at promoting the long term maintenance of such facilities.</i></p>	DPW, EMD, COD	<p>Before a privately maintained facility can be removed from bond, maintenance agreement must be recorded to ensure the proper upkeep of the facility. A majority of the privately maintained SWM facilities have duly recorded Maintenance Agreements that require the owner to perform the inspection and maintenance at a frequency identified in the Agreement.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.h.2.a.2.	<p><i>For SWM facilities that are privately maintained and for which maintenance agreements have been established between the permittee and the owner, the permittee shall inspect privately maintained SWM facilities no less than once per 5 years and conduct follow-up activities to ensure the required maintenance has been completed. Inspections may be conducted by the permittee or their designee as defined in 9 VAC 25-870-114.</i></p>	DPW, EMD, COD	<p>The County has a program in place to inspect no less than 20 percent of the privately maintained facilities annually and to pursue enforcement actions in instances where maintenance is needed. All privately maintained facilities will be inspected within the five year permit cycle and new facilities are required to be inspected no later than three years after completion. These facilities are comprised of many structures including, dry ponds, wet ponds, constructed wetlands, bioretention facilities, proprietary stormwater inlet BMP facilities, underground storage facilities, and infiltration trenches.</p> <p>Facilities are selected for inspection starting with the oldest facilities in the County. Facilities in compliance with maintenance requirements are scheduled for re-inspection during the following permit cycle. Facilities with deficiencies are provided adequate time to repair issues and the owner is provided with a detailed report outlining those deficiencies. If deficiencies are not corrected within the time period allotted, as determined by follow-up inspections, a second notice is given and additional time is provided for repairs. If deficiencies still have not been corrected, Prince William County Construction Division of Public Works conducts maintenance on the facility and the facility owner is required to reimburse the County</p>	<ul style="list-style-type: none"> •<i>Each annual report shall include a list of activities including inspections performed and notifications of needed maintenance and repair of stormwater facilities not operated by the permittee as required by Part 1.B.2.h)2).</i> •<i>Each annual report shall provide a summary of actions taken by the permittee to address failure of privately maintained SWM facilities owners to abide by maintenance agreements.</i>

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
			<p>for expenses. Facility owners are urged to self-report maintenance activities to the County in the form of a detailed engineering report. These reports are due to the County by June 30th of each year. As with the inspection of publicly maintained facilities, a mobile application is used for the tracking of inspections and inspections. This mobile application ensures consistent, accurate inspections are performed according to each facility type, as well as manages follow-up and enforcement actions. See appendix 9.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.h.2.a.3.	<p><i>The permittee shall continue to implement a program ensuring the inspection and maintenance of SWM facilities that are privately maintained and for which maintenance agreements have not been established between the permittee and the owner.</i></p>	DPW, EMD, COD	<p>Most privately maintained SWM facilities in Prince William County have established maintenance agreements. There are two scenarios where privately maintained SWM facilities may not have agreements, those under bond and those which may have been established before the requirement of maintenance agreements. The County currently implements procedures and policies designed to insure the inspection and maintenance of privately maintained SWM facilities after their construction. Before a privately maintained facility can be removed from bond, it requires a maintenance agreement to ensure the proper upkeep of the facility. The maintenance agreement gives the County the legal authority to inspect and require facilities to maintain good working order. Alternatively, some SWM/BMP facilities were constructed before maintenance agreements were required by the County. These facilities are bound to maintenance responsibilities through notes in the Deed of Easements, and on the plat of the facility. These notes are assumed to ensure inspection and maintenance in replacement of a dedicated maintenance agreement. Facility inspection and maintenance requirements are conducted in the same manner as if a maintenance agreement existed for the facility.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.h.3.	<i>The permittee shall update and maintain an accurate MS4 map and information table as follows:</i>	DPW, EMD, COD	<ul style="list-style-type: none"> • Prince William County has identified all outfalls owned or operated by Prince William County that discharge to surface waters (i.e. MS4 outfalls). • Each MS4 outfall has an individual identification number, the local watershed, HUC and receiving water in which it is located are identified, and its latitude and longitude are provided in in decimal degrees. • The county has delineated the drainage area to each of its MS4 outfalls (i.e. the MS4 service area). • The county updates the mapping layers to incorporate new outfalls once as-built plans are provided by the party responsible for constructing the new outfall. 	
B.2.h.3.a.	<i>An updated map of the MS4 owned or operated by the permittee, no later than 12 months after the permit effective date that includes, at a minimum:</i>	DPW, EMD, COD		<i>The MS4 service area map including outfalls and information included in Part I.B.2.h)3) shall be submitted no later than 12 months after the effective date of this state permit. The information shall be submitted as an electronic file described in Part I.B.2.h)3)(e).</i>

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
<p>B.2.h.3.a.1-6.</p>	<p><i>(1) MS4 outfalls discharging to surface waters, except as follows:</i></p> <p><i>(i) In cases where the outfall is located outside of the MS4 permittee's legal responsibility, the permittee may elect to map the known points of interconnection upstream and downstream of the actual outfall; and</i></p> <p><i>(ii) In cases where the MS4 outfall discharges to receiving water channelized underground, the permittee may elect to map the point downstream at which the receiving water emerges above ground as an outfall discharge location. If there are multiple outfalls discharging to an underground channelized receiving water, the map shall identify that the outfall discharge location represents more than one outfall. This is an option a permittee may choose to use recognizing the difficulties in accessing outfalls to underground channelized stream conveyances for purposes of mapping, screening or monitoring.</i></p> <p><i>(2) A unique identifier for each mapped item required in part I B.2.h)3);</i></p> <p><i>(3) The name and location of receiving waters to which the MS4 outfall or point of interconnection discharges;</i></p> <p><i>(4) The MS4 regulated service area;</i></p> <p><i>(5) Pipe and open channel conveyances that are upstream of MS4 outfalls; and</i></p> <p><i>(6) Stormwater management facilities owned or operated by the permittee.</i></p>	<p>DPW, EMD, COD</p>	<p>Prince William County maintains an inventory of all SWM/BMP facilities in the County. These will be reported annually within the MS4 Annual Report.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
<p>B.2.h.3.b.</p>	<p><i>The permittee shall update its MS4 service area map as necessary if any changes to direct drainage to VDOT's MS4 service area occur. The permittee shall maintain a map to assist with coordination of VDOT MS4 coverage areas for roadways and streets. Where practical, the permittee map shall clearly delineate gap areas that drain to VDOT MS4 areas not included as part of the Prince William MS4 service area. This information shall be maintained and kept up to date and made available when requested.</i></p>	<p>DPW, EMD, COD</p>		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
<p>B.2.h.3.c.</p>	<p><i>The permittee shall maintain an outfall information table associated with the MS4 map that includes the following information for each outfall or point of discharge for those cases in which the permittee elects to map the known point of discharge in accordance with Part I.B.2.h)3)(a)(1). The outfall information table may be maintained as a shapefile attribute table. The outfall information table shall include the following, at a minimum:</i></p> <p><i>(1) A unique identifier as specified on the MS4 map;</i></p> <p><i>(2) The latitude and longitude of the outfall, or point of discharge;</i></p> <p><i>(3) The 6th Order Hydrologic Unit Code of the receiving water;</i></p> <p><i>(4) An indication as to whether the receiving water is listed as impaired in the Virginia 2022 305(b)/303(d) Water Quality Assessment Integrated Report; and</i></p> <p><i>(5) The name of any EPA-approved TMDLs for which the permittee is assigned a wasteload allocation.</i></p> <p><i>If available, the outfall table should include the following:</i></p> <p><i>(1) The estimated regulated acreage draining to the outfall, or point of discharge: and</i></p> <p><i>(2) The name of the receiving water.</i></p>	<p>DPW, EMD, COD</p>		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
<p>B.2.h.3.d.</p>	<p><i>No later than 12 months after permit issuance, the permittee shall submit to DEQ, a format file geodatabase or two shapefiles that contain at a minimum:</i></p> <p><i>(1) A point feature class or shapefile for outfalls with an attribute table containing outfall data elements required in accordance with Part I.B.2.h)3)(c); and</i></p> <p><i>(2) A polygon feature class or shapefile for MS4 service area as required in accordance with Part I.B.2.h)3)(a)(4) with an attribute table containing the following information:</i></p> <p><i>Permit No. VA0088595</i></p> <p><i>(i) MS4 operator name;</i></p> <p><i>(ii) MS4 permit number, and</i></p> <p><i>(iii) MS4 service area pervious, impervious and total acreage rounded to the nearest hundredth</i></p>	<p>DPW, EMD, COD</p>		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.h.3.e.	<p><i>All file geodatabase feature classes or shapefiles shall meet the following data format standards:</i></p> <p><i>(1) Point data collected in NAD83 or WGS84 decimal degrees global positional system coordinates;</i></p> <p><i>(2) Data projected in Virginia Lambert Conformal Conic format;</i></p> <p><i>(3) Outfall location accuracy shall be represented in decimal degrees rounded to at least the fifth decimal place for latitude and longitude to ensure point location accuracy (e.g., 37.61741, -78.15279); and</i></p> <p><i>(4) Metadata shall provide a description of each feature class or shapefile dataset, units of measure as applicable, coordinate system, and projection.</i></p>	DPW, EMD, COD		
B.2.h.3.f.	<p><i>No later than October 1 of each year, the permittee shall update the MS4 map and outfall information table to include any new outfalls constructed or TMDLs approved or both during the immediate preceding reporting period.</i></p>	DPW, EMD, COD		
B.2.h.3.g.	<p><i>The permittee shall provide written notification to any downstream adjacent MS4 of any new physical interconnection from the permittee-owned system to another regulated MS4 established or discovered after the effective date of this permit.</i></p>	DPW, EMD, COD		
B.2.i. County Facilities				
B.2.i.	<p><i>Facilities owned or operated by the permittee shall be operated and maintained as follows:</i></p>	DFFM, DPRT, DPW, SWD	The county meets this requirement through implementation of the actions described below.	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.i.1.	<p><i>The permittee shall develop, implement, and maintain written good housekeeping procedures designed to:</i></p> <p><i>(a) Prevent illicit discharges;</i></p> <p><i>(b) Ensure permittee staff or contractors properly dispose of waste materials to minimize floatables and landscape wastes entering the MS4;</i></p> <p><i>(c) Prevent the discharge of wastewater or washwater or both into the MS4 without authorization under a separate VPDES permit: and</i></p> <p><i>(d) Preventing pollutant discharge into the MS4 from leaking permittee-owned or operated vehicles and equipment. Leaked fluids shall be cleaned up and disposed of properly, as soon as possible but no later than 24 hours after discovery.</i></p>	DFFM, DPRT	<ul style="list-style-type: none"> • Prince William County promotes good housekeeping practices throughout all its municipal facilities through its Environmental Management System (EMS) program and other methods. The EMS program and the County's Good Housekeeping SOP (see appendix 11) promote consistency and accountability in the method for addressing environmental concerns through the allocation of resources, assignment of responsibility and ongoing evaluation of practices, procedures, and processes. This program emphasizes objectives such as the identification and prevention of spills, hazardous material storage and removal, storage tank inspection and maintenance, waste disposal and recycling, proper equipment and material storage, and many other environmental good housekeeping practices. • PWC Parks and Rec facilities are inspected biennially, to ensure good housekeeping practices are being followed. This includes properly managing yard waste and grass clippings. • Police and fire vehicles are required to be washed in an environmentally safe manner, allowing no wash water to enter storm drain systems. Most vehicles are washed in commercial car washing facilities. • PWC Fleet Management has worked closely with Risk Management and Environmental Management to set up a system to prevent the leaking or spilling of vehicles on site waiting for maintenance. 	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.i.2.	<i>The permittee shall maintain markings on all stormwater inlets located on high priority municipal facilities, as defined at Part I.F, and on permittee properties with greater than 2-acres of impervious surface.</i>		Prince William County's storm drain labeling program targets high priority municipal facilities with greater than two acres of impervious surface to maintain markings on storm drain inlets. Inlets at these facilities have been labeled with storm drain markers as of June 1st, 2019. This program not only labels inlets at high priority municipal facilities, but in multiple areas of the county including high risk shopping centers and residential neighborhoods.	
B.2.i.3.	<i>High Priority Municipal Facilities :</i>			

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement					
B.2.i.3.a.	<p><i>The permittee shall maintain a list of all high priority municipal facilities that do not require a separate VPDES industrial stormwater permit as well as identify which of the high priority municipal facilities have a high potential of discharging pollutants. Facilities with a high potential for discharging pollutants are those facilities where any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt, or runoff;</i></p> <p><i>(1) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;</i></p> <p><i>(2) Materials or residuals on the ground or in stormwater inlets from spills or leaks;</i></p> <p><i>(3) Material handling equipment (except adequately maintained vehicles);</i></p> <p><i>(4) Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt);</i></p> <p><i>(5) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);</i></p> <p><i>(6) Materials or products that would be expected to be mobilized in stormwater runoff contained in</i></p>	DFFM, DPRT	<p>Facilities that were deemed High Priority and are not eligible, or do not require a separate VPDES permit, will be evaluated for the development of a Stormwater Pollution Prevention Plan (SWPPP). SWPPPs will include a site description that includes a site map showing all outfalls, direction of flows, existing source controls, and receiving water bodies; a checklist of potential pollutants and pollutant sources; all potential non-stormwater discharges; a maintenance schedule for all source controls; policies and procedures implemented at the facility for source reduction; an inspection schedule to ensure source reduction controls are implemented and maintained properly; training schedules for facility employees; procedures for annual evaluations of the facility; and all modifications made as a result of a spill or release of pollutant. See appendix 8 for more information. The following facilities have been identified as potential High Priority Municipal Facilities, and are currently maintaining SWPPP documents:</p> <table border="1"> <thead> <tr> <th>Facility Name</th> </tr> </thead> <tbody> <tr> <td>Fleet Administration</td> </tr> <tr> <td>Ben Lomond Maintenance Building</td> </tr> <tr> <td>Hellwig Maintenance Building</td> </tr> <tr> <td>PWC Stadium Maintenance Building</td> </tr> </tbody> </table>	Facility Name	Fleet Administration	Ben Lomond Maintenance Building	Hellwig Maintenance Building	PWC Stadium Maintenance Building	<p><i>The initial annual report shall include a list of all high priority municipal facilities and those with a high potential to discharge pollutants as identified in Part I.B.2.i)3)(a).</i></p>
Facility Name									
Fleet Administration									
Ben Lomond Maintenance Building									
Hellwig Maintenance Building									
PWC Stadium Maintenance Building									

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
	<p><i>open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;</i></p> <p><i>(7) Waste material except waste in covered, non-leaking containers (e.g., dumpsters);</i></p> <p><i>(8) Application or disposal of process wastewater (unless otherwise permitted); or</i></p> <p><i>(9) Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.</i></p>			

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.i.3.b.	<p><i>The permittee shall develop and/or update and implement individual stormwater pollution prevention plans for each high priority municipal facility identified under Part I.B.2.i)2)(a) no later than 36-months after the effective date of this state permit. Stormwater pollution prevention plans (SWPPP) shall include:</i></p> <p><i>(1) A site description that includes a site map identifying all outfalls, direction of flows, existing source controls, and receiving water bodies;</i></p> <p><i>(2) A discussion and checklist of potential pollutants and pollutant sources;</i></p> <p><i>(3) A discussion of all potential non-stormwater discharges;</i></p> <p><i>(4) A maintenance schedule for all existing source controls;</i></p> <p><i>(5) All policies and procedures implemented at the facility to ensure source reduction;</i></p> <p><i>(6) An inspection schedule and checklist to ensure that all source reductions are continually implemented and all source controls are appropriately maintained. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP;</i></p> <p><i>(7) Appropriate training as required in Part I.B.2.k);</i></p> <p><i>(8) Procedures to conduct an annual comprehensive site compliance evaluation;</i></p> <p><i>(9) Procedures to conduct dry weather screening;</i></p>	DFFM, DPRT	SWPPPs will include a site description that includes site map showing all outfalls, direction of flows, existing source controls, and receiving water bodies; a checklist of potential pollutants and pollutant sources; all potential non-stormwater discharges; a maintenance schedule for all source controls; policies and procedures implemented at the facility for source reduction; an inspection schedule to ensure source reduction controls are implemented and maintained properly; training schedules for facility employees; procedures for annual evaluations of the facility; dry weather monitoring procedures; and all modifications made as a result of a spill or release of pollutant.	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
	<p><i>and</i> <i>(10) All modifications made as the result of any release or spill.</i></p>			
B.2.i.3.c.	<p><i>A copy of each SWPPP shall be kept at each high priority municipal facility and be kept updated.</i></p>	DFFM, DPRT	<p>A copy of the high priority municipal facility SWPPP will be kept at each facility requiring one. Where the SWPPP cannot be physically kept on site, a copy of the high priority municipal facility SWPPP will be kept on file by the department that manages the site.</p>	
B.2.j. Public Education/Participation				
B.2.j.	<p><i>The permittee shall continue to implement a public education program with the goal of increasing the stormwater knowledge of target audiences and changing behavior to result in pollutant reductions. The permittee may fulfill all or part of the requirements of this state permit through regional outreach programs involving two or more MS4 localities.</i></p>	DPW, EMD, COD	<p>Prince William County strives to share relevant and useful information with our community to help protect our local waterways and natural environment. We undertake several projects and special events to provide citizens with the opportunity to help in these goals. The County also partners with residents, businesses, other government agencies and organizations to advance our goals to protect and preserve natural resources.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.j.1.	<p><i>The permittee shall identify, schedule, implement, evaluate, and modify, as necessary, public outreach activities designed to meet the following public education and outreach goals:</i></p> <p><i>(a) Promote, publicize, and facilitate public reporting of the presence of illicit discharges or improper disposal of materials into the MS4;</i></p> <p><i>(b) Continue to promote individual and group involvement in local water quality improvement initiatives including the promotion of local restoration and clean-up projects, programs, groups, meetings and other opportunities for public involvement;</i></p> <p><i>(c) Continue outreach programs with public and private golf courses located within the county that discharge to the permittee's MS4 that would encourage implementation of integrated management practice (IMP) plans and techniques to reduce runoff of fertilizer and pesticides;</i></p> <p><i>(d) Promote, publicize, and facilitate the proper management and disposal of used oil and household hazardous wastes;</i></p> <p><i>(e) Promote and publicize the proper disposal of pet waste and household yard waste;</i></p> <p><i>(f) Promote and publicize the use of the permittee's litter prevention program;</i></p> <p><i>(g) Promote and publicize methods for residential car washing that minimize water quality impacts;</i></p>	DPRT, DPW, EMD, COD, SWD	<ul style="list-style-type: none"> • The public education and outreach program is reviewed on an annual basis to determine the effectiveness of the program and to identify future efforts to improve the program. • Prince William County has many community partners that conduct outreach events and activities all year round. Some of those partners include Keep Prince William Beautiful, Prince William Soil and Water Conservation District, Virginia Cooperative Extension, the Occoquan Testing Laboratories, and Northern Virginia Clean Water Partners. Prince William County is able to provide funding to these organizations so that they may conduct these activities within Prince William County, as well as assisting the County with meeting other goals and requirements set forth in this permit. • Educating citizens on illicit discharge prevention raises awareness and increases the reporting of illicit discharges by generating more attention to the issue. The County sees public outreach as an effective and cost efficient way of preventing and discovering illicit discharges, eliminating discharges before they have the chance to happen. Prince William County has developed multiple avenues for the education of illicit discharges. Through the County's Clean Water Program (see appendix 12), multiple brochures, and videos are available for citizens to educate 	<ul style="list-style-type: none"> • <i>Each annual report shall include a list of permittee public outreach and education activities and the estimated number of individuals reached through the activities. An evaluation of program effectiveness, as outlined in the MS4 Program Plan with recommendations for future changes shall also be included.</i> • <i>Each annual report shall provide a summary of voluntary retrofits completed on private property used to demonstrate pollutant reduction requirements. Note that any voluntary project for which the permittee seeks to use for pollutant reduction requirements must be tracked and reported.</i> • <i>Each annual report shall provide a summary of</i>

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
	<p><i>(h) Promote and publicize the proper use, application, and disposal of pesticides, herbicides, and fertilizers by public, commercial, and private applicators and distributors;</i></p> <p><i>(i) Encourage private property owners to implement voluntary stormwater management techniques and/or retrofits; and</i></p> <p><i>(j) Target strategies towards local groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts.</i></p>		<p>themselves on stormwater issues. The CleanWater Program focuses on 3 areas; private citizens, local commercial businesses, and local industry. As this program expands it will include proactive distribution of outreach material to business and industry found most likely to generate illicit discharges.</p> <ul style="list-style-type: none"> The County maintains an illicit discharge hotline (703-792-7070) and an email address (illicitdischarge@pwcgov.org) which connects citizens directly to Environmental Management staff to report potential environmental issues. Outreach materials are carried by IDDE staff and utilized when visiting sites in the field and may be included with warning and violation letters. Prince William County will continue to implement and improve ways citizens can learn and report illicit discharge issues in the future. 	<p><i>voluntary stormwater management techniques encouraged on private property.</i></p>
<p>B.2.j.2.</p>	<p><i>The permittee shall post a copy of this state permit on its web page no later than 30-days after the effective date of this state permit and continue to retain a copy of the permit online for the duration of this state permit.</i></p>	<p>DPW, EMD, COD</p>	<ul style="list-style-type: none"> The county's MS4 permit (VA0088595), effective January 12, 2024 and was posted to the county website. 	
<p>B.2.j.3.</p>	<p><i>The permittee shall post copies of each annual report on its website no later than 30 days after the report submittal to the Department and continue to retain copies of the annual reports online for the duration of this state permit.</i></p>	<p>DPW, EMD, COD</p>	<ul style="list-style-type: none"> Annual reports are posted to the county website within 30 days of submittal to DEQ. 	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.j.4.	<p><i>The permittee shall post the most current MS4 Program Plan on its website no later than 30 days after the effective date of this permit and maintain a current copy on the website. If the MS4 Program Plan is modified or revised, the updated plan shall be posted within 30 days of the revision(s). Copies of the most current MS4 Program Plan shall be made available for public review upon request of interested parties in compliance with all applicable open records requirements.</i></p>	DPW, EMD, COD	<ul style="list-style-type: none"> • The county's most current MS4 Program Plan was posted to the county website. • Updates to the MS4 Program Plan will be posted to the county's website within 30 days of submittal to DEQ. 	
B.2.k. Training				
B.2.k.	<p><i>The permittee shall conduct stormwater training for permittee employees. The training requirement may be fulfilled all or in part through regional training programs involving two or more MS4 localities; provided, however, that the permittee shall remain individually liable for its failure to comply with the training requirements in this state permit. The permittee shall determine the appropriate employees to receive the following types of training based on the specific topic for which training is to be provided:</i></p>	DPW, EMD, COD	The county meets this requirement through implementation of the actions described below.	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.k.1.	<i>The permittee shall provide biennial training to appropriate field personnel in the recognition and reporting of illicit discharges.</i>	DPW, EMD, COD	Prince William County Staff are trained in the recognition and reporting of illicit discharges, as well as implementation of good housekeeping practices. Currently, appropriate staff are trained in basic good housekeeping, spill prevention, and illicit discharge prevention practices through EMS training. This training is conducted biennially and is required for all staff including full-time Parks and Rec staff. The County is conducting additional more in depth training on disposal of universal waste, illicit discharge prevention (vehicle/equipment washing, landscaping, and outdoor construction), and spill prevention and response. These trainings will be offered as online or classroom courses to all employees at a minimum of every two years. Employees with day to day exposure to road, street, and parking lot maintenance work, field activities, and those who are employed in and around County maintenance and public works facilities will be targeted for this training. See appendix 13 for more information.	<i>Each annual report shall include a list of training events, the date and the estimated number of individuals attending each event.</i>
B.2.k.2.	<i>The permittee shall provide biennial training to appropriate employees in good housekeeping and pollution prevention practices that are to be employed during road, street, and parking lot maintenance.</i>	DFFM, DPRT, DPW, SWD	See action item B.2.k)1).	See MS4 Action ID B.2.k.1.

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.k.3.	<p><i>Within 36 months of the effective date of the permit, the permittee shall incorporate good housekeeping training strategies for each of the following activities:</i></p> <p><i>a. Discharging water pumped from construction and maintenance activities;</i></p> <p><i>b. Bulk storage of soil, compost, mulch and landscaping waste stockpiles; and</i></p> <p><i>c. Preventing pollutant discharge into the MS4 from leaking permittee-owned or operated vehicles and equipment. Leaked fluids shall be cleaned up and disposed of properly, as soon as possible but no later than 24 hours after discovery.</i></p>	DFFM, DPRT, DPW, SWD		
B.2.k.4.	<p><i>The permittee shall provide biennial training to appropriate employees in good housekeeping and pollution prevention practices that are to be employed in and around permittee maintenance and public works facilities.</i></p>	DFFM, DPW, SWD	See action item B.2.k)1).	See MS4 Action ID B.2.k.1.
B.2.k.5.	<p><i>The permittee shall ensure that employees, and require that contractors, who apply pesticides and herbicides are properly trained or certified per the Virginia Pesticide Control Act (§3.2-3900 et seq. of the Code of Virginia). The requirements of the Virginia Pesticide Control Act are established by the Virginia Pesticide Control Board.</i></p>	DFFM, DPRT	All applicable County staff and staff of County contractors are required to receive appropriate training in pesticide and herbicide application. These include staff of Parks and Recreation, as well as Mosquito and Forest Pest Management staff. All staff are required to stay current in applicable trainings and certifications. See appendix 4 for SOP on pesticide application, storage, transport, and disposal.	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.k.6.	<i>The permittee shall have a program to ensure that County plan reviewers, inspectors, program administrators and construction site operators (e.g. responsible land disturber) are trained and obtain the appropriate certifications to the extent required under the Virginia Erosion and Sediment Control Law and attendant regulations.</i>	DPW, EMD, COD	All Environmental Management plan review and E&S staff are required as part of their hiring to complete and certify in DEQ stormwater, E&S, or plan review courses. Required certifications are dependent on job type. All E&S inspectors are required to be certified in DEQ E&S courses. Environmental Management plan review and inspection staff is required to take the stormwater and plan review certifications. Some administrative staff are required to certify as a combined administrator.	
B.2.k.7.	<i>The permittee shall have a program to ensure that the applicable County employees obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations to implement the modified stormwater management design criteria.</i>	DPW, EMD, COD	Appropriate employees have been certified as program administrators, inspectors, plan reviewers or combined administrators as required under the Virginia Stormwater Management Act and its attendant regulations.	
B.2.k.8.	<i>The permittee shall provide biennial training to applicable employees in good housekeeping and pollution prevention practices that are to be employed in and around county recreation facilities.</i>	DPRT	Applicable employees who conduct maintenance, repair, and custodial work at county recreational facilities receive biennial training.	See MS4 Action ID B.2.k.1.

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.k.9.	<i>The appropriate emergency response employees shall have training in spill response. A summary of the training and/or certification program provided to emergency response employees shall be included in the first annual report.</i>	DFR	All uniform personnel are trained to the hazmat first responder operations level. This training teaches spill control as a defensive manner. This training is regulated by 29 CFR 1910.120(q) and NFPA 472. Staff are required to be current in this training, including annual refresher training. During the reporting period, all required personnel were current in Emergency Spill Response training.	<i>The initial report shall include documentation of employee emergency spill response training and/or certification.</i>
B.2.k.10.	<i>Documentation shall be kept of all training events including the training date, number of employees attending the training, and the objective of the training event for a period of three years after each training event. Additionally, all events shall be listed in the annual report for the year in which the training event occurred.</i>	DF, RMD	Training documentation is kept on file by the appropriate office. A list of training events will be provided in the MS4 Annual Reports.	See MS4 Action ID B.2.k.1. and B.2.k.8.
B.2.l. Water Quality Screening Programs				
B.2.l.	<i>The following screening programs shall be implemented in addition to the monitoring required by Part I.C:</i>			
B.2.l.1.	<i>Dry Weather Screening Program: The permittee shall continue ongoing efforts to detect the presence of illicit connections and unauthorized discharges to the permittee's MS4.</i>	DPW, EMD, COD	The county meets this requirement through implementation of the actions described below.	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.1.1.a.	<p><i>The permittee shall continue to implement a program of dry weather screening in areas of concern as identified by the permittee including but not limited to: commercial car washes, car dealerships, pet kennels, restaurants, areas with a history of complaints, and areas upstream of sensitive ecosystems. The permittee shall screen at a minimum, 25% of the outfalls discharging to the County's MS4 within the permit cycle.</i></p>	DPW, EMD, COD		<p><i>Each annual report shall include a list of locations upon which dry weather screening was conducted, the results and any follow-up actions including maintenance and/or repair of infrastructure or outfalls performed as a result of the dry weather screening.</i></p>

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
<p>B.2.I.1.b.</p>	<p><i>Criteria for selection of outfalls to be screened as required by Part I.B.2.I)1)(a) above shall include but is not limited to the following:</i></p> <p><i>(1) List of sites requiring further investigation, as previously identified;</i></p> <p><i>(2) Age and density of development with the likelihood of illicit connections such as older residential, commercial and industrial areas;</i></p> <p><i>(3) Outfalls representing the general land uses of the County;</i></p> <p><i>(4) Poorly maintained gas stations, service stations, and shopping centers;</i></p> <p><i>(5) Presence of environmentally sensitive features downstream; and</i></p> <p><i>(6) History of complaints received on illicit discharges.</i></p>	<p>DPW, EMD, COD</p>	<p>Prince William County's Dry Weather Monitoring Program is a comprehensive program designed to detect non stormwater discharges to the County's stormsewer system. Using an in-depth hot spot analysis which determines areas of the County where discharges may occur, and where those discharges may have the greatest environmental impact, County staff prioritizes outfalls for inspection. Incorporated into the hotspot analysis are areas in proximity to sensitive waterbodies, areas of high risk land use (Car washes, restaurants, gas stations, industrial areas, etc.), VPDES permitted facilities, areas with a history of complaint, and other factors. No more than 50% of the outfalls monitored in the previous 12-month period are screened in the current 12-month period. Dry weather discharge inspections are guided by the Mobile IDDE application. The Mobile IDDE application guides inspectors through dry weather inspections, schedules follow-up inspections, notifies staff of maintenance issues, and allows program administrators to effectively assess and manipulate data pertaining to the IDDE program. This data is then used to input back into the hotspot analysis to improve program performance. The Mobile IDDE application is designed to increase efficiency, continuity, and accuracy from inspection</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
			to inspection, and inspector to inspector. Once a discharge is found, violators have up to 30 days to mitigate and remove discharges before additional action is taken (unless mitigation is not possible in that timeframe, in this case an action plan is created to ensure compliance). See appendix 5 for more information.	
B.2.1.1.c.	<i>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:</i>	DPW, EMD, COD	Prince William County conducts routine inspection of its storm drainage system, inspecting the entire system within the permit term. Storm sewer is inspected using visual inspection techniques, as well as using CCTV. The County continues to implement a program to inspect all new drainage systems (eligible for County maintenance) using video cameras, prior to accepting the systems into the County's maintenance program.	
B.2.1.1.d.	<i>Each observation point screened may be counted as one outfall screening activity equivalent and counted towards the requirements of Part I.B.2.1)1)(a), however, at least 50% of the minimum annual screening events must include outfall screening;</i>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.I.1.e.	<p><i>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; and</i></p>	DPW, EMD, COD		
B.2.I.1.f.	<p><i>The permittee's dry weather screening program shall use a checklist or mechanism to track the following information for dry weather screening events:</i></p> <ul style="list-style-type: none"> <i>(1) The unique outfall identifier for the outfall or observation point;</i> <i>(2) Indication a minimum of 72 hours has passed since the last precipitation event;</i> <i>(3) Site descriptions (e.g., conveyance type and dominant watershed land uses);</i> <i>(4) Observed indicators of possible illicit discharge events such as, floatables, deposits, stains, and vegetative conditions (e.g., dying or dead vegetation, excessive vegetative growth, etc.);</i> <i>(5) Whether or not a discharge was observed;</i> <i>(6) If a discharge was observed, the visual characteristics of the discharge (e.g., odor, color, clarity) and the physical condition of the outfall; and</i> <i>(7) For observation points, the location, downstream outfall unique identifier, and risk factors or rationale for establishing the observation point.</i> 	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.i.2.	<p><i>Wet Weather Screening Program: In addition to the monitoring required in Part I.C., the permittee shall continue to investigate, and address areas within their jurisdiction that are suspected to be contributing excessive levels of pollutants to the MS4. The permittee shall maintain written procedures for a wet weather screening program which shall include standard operating procedure to be used for initial screening and follow-up purposes. The written procedures shall be incorporated as part of the MS4 Program Plan.</i></p>	DPW, EMD, COD	<p>Prince William County has developed a Wet Weather Monitoring Program as required by the Permit. This program is designed to collect and analyze runoff from four significant rain events at two sites in the County. Sites were selected by an initial desktop analysis, followed by a final infield site assessment. Samples are gathered by Teledyne Isco Model 6712 Full-Size Portable Samplers and analyzed at a certified laboratory. Each annual report following the initial annual report shall include a list of locations upon which wet weather screening was conducted, the results, weather conditions at the time sample was collected to include date and approximate time of most recent storm event preceding sample collection, long term trends analyses, and any follow-up actions.</p>	<p>Each annual report shall include a list of locations upon which wet weather screening was conducted, the results, weather conditions at the time sample was collected to include date and approximate time of most recent storm event preceding sample collection, long term trends analyses, and any follow-up actions including maintenance and/or repair of infrastructure or outfalls performed as a result of the wet weather screening.</p>
B.2.m. Infrastructure Coordination				
B.2.m.	<p><i>The permittee shall coordinate with the Virginia Department of Transportation (VDOT) regarding issues of MS4 physical-interconnectivity as described below:</i></p>	DPW, EMD, COD	<p>The county meets this requirement through implementation of the actions described below.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.m.1.	<p><i>Annual Coordination Meeting – The permittee shall meet annually with VDOT for purposes of overall coordination on priority issues for the permittee’s MS4 program plan (including operations and maintenance elements) and TMDL action planning relevant to the interconnectivity of the MS4s.</i></p>	DPW, EMD, COD	<p>Prince William County will meet annually with VDOT to coordinate on priority issues for the implementation of the County’s MS-4 program plan and TMDL action planning relevant to the interconnectivity of the County and VDOT’s MS-4 systems. This meeting will be scheduled between PWC and VDOT sometime during each fiscal year. Coordination with VDOT will occur as follows:</p> <ul style="list-style-type: none"> - Mapping: Status of mapping program and the ownership of MS-4 components. This includes identifying any areas within the County’s Municipal boundaries that drain to VDOT MS-4. -Chesapeake Bay TMDL: Means, Methods, and Schedule for reductions under the Chesapeake Bay TMDL special condition where impacts may occur to interconnected MS-4 areas. - Other TMDL Action Plans: Means, Methods, and Schedule for reductions under the other TMDL special conditions where impacts may occur to interconnected MS-4 areas. - TMDL Implementation Credit: Ensure BMP retrofits do not encounter double crediting. Discuss sharing of BMP credit if applicable. - Illicit Discharge: Share information pertaining to the County’s IDDE program and coordinate with VDOT on the identification of high 	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
			<p>risk facilities. Establish procedures for reporting discharges identified from the VDOT MS-4 system.</p> <p>- Water Quality Monitoring: Discuss and present results of the County’s water quality monitoring programs. This includes monitoring data collected from areas where the physically-interconnected MS-4 discharges to or flow is received from the VDOT MS-4.</p>	
B.2.m.2.	<p><i>Mapping – The permittee shall inform VDOT of the status of its mapping program, identifying any uncertainty regarding ownership or actual location of MS4 components associated with the physically-interconnected MS4s, and working to resolve such uncertainty. The permittee shall coordinate with VDOT to identify any areas within the permittee’s municipal boundaries that drain to the VDOT MS4.</i></p>	DPW, EMD, COD	See action item B.2.m)1).	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.m.3.	<p><i>Chesapeake Bay TMDL Action Plans – The permittee shall inform VDOT of the means, methods, and schedule by which the permittee will implement the reductions required by the Chesapeake Bay TMDL Special Condition (Part I.D.1) when those means and methods may impact the physically-interconnected MS4s. The parties are encouraged to cooperate with one another where the siting or design of best management practices (BMPs) may be accelerated or otherwise improved by mutual cooperation. The permittee shall coordinate with VDOT to identify any areas within the permittee’s municipal boundaries that drain to the VDOT MS4 and are unaccounted for in the Chesapeake Bay TMDL Action Plan developed by VDOT or the permittee. The unaccounted areas shall be quantified (acres) in the Chesapeake Bay TMDL Action Plan submitted by the permittee.</i></p>	DPW, EMD, COD	See action item B.2.m)1).	
B.2.m.4.	<p><i>Other TMDL Action Plans – The permittee shall inform VDOT of TMDL Action Plans and major milestones implemented for other (i.e., non-Chesapeake Bay) TMDLs when those plans may impact the physically-interconnected MS4s. The parties are encouraged to cooperate with one another where the siting or design of BMPs may be accelerated or improved by mutual cooperation.</i></p>	DPW, EMD, COD	See action item B.2.m)1).	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.m.5.	<i>Credit for TMDL Implementation – Permit specific BMP retrofit requirements shall not be doublecounted in the calculation of load reductions. If the permittee undertakes the project, the permittee shall be entitled to full credit for the project, but may share credit with VDOT on mutually agreeable terms, which shall be in writing.</i>	DPW, EMD, COD	See action item B.2.m)1).	
B.2.m.6.	<i>Illicit Discharge Detection & Elimination – The permittee shall continue to be responsible for implementing a program for illicit discharge detection and elimination, including dry weather field screening, for the permittee’s portion of the physically-interconnected MS4. As part of the annual coordination meeting, described in item (1) above, the permittee shall coordinate with VDOT on the identification of high risk industrial facilities. The permittee shall establish procedures for notifying VDOT when an illicit discharge is identified in the VDOT MS4.</i>	DPW, EMD, COD	See action item B.2.m)1).	
B.2.m.7.	<i>Water Quality Monitoring – The permittee shall conduct water quality monitoring as required by Part I.B.2.I) and Part I.C of this state permit. The permittee shall make available to VDOT all monitoring data collected from areas where the physically-interconnected MS4 discharges to the VDOT MS4 or received flow from the VDOT MS4. The permittee and VDOT are encouraged to cooperate with one another to establish a joint monitoring network.</i>	DPW, EMD, COD	See action item B.2.m)1).	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
B.2.m.8.	<i>Annual Reports – As part of its Annual Report, the permittee shall document coordination efforts with VDOT that occurred during the reporting year pursuant to requirements (1) through (7) above.</i>	DPW, EMD, COD	See action item B.2.m)1).	
C. MONITORING REQUIREMENTS				
C.1. Biological Stream Monitoring				
C.1.	<i>The permittee shall continue to implement a biological stream monitoring program to evaluate the condition of select stream sites within Prince William County as follows:</i>	DPW, EMD, COD	Prince William County has developed its in-stream biological monitoring program. Five sites within the County are assessed during the term of the permit. The County has paired these biological stream monitoring sites with that used by the in-stream water quality monitoring sites described below in section III.2. Monitoring protocols are consistent with the Permits requirement of RBP. Sampling occurs at least twice a year at each selected stream site. The County is currently analyzing the data from the Biological and In-stream monitoring sites to find potential data trends and corresponding causes. The County will then consider developing an outreach plan to nearby businesses and/or residents. See appendix 15 for detailed procedures.	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
C.1.a.	Five (5) stream sites within the county shall be selected for monitoring during the term of this permit	DPW, EMD, COD		<i>The initial annual report shall include the list of sites to be monitored during the term of the state permit and monitoring protocols.</i>
C.1.b.	<i>Monitoring shall be conducted twice per year with one sample collected between July 1st and December 31st and one sample collected between January 1st and June 30th each year at each selected stream site.</i>	DPW, EMD, COD		<i>Each annual report shall include a summary of the monitoring results and analyses and an interpretation of that data with respect to long-term patterns/trends</i>
C.1.c.	<i>The permittee shall use a biological stream monitoring approach based on the "USEPA's Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers" and shall include an assessment of the benthic macroinvertebrate community and habitat assessment.</i>	DPW, EMD, COD		
C.2. In-Stream Monitoring				
C.2..	<i>The permittee shall continue to implement an in-stream monitoring program to evaluate the condition of select streams within Prince William County as follows:</i>	DPW, EMD, COD	The county meets this requirement through implementation of the actions described below.	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
C.2.a.	<i>Five (5) stream sites within the county shall be selected for monitoring during the term of this permit.</i>	DPW, EMD, COD	The County has maintained an in-stream water quality monitoring program. In partnership with the Virginia Tech Occoquan Laboratory, the County maintains 5 sampling sites throughout its jurisdictional area. The sites and contributing land use are as follows: Cow Branch, Dawkins Branch, Little Bull Run, Neabsco Creek, and Purcell Branch.	<i>The initial annual report shall include the list of sites to be monitored during the term of the state permit and monitoring protocols.</i>
C.2.b.	<i>Monitoring shall be conducted once per two months between January 1 st and December 31st at each monitoring location</i>	DPW, EMD, COD	Samples will be taken at sites once per every two months at each monitoring location. These sites will also be evaluated for effective biological monitoring sites.	<i>Each annual report shall include a summary of the monitoring results and analyses and an interpretation of that data with respect to long-term patterns/trends.</i>
C.2.c.	<i>Monitoring shall be performed for the following parameters: 1) pH 2) Dissolved Oxygen 3) Temperature 4) Total Suspended Solids 5) Ammonia as Nitrogen 6) Nitrate plus Nitrite Nitrogen 7) Total Kjeldahl Nitrogen 8) Total Nitrogen (calculated) 9) Dissolved Phosphorus 10) Total Phosphorus 11) Escherichia Coli</i>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
C.2.d.	<i>Monitoring for the parameters listed in Part I.C.2.c) shall be in accordance with Part III.A. of this state permit.</i>	DPW, EMD, COD		
C.2.e.	<i>The permittee may replace a sampling location with a new proposed location after 15 samples are collected and analyzed. Written notification of the monitoring plan revisions shall be given to the Department in writing and shall include a statistical analysis of the monitoring results, conclusions regarding the data, the proposed new monitoring location, and the reasoning for site location choice.</i>	DPW, EMD, COD		
C.3. Floatables Solids Monitoring				
C.3.	<i>The permittee shall maintain a floatables monitoring program. The intent of the monitoring program is to determine the loading of floatables from the MS4 to streams within Prince William County. The permittee will implement the floatables monitoring program as follows:</i>	DPW, EMD, COD	Prince William County has developed a floatables and solids monitoring program with the help of SWCD. The Floatables Monitoring Program measures the amount and type of floatables within the bankfull area of a stream quarterly at 5 sites. The program is administered by both trained staff and volunteers. In addition to the Floatables Monitoring Program, the County maintains a litter collection program, which is dedicated to collecting trash and refuse from highly urban areas of the County. See appendix 16 for detailed procedures.	
C.3.a.	<i>Monitoring shall be conducted at five (5) monitoring sites located at MS4 outfalls and/or streams receiving discharges from the MS4.</i>	DPW, EMD, COD	See action item C.3.	
C.3.b.	<i>Monitoring shall be conducted once per quarter.</i>	DPW, EMD, COD	See action item C.3.	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
C.3.c.	<i>The monitoring program shall include the count of floatables visually observed and length or area of sites assessed.</i>	DPW, EMD, COD		<i>Each annual report shall include a list of sites monitored, a summary of the monitoring protocols used, and a summary of the monitoring results and analyses.</i>
D. TMDL ACTION PLAN AND IMPLEMENTATION				
D.1. Chesapeake Bay Special Condition				
D.1.	<i>The Commonwealth in its Phase I, Phase II, and Phase III Chesapeake Bay TMDL Watershed Implementation Plans (WIP) committed to a phased approach for MS4s permittees to implement necessary reductions. This state permit requires a cumulative 40% of the L2 scoping run reductions by June 30, 2026, and 100% of the L2 scoping run reductions by June 30, 2028. Conditions of future permits will be consistent with the TMDL or WIP conditions in place at the time of permit issuance.</i>		The County's Chesapeake Bay TMDL action plan was submitted to DEQ on February 21st, 2017 and approved by DEQ on June 28th, 2017.	
D.1.a.	<p><i>a) Definitions The following definitions apply to Part I.D.1</i></p> <p><i>1) "Existing Sources" means pervious and impervious urban land uses served by the MS4 as of June 30, 2009.</i></p> <p><i>2) "New Sources" means pervious and impervious urban land uses served by the MS4 developed or redeveloped on or after July 1, 2009.</i></p> <p><i>3) "Pollutants of concern" or "POC" means total nitrogen and total phosphorus.</i></p>			
Reduction Requirements - Existing Development:				

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.1.b.	<p><i>Following a phased approach, the permittee shall reduce the load of total nitrogen and total phosphorous from existing sources within the MS4 service area by at least 40% of the Level 2 Scoping Run reductions by June 30, 2026, and 100% of the reductions by June 30, 2028. The 40% reduction is the sum of:</i></p> <p><i>(i) the first phase of reduction of 5.0% percent of the L2 Scoping Run Reductions based on the lands located within the MS4 service area as required by June 30, 2018;</i></p> <p><i>(ii) the second phase reduction of at least 35% of the L2 Scoping Run based on lands within the MS4 service area required by June 30, 2026; and</i></p> <p><i>(iii) the reduction of at least 40% of the L2 Scoping Run which shall only apply to the additional lands that were added to the MS4 service area since June 30, 2018, as required by June 30, 2026.</i></p> <p><i>As part of this permit's phased approach, the permittee shall reduce the load of total nitrogen and total phosphorus from existing developed lands served by the MS4 by 100% of the Level 2 Scoping Run Reductions by June 30, 2028. The required reduction shall be calculated using Table 1a for reductions by June 30, 2026 and Table 1b for reductions by June 30, 2028 included herein.</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.1.c.	<p>Required Reductions – New Development: No later than the expiration date of this permit (June 30, 2028), the permittee shall offset 100% of the increased loads from new sources initiating construction between July 1, 2009 and June 30, 2024 and designed in accordance with 9VAC25-870-47 and 9VAC25-870-93 et seq.</p> <p>if the following conditions apply:</p> <p>1) The activity disturbed one acre or greater; and</p> <p>2) The resulting total phosphorous load was greater than 0.45 lb/acre/year, which is equivalent to an average land cover condition greater than 16% impervious cover.</p> <p>The permittee shall utilize Table 2 included herein to develop the equivalent pollutant load for nitrogen for new sources meeting the requirements of this condition.</p>			

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.1.d.	<p>Required Reductions – Grandfathered Projects: No later than the expiration date of this permit, the permittee shall offset 100% of the increased loads from projects grandfathered in accordance with 9VAC25- 870-48 that began construction after July 1, 2014, if the following conditions apply:</p> <p>1) The activity disturbs one acre or greater; and</p> <p>2) The resulting total phosphorous load was greater than 0.45 lb/acre/year, which is equivalent to an average land cover condition of 16% impervious cover.</p> <p>The permittee shall utilize Table 2 included herein to develop the equivalent pollutant load for nitrogen for grandfathered sources meeting the requirements of this condition.</p>		See appendix 1 for list of "grandfathered" projects.	
D.1.e.	<p>Reductions achieved in accordance with the Permit for Discharges of Stormwater from Municipal Separate Storm Sewer Systems effective April 01, 2015, shall be applied toward the total reduction requirements to demonstrate compliance with Part I.D.1.b), c) and d).</p>			
D.1.f.	<p>Reductions required under Part I.D.1 b), c) and d) shall be achieved in each river basin in which the existing development, new development and grandfathered projects are located.</p>			

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.1.g.	<i>Loading and reduction values greater than or equal to 10 pounds calculated in accordance with Part I.D.1.b), c) and d) shall be calculated and reported to the nearest pound without regard to mathematical rules of precision. Loading and reduction values of less than 10 pounds reported in accordance with Part I.D.1.b), c) and d) shall be calculated and reported to two significant digits.</i>			
D.1.h.	<i>Reductions required in Part I.D.1.b), c) and d) shall be achieved through one or more of the following: 1) BMPs approved by the Chesapeake Bay Program; 2) BMPs approved by the Department; or 3) A trading program described in Part I.D.1.i).</i>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.1.i.	<p><i>The permittee may acquire and use total nitrogen and total phosphorous credits in accordance with §62.1-44.19:21 of the Code of Virginia for purposes of compliance with the required reductions in Table 1 contained herein, provided the use of credits has been approved by the Department. The exchange of credits is subject to the following requirements:</i></p> <ol style="list-style-type: none"> <i>1) The credits are generated and applied to a compliance obligation in the same calendar year;</i> <i>2) The credits are generated and applied to a compliance obligation in the same tributary;</i> <i>3) The credits are acquired no later than June 1 immediately following the calendar year in which the credits are applied;</i> <i>4) No later than June 1 immediately following the calendar year in which the credits are applied, the permittee certifies on an MS4 Nutrient Credit Acquisition Form that the permittee has acquired the credits;</i> <i>5) Total nitrogen and total phosphorous credits shall be either point source credits generated by point sources covered by the Watershed Permit for Total Nitrogen and Total Phosphorous Discharges and Nutrient Trading in the Chesapeake Bay Watershed general permit issued pursuant to §62.1- 44.19:14 of the Code of Virginia, or nonpoint source credits pursuant to §62.1-44.19:20 of the Code of Virginia.</i> 	DPW, EMD, COD		<p><i>Each annual report shall include a list of control measures implemented during the reporting period and the cumulative progress toward meeting the compliance targets for total nitrogen, phosphorus, and total suspended solids.</i></p>

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
	<p><i>The permittee shall submit an updated Chesapeake Bay TMDL action plan for the cumulative 40% reductions required in Part I.D.1.b), c) and d) within 12 months of the permit effective date. The permittee shall submit an updated Chesapeake Bay TMDL action plan for the cumulative 100% reductions required in Part I.D.1.b), c) and d) by June 30, 2026. The action plans shall include the following information:</i></p> <ol style="list-style-type: none"> <i>1) Any new or modified legal authorities, such as ordinances, permits, policy, specific contract language, orders and inter-jurisdictional agreements, implemented or needing to be implemented, to meet the requirements of Parts I.D.1.b), c) and d) to include a review in the development of these actions;</i> <i>2) The load and cumulative reduction calculations for each river basin calculated in accordance with Parts I.D.1.b), c) and d);</i> <i>3) The total reductions achieved to date for each pollutant of concern in each river basin;</i> <i>4) A list of BMPs implemented to date to achieve reductions associated with the Chesapeake Bay TMDL including:</i> <ol style="list-style-type: none"> <i>(a) The date of implementation; and</i> <i>(b) The reductions achieved.</i> <i>5) The BMPs to be implemented by the permittee prior to the expiration date of this permit to meet</i> 			<p><i>Each annual report shall include a list of control measures that were implemented during the reporting cycle and the estimated reduction achieved by the control. For stormwater management controls, the report shall include the information required in Part I.C.4.a) and shall include whether an existing stormwater management control was retrofitted, and if so, the existing stormwater management control type retrofit used.</i></p>

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.1.j.	<p><i>the cumulative reductions calculated in Parts I.D.1.b), c) and d), including, as applicable:</i></p> <p><i>(a) Type of BMP;</i></p> <p><i>(b) Project name;</i></p> <p><i>(c) Location;</i></p> <p><i>(d) Percent removal efficiency for each pollutant of concern; and</i></p> <p><i>(e) Calculation of the reduction expected to be achieved by the BMP calculated and reported in accordance with the methodologies established in Part I.D.1.g) for each pollutant of concern.</i></p> <p><i>6) An estimate of the expected cost to implement the necessary reductions during the permit cycle; and</i></p> <p><i>7) A summary of any comments received as a result of public participation required in Part I.D.1.k), the permittee's response, identification of any public meetings to address public concerns, and any revisions made to the Chesapeake Bay TMDL action plan as a result of public participation.</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.1.k.	<p><i>Prior to submittal of the action plan required in Part I.D.1.j), the permittee shall provide an opportunity for public comment on the additional BMPs proposed to meet the reductions not previously approved by the Department in the first phase Chesapeake Bay TMDL action plan for no less than 15 days.</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.1.i.	<p><i>As part of the development of the Chesapeake Bay TMDL action plan, the permittee may consider use of the following:</i></p> <ol style="list-style-type: none"> <i>1) Implementation of BMPs on unregulated lands, provided any necessary baseline reduction is not included toward meeting the required reduction in this permit;</i> <i>2) Utilization of stream restoration projects, provided the credit applied to the required POC load reduction is prorated based on the ratio of regulated urban acres to total drainage acres upstream of the restored area;</i> <i>3) Establishment of a memorandum of understanding (MOU) with other MS4 permittees that discharge to the same or adjacent eight-digit hydrologic unit within the same basin to implement BMPs collectively. The MOU shall include a mechanism for dividing the POC reductions created by BMP implementation between the cooperative MS4s; and</i> <i>4) Any BMPs installed after June 30, 2009 as part of a retrofit program may be applied towards meeting the required load reductions provided any necessary baseline reductions are not included.</i> 	DPW, EMD, COD		
D.1.m.	<p><i>The permittee shall address any modification to the TMDL or watershed implementation plan that occurs during the term of this permit as a part of its permit reapplication as required in Part III.M of this permit.</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.1.n.	<p><i>Chesapeake Bay TMDL action plan implementation. The permittee shall implement the TMDL action plan required in Part I.D.1.j) of this permit according to the schedule therein. Compliance with this requirement represents adequate progress for this permit term towards achieving TMDL wasteload allocations consistent with the assumptions and requirements of the TMDL.</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
	<p><i>Documentation identifying which BMPs were completed within the current annual reporting period. The following information shall also be included:</i></p> <p><i>(a) For BMPs used to meet the Chesapeake Bay TMDL requirements of Part I.D.1, the SWM facility unique identifier number, total acreage treated, total impervious and total pervious acreage treated, the pollutants of concern load reductions reported in pounds per year, the pollutant removal efficiencies and source of each efficiency, as well as proposed BMPs planned for implementation during the next reporting cycle.</i></p> <p><i>(b) For retrofit projects used to meet the Chesapeake Bay TMDL requirements of Part I.D.1, the type of land use being retrofitted, the existing stormwater management facility type before retrofit, if applicable, retrofit type used, retrofit performed, completion date or anticipated completion date, total acreage retrofitted, total impervious and total pervious acreage retrofitted, the SWM facility unique identifier number, and if applicable, the incremental reduction credit achieved with the retrofit (the incremental credit is defined as the difference between the existing SWM facility reduction credit and the retrofit reduction credit attained) including pre and post pollutant retrofit removal efficiencies and source of each</i></p>			

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.1.o.	<p><i>efficiency.</i></p> <p><i>3) A list of BMPs implemented during the reporting period but not reported to the DEQ BMP Warehouse in accordance with Part II and the estimated reduction of pollutants of concern achieved by each and reported in pounds per year.</i></p> <p><i>4) If the permittee acquired credits during the reporting period to meet all or a portion of the required reductions in Part I.D.1.b), c) or d), a statement that credits were acquired.</i></p> <p><i>5) Documentation that sufficient control measures have been implemented (or documentation detailing that implementation will be complete by June 30, 2026, for the cumulative 40% reductions and June 30, 2028 for the cumulative 100% reductions) to meet the compliance targets identified in this section. If temporary credits or offsets have been purchased in order to meet the compliance targets, the list of temporary reductions utilized to meet the cumulative required reductions of L2 in this permit and a schedule of implementation to ensure permanent cumulative 40% and 100% reductions shall be provided.</i></p> <p><i>6) Following notification from the department of the start date for the required electronic submission of Chesapeake Bay TMDL implementation annual status reports, as provided for in 9VAC25-31-1020,</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
	<p><i>such forms and reports submitted after that date shall be electronically submitted to the department in compliance with this section and 9VAC25-31-1020. There shall be at least three months' notice provided between the notification from the department and the date after which such forms and reports must be submitted electronically.</i></p>			
	<p>D.2. TMDL Action Plans other than the Chesapeake Bay TMDL</p>			
<p>D.2.a.</p>	<p><i>The Permittee shall update, as necessary, and maintain a local TMDL action plan designed to reduce loadings for pollutants of concern if the permittee discharges the pollutants of concern to an impaired water for which a TMDL has been approved by the U.S. Environmental Protection Agency (EPA) as described in Part I D 2 a 1 and 2:</i></p>	<p>DPW, EMD, COD</p>	<p>The County's local TMDL action plans were submitted to DEQ on December 13th, 2016. The County received comments related to these plans on May 4th, 2018 and responded to them on June 29th, 2018. See appendix 17 for Local TMDL Action Plan Implementation.</p>	

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.2.a.1.	<p><i>For TMDLs approved by EPA prior to April 1, 2015 and in which an individual or aggregate wasteload has been allocated to the permittee (see Attachment 3 to the Fact Sheet), the permittee shall develop and initiate or update as applicable the local TMDL action plans to meet the conditions of Part I D 2 c, d, e, f, and g, as applicable, no later than 18 months after the permit effective date and continue implementation of the action plan. Updated action plans shall include:</i></p> <p><i>a) An evaluation of the results achieved by the previous action plan; and</i></p> <p><i>b) Any adaptive management strategies incorporated into updated action plans based on action plan evaluation.</i></p>	DPW, EMD, COD		
D.2.a.2.	<p><i>For TMDLs approved by EPA on or after April 1, 2015, and prior to the effective date of this permit, and in which an individual or aggregate wasteload has been allocated to the permittee, the permittee shall develop and initiate implementation of action plans to meet the conditions of Part I D 2 c, d, e, f, and g, as applicable no later than 30 months after the permit effective date.</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.2.b.	<p><i>The permittee shall complete implementation of the TMDL action plans as determined by the schedule. TMDL action plans may be implemented in multiple phases over more than one permit cycle using the adaptive iterative approach provided adequate progress is achieved in the implementation of BMPs designed to reduce pollutant discharges in a manner that is consistent with the assumptions and requirements of the applicable TMDL.</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.2.c.	<p><i>Each local TMDL action plan developed by the permittee shall include the following:</i></p> <ol style="list-style-type: none"> <i>1) The TMDL project name;</i> <i>2) The EPA approval date of the TMDL;</i> <i>3) The wasteload allocated to the permittee (individually or in aggregate), and the corresponding percent reduction, if applicable;</i> <i>4) Identification of the significant sources of the pollutants of concern discharging to the permittee's MS4 that are not covered under a separate VPDES permit. For the purposes of this requirement, a significant source of pollutants 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;</i> <i>5) The BMPs designed to reduce the pollutants of concern in accordance with Part I D 2 d, e, f, and g;</i> <ol style="list-style-type: none"> <i>a) Any calculations required in accordance with Part I D 2 d, e, f, and g;</i> <i>b) For action plans developed in accordance with Part I D 2 d, e, f, and g, an outreach strategy to enhance the public's education (including employees) on methods to eliminate and reduce discharges of the pollutants; and</i> <i>c) A schedule of anticipated actions planned for implementation during this permit term.</i> 	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.2.d.	<p><i>Bacterial TMDLs.</i></p> <p><i>1) The permittee shall implement at least six strategies designed to reduce the load of bacteria to the MS4. Table 3 provides a list of strategies which correspond to sources identified in Part I D 2 c 4. Additional strategies that are equivalent or better than the strategies provided in Table 3 may be used as approved by the Department.</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.2.e.	<p><i>Local sediment, phosphorus, and nitrogen TMDLs.</i></p> <p><i>1) The permittee shall select and implement strategies designed to reduce the loads associated with sediment, phosphorus, or nitrogen to the permittee's MS4. The permittee may implement this requirement through one or more of the following:</i></p> <p><i>a) One or more of the BMPs from the Virginia Stormwater BMP Clearinghouse listed in 9VAC25-870-65 or other approved BMPs found on the Virginia Stormwater BMP Clearinghouse website;</i></p> <p><i>b) One or more BMPs approved by the Chesapeake Bay Program. Pollutant load reductions generated by annual practices, such as street and storm drain cleaning, shall only be applied to the compliance year in which the annual practice was implemented;</i></p> <p><i>or</i></p> <p><i>c) Land disturbance thresholds lower than Virginia's regulatory requirements for erosion and sediment control and post development stormwater management.</i></p> <p><i>2) The permittee may meet the local TMDL requirements for sediment, phosphorus, or nitrogen through BMPs implemented or sediment, phosphorus, or nitrogen credits acquired. BMPs implemented and nutrient and sediment credits acquired to meet the requirements of the Chesapeake Bay TMDL in Part I D 1 may also be utilized to meet local TMDL requirements as long as</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
	<p><i>the BMPs are implemented, or the credits are generated in the watershed for which local water quality is impaired.</i></p> <p><i>3) The permittee shall calculate the anticipated load reduction achieved from each BMP and include the calculations in the action plan required in Part I D 2 c 5.</i></p> <p><i>4) No later than 36 months after the effective date of this permit, the permittee shall submit to the department an update on the progress made toward achieving local TMDL action plan goals and the anticipated end dates by which the permittee will meet each wasteload allocation for sediment, phosphorus, or nitrogen. The proposed end date may be developed in accordance with Part II B 3.</i></p>			

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
D.2.f.	<p><i>Polychlorinated biphenyl (PCB) TMDLs.</i></p> <p><i>1) For each PCB TMDL action plan, the permittee shall include an inventory of potentially significant sources of PCBs owned or operated by the permittee that drains to the MS4 that includes the following information:</i></p> <p><i>a) Location of the potential source;</i></p> <p><i>b) Whether or not the potential source is from current site activities or activities previously conducted at the site that have been terminated (i.e., legacy activities); and</i></p> <p><i>c) A description of any measures being implemented or to be implemented to prevent exposure to stormwater and the discharge of PCBs from the site.</i></p> <p><i>2) If at any time during the term of this permit, the permittee discovers a previously unidentified significant source of PCBs within the permittee's MS4 regulated service area, the permittee shall notify DEQ in writing within 30 days of discovery.</i></p> <p><i>3) As part of its annual reporting requirements, the permittee shall submit results of any action plan PCB monitoring or product testing conducted.</i></p>	DPW, EMD, COD		
D.2.g.	<p><i>Prior to submittal of the action plan required in Part I D 2 a, the permittee shall provide an opportunity for public comment for no fewer than 15 days on the proposal to meet the local TMDL action plan requirements.</i></p>	DPW, EMD, COD		

MS4 Action ID	Permit Requirement	Responsible Party	Program Plan Elements (Last Revised Jan. 2025)	Specific Reporting Requirement
E.1.c.	<i>A summary report of the monitoring programs listed under Part I.C.</i>		The annual reports will include a summary of the monitoring programs listed under Part I.C.	<i>Each annual report shall include a summary report of the monitoring programs listed under Part I.C.</i>
E.1.d.	<i>A summary of the implementation of each component listed under Part I.D.</i>		The annual reports will include a summary of the implementation of components under Part I.D.	<i>Each annual report shall include a summary of the implementation of each component listed under Part I.D.</i>
E.1.e.	<i>The Specific Reporting Requirements identified in this state permit.</i>		The annual reports will include the Specific Reporting Requirements.	<i>Each annual report shall include the Specific Reporting Requirements identified in this state permit.</i>
E.2.	Following notification from the department of the start date for the required electronic submission of annual reports, as provided for in 9VAC25-31-1020, such forms and reports submitted after that date shall be electronically submitted to the department in compliance with this section and 9VAC25-31-1020. There shall be at least three months' notice provided between the notification from the department and the date after which such forms and reports must be submitted electronically.			

Appendix 1: List of “Grandfathered” Projects

The list of projects that qualify under “grandfathering” from VSMP regulations are listed below:

Permit Number	Construction Activity Name	Permit Issued
VAR10G041	Mt Zion Baptist Church Joplin Road Infrastructure Plan	07/30/2014
VAR10G201	Nakkkusa Temple	08/29/2014
VAR10G312	Potomac Science Center at Belmont	10/17/2014
VAR10G362	Cow Branch Stream Restoration Phase 3	11/12/2014
VAR10G773	Wellington Plaza (Phase 2)	04/15/2015
VAR10H003	CABELA'S -[VIRGINIA GATEWAY]	06/16/2015
VAR10H003	Cabela's - Virginia Gateway	08/05/2015
VAR10H045	Purcell Road Widening and Realignment	06/25/2015
VAR10H180	Somerwood	07/29/2015
VAR10H181	Craftsman Autobody	07/29/2015
VAR10H301	Dominion - Possum Point Station	08/26/2015
VAR10H333	Estates at Websters Way	09/03/2015
VAR10H334	Wellingford Industrial Park - Skyworks of Virginia	09/03/2015
VAR10H371	Silver Lake Dam Rehabilitation	09/15/2015
VAR10H422	Prince William Commerce Center	10/01/2015
VAR10H640	The Farm at Broad Run	12/10/2015
VAR10H698	Roy Rogers Gainesville	01/06/2016
VAR10H704	Bristow Shopping Center	01/05/2016
VAR10H854	Sheetz - Caton Hill and Telegraph Road	02/23/2016
VAR10H912	Walnut Tree Farm	03/08/2016
VAR10H936	Prince William County Parkway Widening Phase II - Minnieville Road	03/10/2016
VAR10I024	Lake Point Business Park Prestige Preschool	04/01/2016
VAR10I036	Lake Ridge Middle School Building Addition	04/04/2016
VAR10I152	Prince William County Landfill	04/28/2016
VAR10I173	Blackburn Road	05/05/2016
VAR10I339	Woodbridge Commons Corner	06/09/2016
VAR10I655	American Legion Post 364	08/11/2016
VAR10I864	Antietam Sidewalk	09/26/2016
VAR10I897	Manassas Corporate Center Data Center Building 1	10/03/2016
VAR10I907	Tacketts Village Grocery	10/04/2016
VAR10I941	Prestige Preschool Reids Prospect	10/11/2016
VAR10J066	Bradley Forest Section 3	11/09/2016
VAR10J066	Bradley Forest Section 3	04/29/2019
VAR10J830	Everbrook Academy Gardner Station Phase 2B	11/16/2017
VAR10J830	Everbrook Academy Gardner Station Phase 2B	06/08/2017
VAR10J931	Life Time Fitness at Virginia Gateway	06/28/2017
VAR10K536	Heathcote Commons LandBay 3 Phase 3	04/02/2018
VAR10K536	Heathcote Commons LandBay 3 Phase 3	11/27/2017
VAR10L453	Eagles Pointe East LandBay D Section 1	07/24/2018
VAR10L453	Eagles Pointe East LandBay D Section 1	04/29/2019
VAR10L563	Carters Mill Route 55 Early Grading and Utility Plan	08/21/2018
VAR10L943	Aurora Estates	11/30/2018
VAR10L943	Aurora Estates	04/08/2019

Appendix 2: Watershed CIP Policies and Procedures




Standard Operating Procedure

Department of Public Works

Environmental Services Division

Title:	Watershed CIP Process
Number:	3.047.4
Subject:	Procedures and Policies for Watershed CIP Projects
Cross Reference:	APWA Management Practice(s) <u>10.8, 10.9, 11.2, 11.8, 11.9, 11.10, 11.11 & 11.12</u>
Date Issued:	January 18, 2012
Date Revised:	November 1, 2018
Date Last Reviewed:	May 15, 2015
Signature of Issuer:	<u>Marc T. Aveni</u> Marc T. Aveni, Environmental Services Division Chief
Applicability:	Environmental Services Division
Effective Date:	November 1, 2018



	SOP Title: Watershed CIP Process	SOP No.: 3.047.4
	Effective Date: 11/01/2018	Supersedes Policy Dated: 05/15/2015

A. Purpose

This Standard Operating Procedure (SOP) describes all important aspects and procedures for the resource management, evaluation, design and construction (in-house/out-source) of Environmental Services Division for Capital Improvement Program (CIP) projects.

B. Applicability

This SOP applies to all employees within the Environmental Services Division of Public Works.

C. Specifics

This SOP pertains to all activities associated with the various phases of the CIP.


1. References & Permits

- County Design & Construction Standards Manual
- Virginia Department of Transportation (VDOT) Specifications Permits (where applicable)
- VDOT Land Use Permit
- Virginia Stormwater Management Program (VSMP) Permits
- Corps of Engineers Section 404 Permit
- VA Department of Environmental Quality (DEQ) Water Protection Permit
- Virginia Marine Resources Commission (VMRC) Permit

2. Storm Drainage Improvement – CIP

- Project Initiation: Storm drain improvement request directly from impacted property owner(s), through District Supervisor, Public Works Director, or the County Public Works inspection and maintenance staff
- Inspection and Evaluation: The request is recorded as a complaint (CMP) case in EnerGov™, then assigned to the staff for site inspection and meeting with the impacted property owner(s)
- Qualification for CIP Funding: The project is subject to the approval of “Project Qualification for Public/CIP Funding” Analysis
- Project Tracking and Quarterly Reports: The projects are entered in the “County Project Manager” and progress reported as QPR – Quarterly Project Report
- Project Activities: The approved projects are ready for the following activities contingent upon availability of CIP funding:
 - a. Right of entry: secured and/or Easement Verification / Temporary Construction Easement / Permanent Maintenance Easement
 - b. Field Survey
 - c. Design: detailed design to meet the County/State standards



	SOP Title: Watershed CIP Process	SOP No.: 3.047.4
	Effective Date: 11/01/2018	Supersedes Policy Dated: 05/15/2015

- d. Project Accounts Management
- e. Construction and Project Completion/Closeout
- f. Project Progress Updates: EnerGov, County Manager™, storm drain Inventory and GIS and other financial records.


3. Watershed Improvement Projects

- Project Identification: Watershed improvement projects include stream restoration, water quality retrofits to existing SWM facilities and new water quality BMPs. These are identified by various sources including watershed studies, project studies, stream assessments, and SWM/BMP inventory.
- Project Feasibility and Selection: Projects are:
 - Selected from the list created in the Project Identification”.
 - Inspected in the field
 - Evaluated by staff to
 - Determine the feasibility
 - Assign a priority ranking
 - Develop projected cost
 - Verify availability of funds
 - Identify project phasing plan if necessary
- Project Qualification for Public Funding Form is prepared and approved by Watershed Management Branch Chief prior to project being approved for implementation.
- Project Tracking: Select projects for implementation:
 - Entered into the County Project Manager, the County Project Management System
 - Progress reported as QPR until project closeout
- Project Implementation: The following project activities are processed:
 - Right of Entry Secured and/or Easement Verification / Temporary Construction Easement / Permanent Maintenance Easement
 - Field Survey
 - Design and Plan Approval
 - Project Accounts Management
 - Construction, Project Completion/Closeout
 - Update EnerGov™, County Project Manager, Stormwater Inventory, GIS and other records other Records.

D. Authority

The approving authority for this SOP is the Environmental Services Division Chief. Any changes to or deviations from this SOP must be approved by the Environmental Services Division Chief.



	SOP Title: Watershed CIP Process	SOP No.: 3.047.4
	Effective Date: 11/01/2018	Supersedes Policy Dated: 05/15/2015

E. Administration

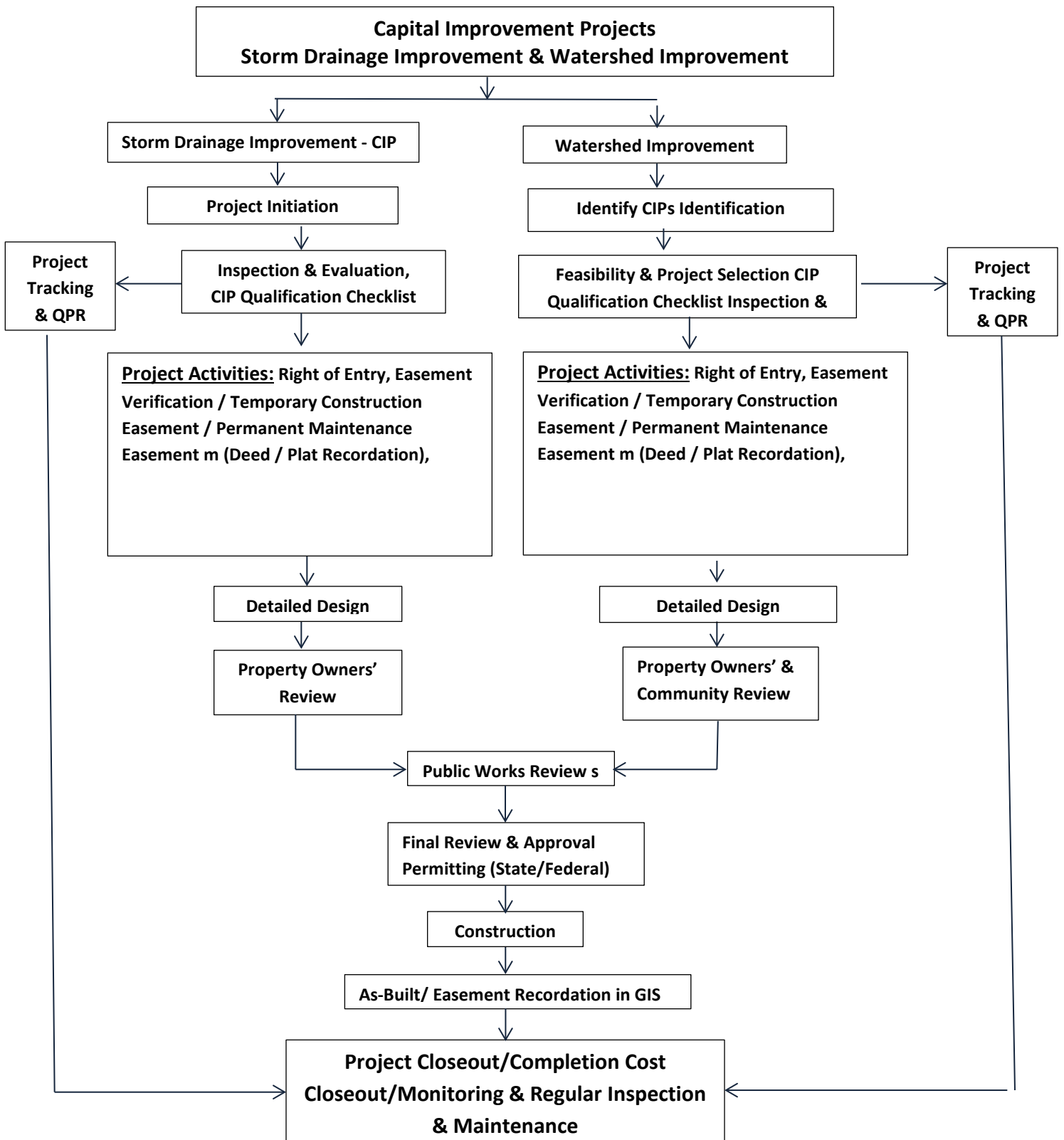
The administration of this SOP shall be the responsibility of the Environmental Services Division Chief and Watershed Management Branch Chief.

Attachments:

- Flow Chart
- Project Qualification for Public Funding Form



Flow Chart



Stormdrain & Watershed Improvement Project

Project Qualification for Public Funding - Check List

<u>Basic Information</u>			
Requestor's Name		Address:	
Property address		Watershed:	District:
Project initiated by	Property Owner / Elected Officials / Director, Division or Branch Chief / Other:		
<u>Legal Impact(s):</u>			
Storm drain easement exists	Yes / No	If No, explain:	
Storm drain easement needed	Yes / No	If No, explain:	
No. of impacted properties			
Any other legal impact	a. Permit (s) required for land disturbing > than 2500 sft.		
	b. Courtesy notification to explain the purpose is required		
<u>Activities:</u>			
RoE & easement acquisition	Yes / No	Comments:	
Field survey	Inhouse / A/E Vendor / NA	Est. Cost:	\$ -----
Design	Inhouse / A/E Vendor / NA	Est. Cost:	\$ -----
Requestor's design review	Inhouse / A/E Vendor / NA		
Field survey & plat preparation	Yes / No / NA	Est. Cost:	\$ -----
Construction	Inhouse / Contractor	Est. Cost:	\$ -----
Purchase of construction mater	Yes / No	Est. Cost:	\$ -----
Easement recordation	Pending / Completed	Est. Cost:	\$ -----
<u>Fiscal Impact (s)</u>			
Total Est. Cost:	\$-----	Availability of funds:	Yes No (Alternative on sheet attached)
CIP OCA	#xxxxxx	Board approval	Yes / No
<u>Approval Process</u>			
Request initiated by		Comments	
Recommended by		Comments	
Reviewed & recommended by Branch Chief	Signature: -----		Date -----
Approved by Division Chief	Signature: -----		Date -----

Appendix 3: Road Maintenance Procedures

15. SNOW REMOVAL

B & G is responsible for snow removal at all County facilities maintained by B & G. It is B&G's goal to have all facilities passable within 48 hours of the end of a winter weather event. Snow removal is completed with B&G staff and contractual resources.

- a. The following B&G snow response information must be reviewed and updated annually and distributed to B&G supervisory staff:
 1. "Snow and Emergency Notification List (After Hours)"
 - Appendix V "Notification List"
 - "Personnel" spreadsheet
 - Appendix W "Personnel"
 - "In-house West Schedule"
 - Appendix X "In-house West Schedule"
 - "PWC Sites" listing; compilation of B&G and Property Management (PM) building locations
 - Appendix Y "PWC Sites Sample"
- b. The following information is also distributed to the B&G snow removal contractor:
 - "B & G Division Snow and Emergency Response Plan" cover sheet Appendix Z
 - "Contractor Schedule" – listing of locations and priorities
 - Appendix AA "Contractor Schedule"
 - "24-hour locations"
 - Appendix BB "24-hour Locations"
 - "Road Chemical Distribution Log" form – to be returned to B&G at end of shift Appendix CC
 - Map – aerial views of each site Appendix DD
- c. The following informational memos/letters are also distributed to agencies outside B&G:
 - "Point of Contact for Weather Warnings – Winter Storms" memo; Emergency Services Coordinator, F&R Chief, and Police Chief Appendix EE

- “Snow Removal Operations” memo; all County Departments and Agencies Appendix FF
- “Ice Melt Direction” submitted to Risk Management for publication – PWConnects Headlines Appendix GG
- “FAQ’s Snow Removal” submitted to PW Director’s Office for posting on the B&G website Appendix HH
- “Prince William County Emergency Operations Plan” updates should be submitted to F&R. Section “ESF 3B: Snow Removal Plan” is the part relating to B&G.
- Buildings & Grounds Snow Removal Equipment memo Appendix II

Appendix HH
FAQ's Snow Removal FY15

How does B&G prepare for the snow and ice season?

- ◆ During the fall, Buildings & Grounds staff get ready by stockpiling chemicals at strategic locations.
- ◆ Equipment is tested, fire hydrants and storm drains are marked, and contactor information is confirmed.

What areas is B&G responsible for clearing?

- ◆ B&G is responsible for clearing roads, parking lots, and walkways around thirty-nine (39) County-owned properties.
- ◆ County agencies operating out of leased facilities should contact the Property Management Leasing Agent to find out who is responsible for clearing their areas.
- ◆ County Park sites (Recreation/Community Centers and Golf Courses) are the responsibility of the Department of Parks & Recreation.

How does B&G decide which sites to clear first?

- ◆ Priority goes to locations that are staffed/open 24/7.
- ◆ Main roadways which carry the most traffic get top priority.
- ◆ Parking lots also get early snow removal attention.
- ◆ Main walkways, those leading to the front visitor entrance of the building, are top priority during operating hours and while snow/ice is occurring.
- ◆ Once the snow stops, secondary access points into a facility are cleared and treated. Additional "touch-up" work is done to clear more parking spaces and widen roadway access.

How soon will all areas be passable after a storm?

- ◆ Our goal is to make all areas **passable** within 48 hours **after** a storm ends.
- ◆ B&G snow removal crews and contractors work around the clock when a storm occurs until conditions are safe for traveling. At night, icy patches on roads, in parking lots, and on walkways, are treated with abrasives.

What is put down on the roads?

- ◆ Salt is most effective after the snow has accumulated about an inch and the temperature is 27 degrees Fahrenheit or higher. Under these conditions, the salt and snow will mix, melting the snow into a slush that can be plowed off the pavement. This melting occurs within two hours or sooner if traffic is using the roadway and parking lot.
- ◆ Abrasives (sand) are put down to aid traction, and calcium chloride can be added to melt the ice and snow. If the temperature is below 27 F, the salt will not melt the snow and ice, so other methods are used.
- ◆ In order to protect plow equipment from excessive wear, B&G uses an indicator level of 2" minimum before plowing roadways and parking lots.

What is put down on the walks?

- ◆ Mr. Magic Premium Ice Melt manufactured by The Kissner Group
 - Material Safety Data Sheets are available from Intranet Speed Dial (M)SDS




Standard Operating Procedure

Department of Public Works

Environmental Services Division

Title:	Construction Services Snow/Ice Removal Plan
Number:	3.037.1
Subject:	Construction Services Snow/Ice Removal Procedures
Cross Reference:	APWA Management Practice(s) <u>Chapter 26</u>
Date Issued:	February 28, 2012
Date Revised:	December 12, 2018
Date Last Reviewed:	December 12, 2018
Signature of Issuer:	<u>Marc T. Aveni</u> Marc T. Aveni, Environmental Services Division Chief
Applicability:	Environmental Services Division
Effective Date:	December 12, 2018



	SOP Title: Construction Services Snow/Ice Removal Plan	SOP No.: 3.037.1
	Effective Date: 12/12/2018	Supersedes Policy Dated: 06/15/2015

A. Purpose

The purpose of this Standard Operating Procedure (SOP) is to document the snow/ice control removal plan for the Environmental Services Division Construction Services Branch. This SOP details all the facets of the snow/ice control removal plan for Construction Services.

B. Applicability

This SOP is applicable to the Environmental Services Division Construction Services Branch.

C. Specifics of the SOP

a. Adoption of PWC EOP ESF 3B

This plan adopts the responsibilities given to the Environmental Services Division as listed in the Prince William County Emergency Operations Plan (EOP) Emergency Support Function (ESF) 3B Snow Removal Plan. (Attachment A)

b. Weather Monitoring

The Construction Services Branch is responsible for monitoring the weather for the Branch. The Construction Services Branch Chief (Branch Chief) does this via the internet, local radio and TV stations. Also, the Branch Chief is on the email list of the County Emergency Services Coordinator. The emergency services coordinator tracks the weather and provides updates to employees with emergency management responsibilities throughout the County.

c. Employee Scheduling

The Branch Chief is responsible for mobilizing the branch for snow removal operations. Attachment B lists who is called in for snow removal operations. Snow/ice removal work is generally completed between 4:00a.m. and 7:00p.m.


d. Snow and Ice Control Materials

Construction Services uses a grit mixture of one (1) ton stone screenings and 50 pound of salt. The grit mixture is mixed at the Operations Building, if any is stored, it is stored in the concrete bay shown on Attachment C. The salt is purchased from local suppliers. Stone screenings are purchased from Cedar Mountain Stone or Vulcan Materials.

e. Equipment

Attachment D lists all of the equipment used by Construction Services for the purposes of snow/ice control. During the month of November, the crew supervisors are responsible for completing an equipment drill. At this same time, a training meeting is held with all employees to review snow removal procedures and projects for the upcoming season. As a part of this drill all the equipment is set up for snow/ice control and inspected for issues. Also, during this drill all equipment is calibrated to the proper settings. All issues identified during this must be rectified by December 15th each year.



	SOP Title: Construction Services Snow/Ice Removal Plan	SOP No.: 3.037.1
	Effective Date: 12/12/2018	Supersedes Policy Dated: 06/15/2015

f. **Snow Removal Projects**

Attachment E is a list of snow removal responsibilities for Construction Services. These locations are all non-primary streets or parking lots. Therefore, snow/ice responses are generally limited to the hours of 4:00 a.m. to 7 p.m. Exceptions are at the discretion of the Branch Chief.

g. **Material Loading**

Material Loading is completed at the Operations Building. Attachment F details the loading procedures. Loading procedures are reviewed during morning crew meeting prior to the start of the snow/ice season.

h. **Removal Procedures**

The Branch has a curb to curb policy for cleaning streets. After precipitation has stopped, crews must clear or treat the streets from curb to curb. Grit is applied to surfaces after the event has ended. The removal expectations are reviewed during morning crew meetings prior to the start of the snow/ice season.

D. Authority

The approving authority for this SOP is the Environmental Services Division Chief. Any changes to or deviations from this SOP must be approved by the Environmental Services Division Chief.

E. Administration

Administration of this SOP shall be the responsibility of the Environmental Services Division Chief.

Attachments

Attachment A: Prince William County EOP ESF 3B Snow Removal Plan

Attachment B: Lists who is called in for snow removal operations

Attachment C: Picture of the building at Ops in which “grit” is stored in.

Attachment D: Lists all of the equipment used by Construction Services for the purposes of snow/ice control.

Attachment E: List of snow removal responsibilities for Construction Services

Attachment F: Details the loading procedures



ATTACHMENT A

Prince William County EOP
ESF 3B Snow Removal Plan

**ESF 3B SNOW REMOVAL PLAN
TABLE OF CONTENTS**

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Revised: 12/08

INTRODUCTION

To remove accumulated snow from County facilities and other designated areas to ensure access by employees and citizens, to maintain normal government operations and services to the maximum extent possible. To quickly call in additional resources to supplement the routine snow plan and prepare to handle additional work assignments as directed by the Office of Emergency Services.

AUTHORITIES AND REFERENCES

- A. Authorities
- B. References

PURPOSE

The purpose of this appendix is to remove snow from County facilities to ensure access and maintain government.

SITUATION AND ASSUMPTIONS

A. Situation

The average seasonal snowfall for the region as measured at Washington Reagan National and Dulles Airports by the National Weather Service (NWS) is between 16.6 and 22.8 inches. Snowfall occurs several times a season and the accumulation of snow results in limited access to County facilities and interferes with transportation. Prince William County rarely experiences a major snowstorm in which the severity of the storm exceeds the capability of the County's assets to clear the snow from the County facilities in a safe and timely manner.

B. Assumptions

1. The average snowfall will be within the expected range.
2. Weather forecasts will be accurate enough to provide sufficient warning to mobilize personnel, equipment, and contractors.
3. Personnel and equipment resources required that are not currently County assets will be available from regional sources.
4. This annex would be put into effect when the routine snow removal plan becomes ineffective.
5. All available County-owned equipment assigned to the Division is being utilized.
6. Movement is affected by the nature and scope of the snow.
7. Fleet Maintenance will be available to provide vehicle maintenance support and wrecker service as necessary.

ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

A. Organization

1. The Director of Public Works is responsible for planning, organizing, and coordinating snow removal operations.
2. Other County departments will be prepared to provide assistance to the Department of Public Works.

B. Assignment of Responsibilities

In the event of an emergency, the Chief of the Buildings and Grounds Division will assume full responsibility for efficient coordination of the following groups that will be necessary in carrying out the mission:

1. Buildings and Grounds Administration

Office staff will be brought in or take action from home to call contractors who have necessary equipment and material at strategic locations to assist in snow removal.

2. Courier support will be available for special assignments as directed.

3. Building Operating Engineers and staff are expected to be at their hubs or other designated locations conducting regular snow removal efforts. Upon direction they will shift priorities to support emergency operations.

4. Grounds Maintenance and Housekeeping Staff

5. It is assumed that members of this group have already put in over 8 hours in snow removal. Actions will start to rotate these employees so utilization of all available assigned equipment can be maximized and staff rotated.

6. Environmental Services Division Snow Plow Responsibility

a. Assist VDOT

- (1) Areas designated by VDOT snow plow plan in eastern Prince William County: Dumfries, Woodbridge, Dale City, etc.
- (2) Areas designated by VDOT snow plowing plan in western Prince William County excluding: Bull Run Mountain Estates.

b. County Designated Areas (By Priority)

- (1) Landfill and Fleet yard (sand)
- (2) Balls Ford Facility Mulch Yard
- (3) Railroad Avenue
- (4) Innovation Technology Park (Innovation Drive, Assett Loop, Discovery Boulevard, University Boulevard (Innovation section only)
- (5) Mockingbird Heights Road (South of Fuller Heights Rd.)
- (6) Defaulted Subdivisions (Palace Court, etc.)
- (7) Post Office Road (behind B.J.'s Wholesale)

ATTACHMENT A

Prince William County EOP
ESF 3B Snow Removal Plan

- (8) Rippon Lodge Driveway
7. Buildings and Grounds Division priorities during the emergency would be as follows:
 - (1) Gas pumps - Gar-Field and Western District
 - (2) County Complex
 - (3) Police access - Gar-Field and Western District
 - (4) Juvenile Detention Center
 - (5) Facilities operating 24-hours per day such as: Juvenile Emergency Shelter, Animal Shelter (PW Environmental Services), Group Home for Boys and Group Home for Girls (PW Environmental Services). Hilda Barg Homeless Prevention Center, and Hypothermia Unit/Winter Shelter.

CONCEPT OF OPERATIONS

- A. The Department of Public Works will coordinate snow removal activities for the County using County staff and equipment supplemented by contractors when necessary.
 1. Buildings and Grounds Division will centralize the coordination of snow removal activities for County buildings and will operate from the office at 9412 Peabody Street.
 2. Environmental Services Division will coordinate snow removal from designated areas and buildings.
 3. Property Management Division will facilitate snow removal from leased County properties through coordination with building owners/management.
 4. Department of Development Services will provide inspectors from its Building Development Division to evaluate roof loading and snow accumulation and provide advice regarding occupancy issues upon request.
- B. Communications with employees will be by cell phones/Nextel radio and commercial phones, or 800 MHZ portable radio in the event of commercial/cell phone communication services are not available.
- C. The Department of Public Works will provide staff personnel to the Emergency Operations Center (EOC) or other designated command centers upon request from the Office of Emergency Services.
- D. The Department of Public Works will be responsible for soliciting other qualified County employees for assistance in operating and providing relief of snow removal equipment operators.
- E. The Department of Public Works will re-assess priorities and respond to requests for assistance from the Office of Emergency Services/Management.

- F. The Buildings and Grounds Division will centralize coordination of its staff from the building at 9412 Peabody Street, Manassas. Buildings and Grounds Operations Center - Phone 703-792-6390.
- G. Additional qualified County employees would be solicited from other County agencies for assistance as required, mainly in relief operating snow removal equipment.
 - 1. National Guard Armory (mobilization only)
 - 2. Assist at Adult Detention Center
- H. Priorities will be changed as necessary by the Office of Emergency Services and the Director of Public Works for handling facilities not listed.

ADMINISTRATION AND LOGISTICS

- A. Administration
 - 1. All records and reports will be maintained by each Public Works Division and submitted to the assigned Department Coordinator for compilation and submission to the Planning Section Documentation Unit as directed.
 - 2. Tracking records and reports of administrative data
 - a. Hours worked
 - b. Location and type of the work performed
 - c. Pay rate of personnel performing work
 - d. Expenditures
 - a. Expenditures
 - (1) Purchase orders
 - (2) Invoices
 - (3) Vouchers
 - 3. Detailed records regarding costs associated with snow removal operations will be maintained to provide input for requests for disaster assistance funds.
 - 4. The Environmental Services Division has limited resources for snow removal in expanded areas of responsibility. The crew chief will decide if extended working hours may be necessary in addition to allocating the most efficient use of team members and equipment within the crew. Activity records and time sheets will be submitted daily.
 - a. This organization structure will remain in effect until snow removal activities have been completed. Normal working hours will be re-established for all employees unless team members work more than a normal shift. In this instance, schedules will be adjusted to eliminate continued work in successive shifts.

ATTACHMENT A

- b. The crew supervisor will assume responsibility of the crew team during follow-up shifts of extended involvement during scheduled absence of the crew chief.
- c. The Environmental Services Division chief has the authority to reorganize/reschedule crews as the situation warrants.
- d. With the director's concurrence, the Environmental Services Division Chief can authorize personnel to take a 4x4 vehicle home to shuttle the crew.
- e. The Environmental Services Division chief is to be informed if the crew chief is unavailable at home in the event of snow forecast.
- f. The Environmental Services Division chief is to be kept informed of field activities.
- g. Crew members responsible for snow removal in designated areas will be in touch through their respective radio units. Base station #8 (OTFSS) will; however, coordinate activities with the division chief by telephone, if needed. Crew members can also be provided with "quarters" by the division secretary to make use of pay phones radio contact is lost.
- h. The activation of the snow removal plan may be partial for a specific area. The crew chief will coordinate resources accordingly.
- i. Crew chiefs are responsible for winterizing the equipment before November 15. Installation of snow plows is also to be completed by November 15.

B. Logistics

1. Procurement of equipment and supplies

- a. The normal procurement process will be followed for each agency or organization. However, if resources are not available, the request will be processed through the Logistics Section and will follow the VDEM SALTT request process. The following information should be included in all resource requests:
 - (1) Size
 - (2) Amount
 - (3) Location
 - (4) Type of resource
 - (5) Time frame in which it is needed
- b. Specialized equipment or supplies will also be requested through the Logistics Section.

2. Personnel

- a. Requests for additional personnel will be processed through the National Capital Region (NCR) mutual aid agreements (MAAs) that are currently in place.

ATTACHMENT A

- b. Additional personnel requests will be requested via the Statewide Mutual Aid (SMA) program. SMA information is found on the Virginia Department of Emergency Management's (VDEM's) Website at vaemergency.com (See ESF 5, Attachment A, VDEM SMA Event Agreement).
- C. Excessive snow storms could be declared disasters and might fall under Category A under the Robert T. Stafford Act for Debris Removal.
- D. Buildings and Grounds will maintain an initial stock of ice melting chemicals for immediate use at major County buildings. Additional supplies will be stored at the Buildings and Grounds Warehouse.
 - 1. Material kept on hand
Buildings and Grounds (B&G) pre-positions an initial stock of ice melting chemicals at major facilities for immediate use. Backup supplies will be stored at the Bennett Administration Building.
- E. Material availability - Additional and replacement materials are available and will be obtained from local sources in accordance with existing procedures.
 - 1. Southern States - salt, shovels, winter gear, urea fertilizers
 - 2. Virginia Department of Transportation - salt, sand
 - 3. Local hardware stores - gloves, shovels, ice melt
 - 4. Vulcan Quarry - sand, fine ground rock
- F. B&G Snow Equipment (by Hub):
 - 1. Manassas and Judicial Center Hubs
 - 4x4 pickup trucks (6) with blades Snow Scrapers
 - 2 Sand trucks Snow Scoops
 - Snow blowers (3) De-Icer
 - Wheel horse tractor with blade Ice melt spreaders
 - 2. Central Hub:
 - 4x4 pickup truck with blade Snow Scrapers
 - Wheel horse tractor with blade Snow Scoops
 - Kubota tractor with blade Snow Blower
 - De-Icer Ice Melt Spreader

ATTACHMENT A

3. Eastern Hub:

4x4 Pick Up truck with blade	Snow Scrapers
Wheel Horse tractor with blade	Snow Scoops
Snow Blowers (2)	De-Icer
Ice Melt Spreader	

4. B&G - Western Hub:

4X4 Pick Up with blade	Snow Scrapers
Wheel Horse tractor with blade	Snow Scoop
Ice Melt Spreader	De-Icer
Snow Blower	

5. B&G - Independent Hill Hub

Kubota tractor with blade	Snow Scrapers
Snow Blower	Snow Scoops
Ice Melt Spreader	

Environmental Services Division - Snow Equipment	
Pickup with plow & sander & plow	ES 1711 & ES 1944 & ES 124
Pickup with plow & sander & plow	ES 1710 & ES 1943 & ES 125
Boom Truck with plow & sander	ES 1565 & ES 1565 & ES 2828
Small Dump truck with plow & sander	ES 1560 & ES 128 & ES 1804
Motor Grader	ES 1027
B21 Kubota	ES 1699
Kubota Tractor	ES 2145
Backhoe	ES 1924
Skid Steer	ES 1026
Case Rubber Tire Loader	ES 2536

ATTACHMENT A

Snow Blower	ES 1471		
Track Bobcat	ES 2663		
Track Bobcat	ES 2797		
Vehicles 4x4	ES 1295	ES 1711	ES 1849
	ES 1412	ES 1712	ES 1955
	ES 1527	ES 1713	ES 2033
	ES 1573	ES 1714	ES 2034
	ES 1574	ES 1715	ES 2035
	ES 1617	ES 1847	ES 2036
	ES 1710	ES 1848	ES 2184
	ES 2514	ES 2496	ES 2189

3.037.1 Construction Services Snow/Ice Removal Procedures

ATTACHMENT B

Employees working with County during Snow removal (not going to VDOT)

Revised 12/17/2018

Snow Team #1

Name	Cell Phone	Home Phone
Matt Bowman	571-245-6470	703-609-5052
Stanley Friend	703-855-8088	540-760-9930
Danny Garber	703-307-0452	703-497-0777

Snow Team #2

Name	Cell Phone	Home Phone
Raymond Zuspan (supervisor)	703-898-7267	540-439-5247
Bill Brooks	703-888-6974	703-754-1343
Stacey Breeding	540-718-6589	540-937-5039

When snow is forecast Lucas Hisghman will notify the supervisors of each team with the time their team is scheduled to work. The supervisors will notify the men on their teams.

The Landfill opens at 6am Saturdays, 9am Sundays and 6am weekdays.

Mulch yard opens at 7am Saturdays, 9am Sundays and 7am weekdays.

Any mechanical problems with trucks call Tim Childers at 571-238-4362. Fleet takes care of all trucks in emergencies.

Police non-emergency number to report accident in county vehicle is 703-792-6500.

If you are driving a CDL vehicle and are involved in an accident and are issued a ticket or someone is killed, you must contact your supervisor and be taken to Prince William Hospital for a drug and alcohol test immediately.

Other Numbers:

Marc Aveni	571-722-4353	703-257-1422
Lucas Hisghman	703 898-7269	540-220-9276
Ops Fax	703 792-5763	
Ops Bay Phone	703 792-5385	
Sign Shop	703 792-5765	
Police non-emergency	703 792-6500	

Attachment C



3.037.1 Construction Services Snow/Ice Removal Procedures

ATTACHMENT D

CONSTRUCTION SERVICE BRANCH

Revised 12/17/2018

Snow Removal Equipment

Primary Equipment

ES 3558-F750 medium dump truck (Raymond's)
ES 1805-sander for ES3558 (no remote starting)
ES 123-plow for ES 3558
ES 3557 Super duty 3500 (Matt's)
ES 2828-sander for ES 3557
ES 126-plow for ES 3557
ES 3440-super duty 3500 (Raymond's)
ES 1944-sander for ES3430
ES 125-plow for ES3430
ES 3418-super duty 3500 p/u
ES 1943-sander for ES3418
ES 124-plow for 3418

Supplemental Equipment

ES 1699-B21 Kubota
ES 2145-Kubota Tractor
ES 1450-JCB Backhoe
ES 1924-JCB 214S Backhoe
ES 2536-Case Rubber Tire Loader
ES2663-T300 Bobcat skid steer
ES2797-S300 Bobcat skid steer
ES2990-T190 Bobcat skid steer
ES3483-T750 Bobcat skid steer

All equipment for snow removal operations is to be inspected during the month of November and be fully operational by December 15.

As part of the inspection and preparation process all sanders will be calibrated to ensure they put down the proper amount of anti-icing materials. The gate opening from the storage box to the spinner is adjustable from 1 to 4 inches. As part of the calibration process the box is loaded with material and we conduct test passes in the parking lot adjusting the gate until material is spread 12 feet wide in an even pattern. Past experience has shown that 3 inches is the best setting to use.

3.037.1 Construction Services Snow/Ice Removal Procedures

ATTACHMENT E

CONSTRUCTION SERVICE BRANCH

Revised 12/17/18

Snow Removal Projects

Project Name	Priority Rating
Landfill and sand Fleet yard (807)	1
Balls Ford Mulch Yard (1002)	2
Railroad Avenue (609)	3
Mockingbird Heights stub (609)	4
Post Office Road (609)	5

Assignments

Team #1 – Matt Bowman

<u>Crew</u>	<u>Equipment</u>	<u>Projects</u>
Matt Bowman	ES 3440 Sander Plow	Mulch Yard
Danny Garber	ES3418 Sander Plow	Railroad Avenue Mockingbird Heights Post Office Road
Stanley Friend	ES3557 Plows Sanders	Landfill

Team #2 – Raymond Zuspan

<u>Crew</u>	<u>Equipment</u>	<u>Projects</u>
Raymond Zuspan	ES3440 Sander Plow	Mulch Yard
Stacey Breeding	ES3418 Sander Plow	Railroad Avenue Mockingbird Heights Post Office Road
Bill Brooks	ES3557 Plows & Sanders	Landfill

3.037.1 Construction Services Snow/Ice Removal Procedures

ATTACHMENT F

Loading Procedures for Stone Screenings/Salt Mix

Revised 12/17/18

The machines and procedures listed below will be used to load the stone screening/salt mix stored in the covered shed onto the truck mounted sanders. One 50 lb. bag of salt to be mixed with each ton of stone screenings when delivered. Look at the weigh ticket after screenings are dumped. If 12 tons were delivered, then break up 12 bags of salt on top of pile of screenings and mix together in storage bin with rubber tire loader ES 2536.

Super Duty 3500 trucks with orange painted sanders:

Truck is to be parked with brake on.

All chains and straps securing sander are to be inspected

ES 2052 Kubota tractor or the Bobcat skid steers will be used to load the sanders mounted on super duty 3500 trucks

Each bucket of screenings/salt mix loaded by the Kubota tractor weighs approximately 1500 pounds.

Each bucket loaded by the skid steers weighs approximately 1800 pounds

Maximum Load 3600 lbs. screening/salt on super duty 3500 trucks

2 buckets from the skid steers or the Kubota tractor.

ES 3558 with stainless steel sander

Truck is to be parked with brake on.

All chains and straps securing sander are to be inspected

Bobcat skid steers or JCB backhoes will be used to load the sander mounted on ES 3558

Each bucket of screenings/salt mix loaded by the skid steers weighs approx. 1800 pounds

Each bucket of screenings/salt mix loaded by JCB weighs approx. 4000 pounds

Maximum Load 8000 lbs. Screening/salt on ES3558

4 buckets from skid steer

2 buckets from JCB backhoes

All equipment used to load or mix screening/salt mix needs to be power washed as soon as event is over.

Appendix 4: Pesticide, Herbicide, and Fertilizer Procedures

200.4.6 PESTICIDE, HERBICIDE, FERTILIZER APPLICATION, STORAGE, TRANSPORT AND DISPOSAL

Application, storage, transport, and disposal of any pesticide, herbicide, and fertilizer products must be done in a manner that minimizes the impact to the environment to the greatest extent practicable. When performing these activities, the following conditions must be met:

Application

- Apply materials on an as needed basis only and at a time the target is most receptive/susceptible and effective
- Do not exceed application rates defined on the product label
- Utilize only properly trained or certified personnel to perform applications of these chemicals

Storage

- Store all pesticide, herbicides and fertilizer indoors or under covered areas, with proper labeling on both the containers and the storage structure
- Keep an inventory of storage areas in case of a fire
- Conduct regular inspections of storage areas

Transport

- Secure materials during transport to prevent spills and/or utilize secondary

Containment

- Follow the Virginia Department of Agriculture and Consumer Services pesticide safety guidance when transporting pre-mixed chemicals
- Equip vehicles that transport liquid products with a spill kit

200.5.2 PESTICIDE AND HERBICIDE APPLICATION TRAINING

Employees and contractors who apply pesticides and herbicides must be properly trained or certified per the Virginia Pesticide Control Act (§3.2-3900 et seq. of the Code of Virginia).

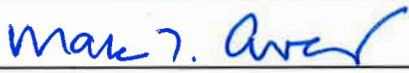
Appendix 5: Dry Weather Monitoring



Standard Operating Procedure

Department of Public Works

Environmental Services Division

Title:	Dry Weather Monitoring Program
Number:	3.047.6
Subject:	Identification and Removal of Unauthorized Non-Stormwater Discharges to the County's MS4.
Cross Reference:	APWA Management Practice (s) <u>N/A</u>
Date Issued:	June 9, 2015
Date Revised:	November 1, 2018
Date Last Reviewed:	June 9, 2015
Signature of Issuer:	 Marc T. Aveni, Environmental Services Division Chief
Applicability:	Environmental Services Division
Effective Date:	November 1, 2018





SOP Title: Dry Weather Monitoring Program		SOP No.: 3.047.6
Effective Date: 11/01/2018	Supersedes Policy Dated: 06/09/2015	

A. Purpose

The purpose of this standard operating procedure is to describe the methods for the detection and elimination of all unauthorized, non-storm discharges to the County's Municipal Separate Storm Sewer System (MS4).

B. Applicability

This SOP applies to all storm sewer infrastructures in Prince William County's MS4 through the authority established by the County's MS4 permit, applicable County ordinances, the Virginia Department of Environmental Quality (DEQ), and United States Environmental Protection Agency (USEPA).

C. Specifics

1. Routine Inspection

- a. Stormwater outfalls shall be inspected by County Water Quality Inspectors to check for dry weather flows (See flow chart in Attachment A). A period of at least 48 hours of dry antecedent conditions should exist prior to an inspection. Outfalls to be inspected shall be selected from a prioritized list. The prioritized list will be determined by the following criteria:
 - i. Age and density of development
 - ii. Outfalls representing the general land uses of the county
 - iii. High risk businesses such as gas stations, service centers, and shopping centers
 - iv. Presence of environmentally sensitive elements
 - v. Citizen complaints received on illicit discharges
- b. Upon arrival at the site, an outfall inspection form will be completed using the Illicit Discharge Detection and Elimination (IDDE) mobile application. The outfall inspection form directs the inspector through the identification and characterization or stormwater outfall conditions.
- c. Determine if an illicit discharge is present.
 - i. If there is no flow and no obvious visual evidence of an illicit discharge, the inspection form will be completed and documented in the IDDE application.
 - ii. If obvious visual evidence of an illicit discharge is present, the inspector will proceed to source tracking.
 - iii. If there is a flow and no obvious visual evidence of an illicit discharge, a sample may be taken for further analysis.
 1. If a sample is taken, it will be analyzed in the office or taken to an outside laboratory with more thorough testing capabilities. Office samples will be tested for water temperature, pH, specific conductance, detergents, chlorine, copper, phenol, fluoride, potassium, ammonia, nitrite, and nitrate as determined by the inspector. An illicit discharge exists if one of the parameters exceeds the screening levels.





SOP Title: Dry Weather Monitoring Program		SOP No.: 3.047.6
Effective Date: 11/01/2018	Supersedes Policy Dated: 06/09/2015	

2. Complaint-Based Inspection

- a. Complaints can reach County Water Quality Inspectors through a hotline phone number or email. Complaints will be prioritized over routine inspections to ensure a timely response. Complaint-based inspections may include outfall and inlet inspections.
- b. Determine if an illicit discharge is present.
 - i. If obvious visual evidence of an illicit discharge is present anywhere within the stormsewer system, the inspector will proceed to source tracking.
 - ii. If there is a flow and no obvious visual evidence of an illicit discharge, a sample may be taken for further analysis.
 - 1. If a sample is taken, it will be analyzed in the office or taken to an outside laboratory with more thorough testing capabilities. Office samples will be tested for water temperature, pH, specific conductance, detergents, chlorine, copper, phenol, fluoride, potassium, ammonia, nitrite, and nitrate as determined by the inspector. An illicit discharge exists if one of the parameters exceeds the screening levels.

3. Source Tracking

- a. If an illicit or unlawful discharge is suspected to have occurred, as referenced by County Ordinance 23.2-4.1, a "trackdown" to identify the source of flow will be conducted. At this time a trackdown report will be created, violations will be tracked by case number and referenced in all documentation. If the source of discharge is not located, the site will be re-inspected within 48 hours for reoccurrence of the illicit discharge. If no illicit discharge is found during re-inspection, an outfall inspection form is to be completed and the outfall may be subject to periodic re-inspection. Corrective action will be discussed with the responsible party if possible.

4. Enforcement

- a. If warranted, a Notice of Violation will be issued/mailed by the issuing inspector stating the activity must cease or be operated in a manner that will avoid the discharge of the pollutant to the storm water system within 30 days of notice. Any mitigation efforts should also be outlined and completed by the assigned date. If the discharge is not ceased or discharge effects not mitigated within the allotted time, the most effective method of elimination/enforcement will be taken. These actions include:
 - i. Issuing a Summons and installing fines per County Ordinance through coordination with the Prince William County Attorney's Office
 - ii. Enforcement of other applicable county ordinances through partnering County agencies (Zoning, Neighborhood Services, Fire Marshalls Office)
 - iii. Contact with the Department of Environmental Quality





SOP Title: Dry Weather Monitoring Program	SOP No.: 3.047.6
Effective Date: 11/01/2018	Supersedes Policy Dated: 06/09/2015

5. Documentation

- a. A detailed discharge report will be completed for each instance where trackdown is needed, with the outfall inspection form describing steps taken during the discovery of the discharge, trackdown, and follow-up/enforcement. Outfalls with no illicit discharge or flow will be documented in the IDDE application.

D. Authority

The approving authority for this SOP is the Environmental Services Division Chief. Any changes to or deviations from this SOP must be approved by the Environmental Services Division Chief.

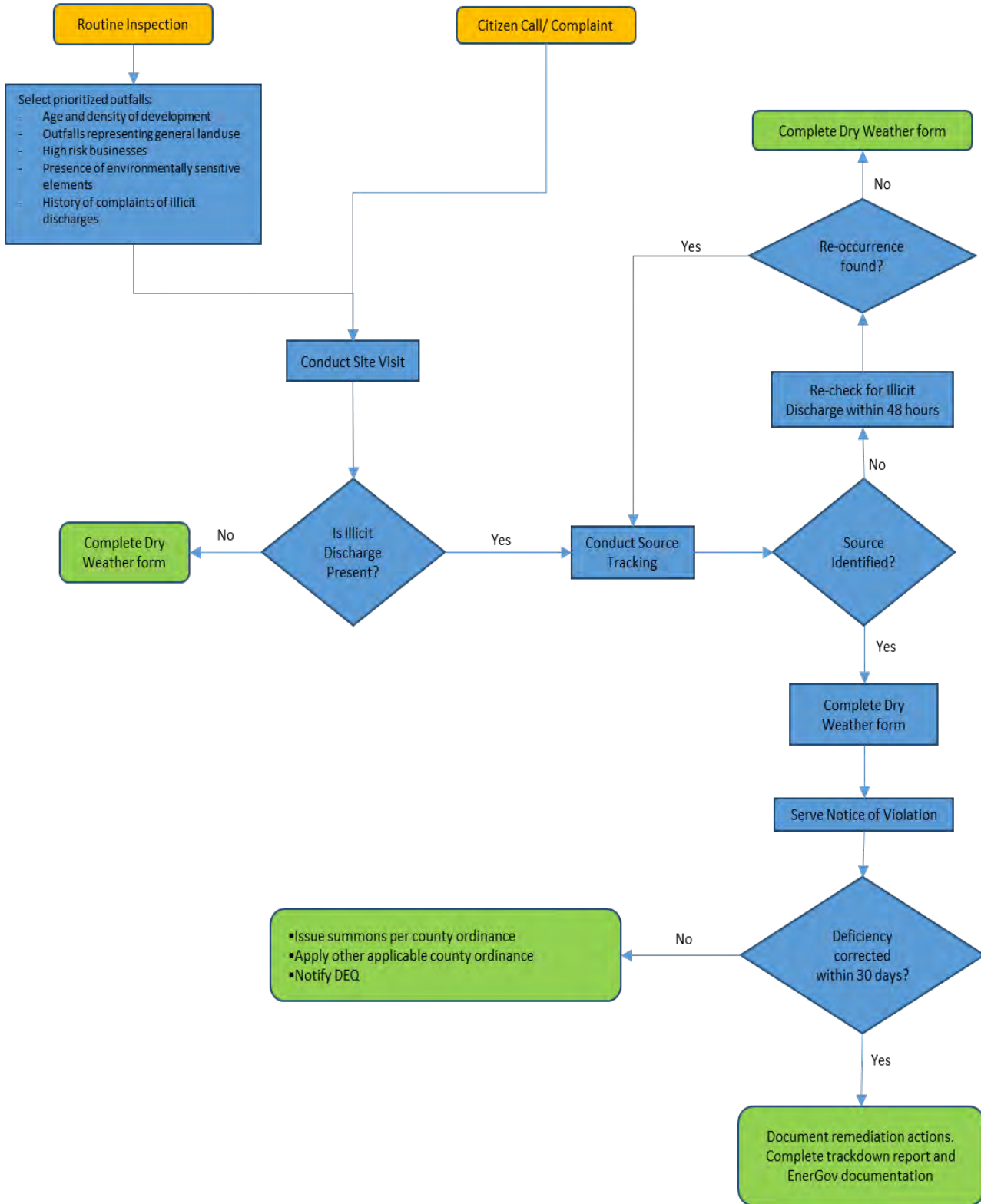
E. Administration

The administration of this SOP shall be the responsibility of the Environmental Services Division Chief and Branch Chiefs.

Attachments: Attachment A: Dry Weather Monitoring Process Flowchart



Attachment A: Dry Weather Monitoring Process Flowchart



Appendix 6: Solid Waste Procedure Manual

Prince William County
Department of Public Works
Standard Operating Procedures

Solid Waste Division





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	SOP Title: Job Classifications	
	Effective Date: 11/12/19	Supersedes Policy Dated: 02/03/2014

1. Purpose

The purpose of this policy is to establish the appropriate personnel staffing for the Prince William County Solid Waste Division.

2. Scope

All positions currently active are included.

3. Responsibilities

Responsibilities of each position are discussed in their job classification located under “eClassifications” on the Human Resources webpage.


4. References

Prince William County Personnel Policy Manual, Section 3, Position Classification Plan Prince William County Human Resources “eClassifications”

5. Procedures

5.1. The following positions are active in the Solid Waste Division:

- 5.1.1 Solid Waste Division Chief
- 5.1.2 Engineer III
- 5.1.3 Engineer I
- 5.1.4 Management & Fiscal Analyst II
- 5.1.5 Recycling Program Manager
- 5.1.6 Public Information Specialist I
- 5.1.7 Administrative Support Coordinator I
- 5.1.7 Administrative Support Assistant III
- 5.1.8 Solid Waste Superintendent
- 5.1.9 Solid Waste Assistant Superintendent
- 5.1.10 Field Supervisor
- 5.1.11 Engineering Assistant II
- 5.1.12 Crew Supervisor
- 5.1.13 Motor Equipment Operator III
- 5.1.14 Motor Equipment Operator II
- 5.1.15 Laborer Foreman
- 5.1.16 Accounting Assistant II
- 5.1.17 Administrative Support Assistant II
- 5.1.18 Weighmaster
- 5.1.19 Scale Operator
- 5.1.20 Maintenance Mechanic Supervisor
- 5.1.21 Maintenance Mechanic II
- 5.1.23 Maintenance Worker

	SOP Title: Job Classifications	
	Effective Date: 11/12/19	Supersedes Policy Dated: 02/03/2014

5.2 The roles of each position are described in the respective job classifications. Job classifications are available under “eClassifications” page on the Human Resources webpage.

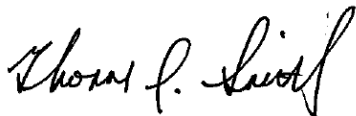
5.3 Any changes to these job descriptions or addition of new positions must be made in accordance with Prince William County personnel policies.


6. **Records**

Not Applicable

7. **Documents and approval history**


Revision	Date	Reason for Revision
1.0		Initial Release
2.0	09/01/2007	Included new positions, deleted old positions, updated position titles
3.0		Inserted hyperlinks.
4.0	09/06/2012	Added Solid Waste Administrative Office positions, added Maintenance Mechanic Supervisor, changed “ Laborer” t o “Maintenance Worker”, removed job classifications. Added references to “eClassifications”.
4.1	03/05/2015	Reviewed policy; no changes made.
5.0	10/11/19	Added Engineer I, Admin Support Coordinator I. Changed Admin Support Assistant I to II. Deleted Security Officer.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/19

	SOP Title: Employee Conduct	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

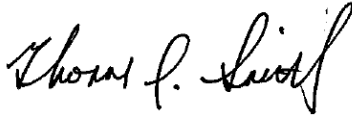
1. **Error! Bookmark not defined.Purpose**
This policy is established to ensure that everyone who interacts with Solid Waste Division staff receives superior service.
2. **Scope**
This policy applies to all employees and their interactions with any person(s) they encounter as part of their job.
3. **Responsibilities**
 - 3.1. Each employee is responsible for his/her own conduct. Each employee is responsible for familiarizing themselves with the Rules of Conduct established in the Prince William County Personnel Policy Manual.
 - 3.2. Supervisors are responsible for identifying and correcting inappropriate employee behavior.
4. **References**
Prince William County Personnel Policy Manual - Section 14 – Rules of Conduct
Prince William County Vision and Values statements
Difficult Customers Standard Procedure
Department of Public Works Standard Operating Procedure 1.001.2 Code of Ethics
5. **Procedures**
 - 5.1. Employees must be courteous and respectful when interacting with the public or otherwise performing their duties. The qualities presented in the Prince William County Vision and Values statements apply to all employee interactions.
 - 5.2. There will be no return of verbal harassment regardless of the circumstances. Verbal harassment from a customer should be reported to the employee’s supervisor or the Solid Waste Superintendent. A Solid Waste Division Incident Report will be completed.
 - 5.3. Employees will strive to provide customers with answers to their questions quickly, efficiently, and politely. Some of the facility rules and processes can be very difficult to understand and are equally difficult to try to explain. Keep this in mind when speaking with customers who are unfamiliar with our facilities. Remember; when dealing with customers you will be called on to answer the same question frequently. Do not allow frustration to build up in response to this situation. If you don’t know the answer to a question, you will call your supervisor to handle the situation.
 - 5.4. If a customer or other visitor to the site is found to be in violation of standard practice or procedure they are to be corrected politely and are to be advised of the appropriate method for the activity in question. Customers who refuse to comply are to be reported to the Supervisor. Customers who continue to refuse to comply will be treated in accordance with the Difficult Customers Standard Procedure.
6. **Records**
Solid Waste Division Incident Report




	SOP Title: Employee Conduct	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

7. Documents approval and history

Revision	Date	Reason for revision
1.0	05/1984	Initial release
2.0	09/1984	Reviewed policy, no changes made.
3.0	09/1988	Reviewed policy, no changes made.
4.0	09/01/2007	Included reference to Vision and Values statements; changed name from "Employee Department" to "Employee Conduct"; made a separate policy for "Scalehouse and Traffic Control Restricted Access"
5.0	10/17/12	Added reference to Public Works Code of Ethics Standard Operating Procedure; changed "Landfill Staff" to "Solid Waste staff". Updated name of incident form.
6.0	03/05/2015	Reviewed policy, no changes made.
6.0	09/16/2019	Reviewed policy, no changes made.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Employee Training	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

The Solid Waste Division is dedicated to providing quality training programs for all of their employees. The training program is described below.

2. Scope

Training requirements apply to all employees of the Solid Waste Division

3. Responsibilities

- 3.1. The Solid Waste Division Chief and Solid Waste Superintendent are responsible for ensuring all personnel receive all training appropriate to their positions.
- 3.2. The Solid Waste Superintendent and the Solid Waste Assistant Superintendent will ensure that monthly training programs are presented at the landfill and are available to all staff.
- 3.3. The Solid Waste Assistant Superintendent will keep a record of all training, determine subjects, design, plan, and present training, arrange for outside trainers, ensure that all required training is provided in a timely manner.
- 3.4. Crew Supervisors, Field Supervisor, Motor Equipment Operator IIIs, Engineering Assistant IIs, and the Maintenance Mechanic Supervisor will conduct weekly tailgate safety training sessions for the staff they supervise.
- 3.5. Some Solid Waste crews have goals requiring non-supervisory employees lead weekly toolbox talks with the individual crews.
- 3.6. All employees must attend training as required by their job duties.

4. References

9 VAC 20-81 Solid Waste Management Regulations
 Prince William County Personnel Policy Manual, Section 20 - Education and Training
 Prince William County Landfill Operations Manual, Section III.B Personnel, Training
 Prince William County Balls Ford Road Yard Waste Composting Facility Operations Manual, Health and Safety Plan, Section C
 Department of Public Works Standard Operating Procedure - 1.008.4 Professional Development Practices & Procedures

5. Procedures

The Solid Waste Division Chief and the Solid Waste Superintendent will ensure that every employee receives all training necessary to perform their tasks in a safe and efficient manner. Any staff member who is licensed, certified, or otherwise has received special training to perform their job, will be given access to the training necessary to maintain the license or certification. This training will be provided through County staff, vendors, regulatory agencies, or industry associations as needed. Training and conferences offered by the Solid Waste Association of North America (SWANA) are especially pertinent to the operation of solid waste facilities and will be regularly attended by Solid Waste Division staff.






SOP Title: Employee Training

Effective Date: 11/12/2019

Supersedes Policy Dated: 06/08/2015

- 5.1. Any staff member may attend classes provided by the County through PWC University, provided that they obtain their supervisor’s approval and their position can be covered during their training.
- 5.2. Training programs offered by Public Works for their employees will be attended by Solid Waste Division staff. Records of these training events will be entered into PWC University by the Public Works team/staff responsible for the training event.
- 5.3. Training will be provided to some staff members through outside vendors when no County-offered classes fulfill their specific needs.
- 5.4. Monthly training programs will be offered to all Solid Waste Division staff members. This training will be planned and organized by the Solid Waste Assistant Superintendent. These training sessions are intended to cover safety topics but may also include information about other County issues as needed.
 - 5.4.1. Annual training may include sessions related to Unauthorized Wastes, Bloodborne Pathogens/Infectious Disease Management, Spill Prevention Countermeasure and Control issues, Stormwater Pollution Prevention issues, RCRA Overview, and Environmental Management System topics. Other topics will be added as needed.
 - 5.4.2. The monthly training may be provided via any means of presentation available including recorded programs purchased or rented from outside sources.
- 5.5. Crew Supervisors, Motor Equipment Operator IIIs, Engineering Assistant IIs, and the Maintenance Mechanic Supervisor will provide weekly tailgate safety training to the employees they supervise. All employees receiving the training will sign the training attendance sheet indicating their understanding of the topic.
- 5.6. Employees will sign in for every classroom training session. The sign-in sheet may include information about the topic, the trainer, and the method of presentation.
- 5.7. The sign-in sheets and copies of any handouts will be given to the Solid Waste Assistant Superintendent so that the training record database and/or PWC University can be updated. Sign-in sheets and handouts will be placed in the Training Record Book. This book is reviewed by DEQ staff during facility inspections. Copies of the presentations and sign-in sheets will be sent to the Compost Facility for inclusion in their training records which are reviewed by DEQ during inspections.
- 5.8. Non-supervisory employees may lead safety topics for their individual teams. This may or may not be a part of their annual evaluation goals. These topics will be very specific to the team’s function and will reflect real world problems and issues and their resolution and proper handling.
- 5.9. Every employee will provide to the Solid Waste Assistant Superintendent, records of attendance at any conferences, classes, seminars, etc. which they attend. Certificates of attendance should be included along with agendas, lists of topics covered, CPEs/CEUs earned, etc. The Solid Waste Assistant Superintendent will use this information to ensure the records are added to the training database and/or PWC University.



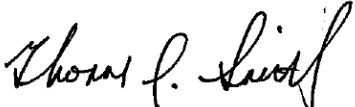
	SOP Title: Employee Training	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015


6. Records

Solid Waste Division Training Records Database
Solid Waste Division Training Record Book
PWC University

7. Documents Approval and History

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0		Inserted hyperlinks; Changed position title to Solid Waste Assistant Superintendent.
3.0	09/06/2012	Added Engineering Assistant II, Maintenance Mechanic Supervisor, and Laborer Foreman to positions providing weekly tailgate safety meetings. Added reference to Landfill Operations Manual; changed 9 VAC 20-80 to 9 VAC 20-81.
3.1	03/05/2015	Removed references to "Laborer Foreman". Added section 5.2.
3.2	09/11/2019	Added section 5.8 regarding training provided to teams by non-supervisory employees.; deleted reference to Superintendent planning monthly training.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Customer Service	
	Effective Date: 11/12/19	Supersedes Policy Dated: 02/03/14

1. Purpose

This policy establishes a procedure for customers of the solid waste facilities to report problems or issues they have encountered.

2. Scope

This policy applies to all customers of the County's solid waste facilities.

3. Responsibilities

3.1 All employees will strive to resolve customer problems or issues to the best of their ability.

3.2 All supervisors are responsible for ensuring that customer concerns are resolved as quickly as possible and to the best satisfaction of the customer while still operating within the applicable rules and regulations. Supervisors will ensure that customers complete the Customer Service Form whenever they are unable to resolve the problem to the customer's satisfaction.

3.3 The Solid Waste Superintendent will contact the customer and will attempt to resolve the problem. The Superintendent will record the resolution of the problem on the Customer Service Form.

4. References

Prince William County Vision and Values Statements

5. Procedures

5.1 Any employee who receives a customer's report of problems or issues will strive to answer the question or resolve the problem.

5.2 If the employee is unable to resolve the issue, he/she will contact their supervisor for assistance.

5.3 The supervisor will attempt to resolve the situation to the customer's satisfaction while still operating within the applicable rules and regulations.

5.4 If the supervisor is unable to resolve the problem the situation will be addressed in this manner:

5.4.1 The customer will be offered the opportunity to speak with the supervisor on duty or they may complete the Customer Service Form.

5.4.2 The supervisor will ensure that the completed Customer Service Form is turned in to the Solid Waste Superintendent on the next business day.

5.4.3 If necessary, the supervisor will complete a Solid Waste Division Incident Report to provide additional information about the situation.

5.4.4 The Solid Waste Superintendent will gather as much information about the issue as possible and will then contact the customer.


5.4.5 The Solid Waste Superintendent will record the resolution of the problem on the Customer Service Form.

5.4.6 The Customer Service Form will be retained for at least one year.

6. Records

Customer Service Form

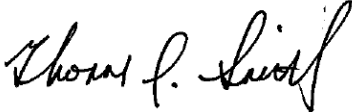



	SOP Title: Customer Service	
	Effective Date: 11/12/19	Supersedes Policy Dated: 02/03/14

Solid Waste Division Incident Report

7. Documents approval and history

Revision	Date	Reason for revision
1.0	09/01/2007	Initial release
2.0	10/17/2012	Removed reference to "landfill office". Updated name of incident form.
2.0	03/05/2015	Reviewed policy, no changes made.
2.0	11/16/2018	Reviewed policy, no changes made.
2.0	08/15/2019	Reviewed policy, no changes made.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Difficult customers	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

This policy establishes appropriate employee actions when dealing with difficult customers. It helps to protect the safety of employees and the public, and will help to ensure the smooth operation of the facility.

2. Scope

The policy applies to all employees of the Solid Waste Division when dealing with difficult customers. Difficult customers are those who refuse to abide by facility rules or regulations even after receiving an explanation from an employee.

3. Responsibilities

- 3.1 It is every employee’s responsibility to act in a courteous and helpful manner when dealing with a problem customer. Employees are to remain calm at all times. They should report to their supervisor any customer who refuses to comply with facility rules and regulations after being requested to do so.
- 3.2 Supervisors should resolve the situation as much as possible. They should remain calm and polite. Supervisors will refer the difficult customer to appropriate management staff members for further explanation and resolution as needed.
- 3.3 The Solid Waste Superintendent will determine the ultimate resolution for difficult customers.

4. References

Customer Service Standard Procedure
Employee Conduct Standard Procedure

5. Procedures

- 5.1 “Difficult Customers” are those who refuse to comply with written rules and regulations and other policies and who present a possible threat to persons or property. Do not confuse customers who want to express their negative opinions about the operation of the facility with a “difficult customer”. Customers may have negative opinions but will still comply with regulations. Customers who have complaints should be referred to your supervisor to resolve the problem or to allow the customer to complete a Customer Service Form. The following actions are recommended if a customer will not obey site rules or cooperate with site personnel:
 - 5.1.1 Contact your supervisor, or the Solid Waste Superintendent, immediately if a customer is creating a substantial problem involving the safety of employees, contractors, or the public, or if the customer is significantly interfering with operations.
 - 5.1.2 If you perceive that there is an imminent danger to the public, staff or property, or if the customer becomes overly abusive, contact the Prince William County Police by dialing 911. Notify your supervisor and management staff when you call 911.
 - 5.1.3 If the customer is creating a nuisance and does not respond to polite suggestions, record the customer and vehicle description and license number. Report the incident to your supervisor



	SOP Title: Difficult customers	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

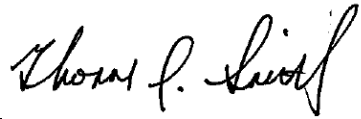
as soon as possible. Complete a Solid Waste Division Incident Report with as much information as possible and ensure that your supervisor receives the form. The Solid Waste Superintendent will contact the customer, if possible, in an effort to eliminate any future problems with that customer.


6. Records

Solid Waste Division Incident Report
Customer Service Form

7. Documents approval and history

Revision	Date	Reason for revision
1.0	09/01/2007	Initial release
2.0	10/17/2012	Removed mention of Engineering Assistant III; Added reference to Employee Conduct Standard Procedure. Updated name of incident form.
3.0	03/05/2015	Reviewed policy, no changes made.
3.1	09/16/2019	Removed statement that calls to 911 should be made by supervisors or management.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Inclement Weather and Unscheduled Leave	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

The purpose of this policy is to clarify, for Solid Waste Division employees, the appropriate course of action when the County activates the Unscheduled Leave Policy.

2. Scope

This policy applies to all employees of the Solid Waste Division.

3. Responsibilities

Each employee who is scheduled to work must report to work as soon as it is safely possible to do so during an inclement weather event. They must notify their supervisor if they will be late for their shift.

4. References


Prince William County Personnel Policy Manual, Section 7.2 Closures and Operations during Inclement Weather and Other Emergencies
 Department of Public Works Standard Operating Procedure 1.002.3 Essential Employees

5. Procedures

During severe weather events the County may activate the Unscheduled Leave policy. Unscheduled leave allows employees to take annual leave, compensatory leave, or leave without pay without prior approval. However, since many employees of the Solid Waste Division have been designated “essential personnel” by the Director of Public Works, they are required to report to work as soon as it is safe to do so. Refer to the Department of Public Works Standard Operating Procedure 1.002.3 “Essential Employees” for a list of essential employees.

- 5.1 Unscheduled leave is intended to be used to delay an employee’s trip to work until conditions become safe for travel. Unscheduled leave is not intended to be used for a full day of leave.
- 5.2 If the County Executive closes County offices due to severe weather conditions, essential personnel may be required to report to work as normally scheduled or as directed by their supervisor in order to operate the facility or to clear roads and other areas to prepare for opening the facility to the public. Depending upon road and weather conditions, Solid Waste facilities may open during County office closures at the direction of the Solid Waste Division Chief, after consultation with the Director of Public Works.
- 5.3 When severe weather events are forecasted, arrangements may be made for some Solid Waste Division supervisors to take four-wheel drive vehicles home. Supervisors who do so will pick up other employees in the morning as necessary in order to staff the facility.
- 5.4 If an employee will be unable to report to work as scheduled, they must notify their supervisor, the scale staff, or the landfill office staff prior to their normal start time. Their call will be logged on the Call In Sheet.



	SOP Title: Inclement Weather and Unsheduled Leave	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

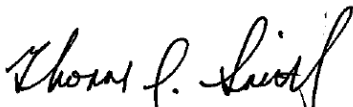
5.5 Closure of solid waste facilities will be held as a last resort. The decision to close will be made by the Solid Waste Division Chief after consultation with the Director of Public Works. If the facilities are closed, Solid Waste Division staff will contact the County’s Communications Office. A two-hour notice will be given, if possible, prior to closing facilities. Office staff will attempt to contact all permitted refuse haulers to notify them of the closure. The outgoing telephone message at the facilities will be changed to indicate the closure.


6. **Records**

Call In Sheet

7. **Documents approval and history**

Revision	Date	Reason for revision
1.0	05/1984	Initial release
2.0	09/01/2007	Changed “Liberal Leave” to “Unsheduled Leave”; indicated all Landfill employees are essential, and took out references to mechanics reporting for duty.
3.0	10/11/2012	Changed all references to “landfill staff”, “landfill office”, etc. to “Solid Waste staff”, etc. Indicated that not all Solid Waste staff are essential
4.0	06/30/2015	Changed section 5.2 to indicate essential employees may need to report even if the County is closed.
4.0	10/30/2019	Updated policies in reference section. Minor grammar changes made.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Fiscal Management	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

This policy provides specific procedures Solid Waste Division staff members use to ensure security of all monetary transactions.

2. Scope

The policy applies to all cash, credit and charge account activities within the Solid Waste Division.

3. Responsibilities

3.1 The Petty Cash Custodian is the individual with Solid Waste that is responsible for the petty cash fund. The assigned designee establishes a “Petty Cash Fund Request” form from the Finance Department. The request shall indicate the amount of the petty cash fund, the delegated Petty Cash Fund Custodian(s), acknowledgement of responsibility and accountability by the Petty Cash Fund Custodian(s), agency/department, and the names and signatures of the Requestor and Agency/Department Director or authorized designee, Petty Cash Fund Custodian(s) and Alternate Custodian(s).

3.1.1 The Petty Cash Custodian ensures that the authorized petty cash funds are in agreement with control figures contained in the County’s financial management system;

3.1.2 Audit petty cash funds periodically, in accordance with the Department of Finance Policy.

3.1.3 Custodians must complete the online training module, iExpense-Petty cash, read the Department of Finance Policy, and review the appropriate forms.

3.1.4 Upon the completion of petty cash reconciliation, the Solid Waste Superintendent reviews all reports.

3.1.5 In the event the responsible party changes a completed Notification of Change in Petty Cash Fund Custodian form is remitted to the Finance Department, in accordance with the Petty Cash Fund Policy and Procedures.


3.1.6 Responsibilities for collecting is handled by Scale Staff, depositing is handled by the Management & Fiscal Analyst II and/or the Accounting Assistant II, reconciling is handled by the Landfill Superintendent, and accounting of cash receipts are performed by the referenced positions.

3.2 The administrative staff at the Landfill Office is responsible for logging in all monetary transactions that occur through the Landfill Office. They will log in all checks and payments that arrive via US Mail and direct from clients. They prepare a daily deposit.

3.3 Weighmasters and Scale Operators are responsible for accepting and recording payments, issuing receipts, preparing start-up funds, and preparing daily deposits for transactions that occur through the Traffic Control check point and the Scalehouses at the Landfill and Balls Ford Road facility.

3.4 The Accounting Assistant II will process the daily payments and will complete a deposit report. She/he will prepare the deposit for pick up by armored truck personnel. The Accounting Assistant II will be responsible for invoicing of all charge accounts and for collecting and recording those payments.



	SOP Title: Fiscal Management	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

- 3.5 The Management and Fiscal Analyst II or his/her designee will compile and deliver the daily deposit from the Solid Waste Administration office.
- 3.6 The Solid Waste Superintendent confirms sequential continuity of transactions and confirms the deposit paperwork.

4. References

Department of Public Works Standard Operating Procedure 1.003.4 Cash Receipts and Collection Guidelines
 Prince William County Identity Theft Prevention Program Policy
 Solid Waste Division Identity Theft Standard Procedure

5. Procedures

- 5.1 Cash, credit card receipts and checks are collected at several locations within the Solid Waste Division. Each location has a secured file where confidential financial information is kept to prevent identity theft.
 - 5.1.1 Solid Waste Administrative Office – collects cash and check payments for sales of compost bins and revenue from contractual agreements. Since cash and cash equivalents are regularly received by mail, at minimum two people are present to open the mail and record the receipt.
 - 5.1.2 Landfill Scalehouse – collects cash, credit card receipts and checks from customers
 - 5.1.3 Traffic Control – collects cash, credit card receipts and checks from customers
 - 5.1.4 Balls Ford Road facility – collects cash, credit card receipts and checks from customers including from the sale of compost bins.
 - 5.1.5 Accounting Assistant II Office – receives the Accounts Receivable payments
- 5.2 Security and procedures at these locations are as follows:
 - 5.2.1 Solid Waste Administrative Office - This office is open to the public during the hours of 8am through 5pm. The office is kept locked at night with access allowed by a security code. The exterior doors of the building are locked as well and entrance is only allowed with a security code.
 - 5.2.1.1 A copy of each check is logged in the Incoming Mail Log by the administrative staff and a photocopy is retained on file. If cash is received by Solid Waste staff for items like the sale of compost bins, a receipt is prepared immediately and given to the customer. The collected cash and receipt copies are given to the Management & Fiscal Analyst II or his/her designee. He/she creates a deposit slip for checks and cash received and enters details from all the deposit slips in the Deposit Log saved in the Public Works Solid Waste shared computer file. Cash receipts of miscellaneous revenues are authorized by the Division Chief, prior to system input, and recorded with the appropriate chart of accounts. At the end of the day, he/she carries the deposit (cash, checks, deposit slips(s), to the Finance Department in the James McCoart Building. Finance staff logs the entries in their log book and Solid Waste staff initial the amount entered. Finance staff ensures that the deposit is received by





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the banking institution with records available upon request. At the end of each month the Management & Fiscal Analyst II generates a journal entries report of the reconciliation of deposit entries.

5.2.1.2 Preventative controls exist throughout the financial process, i.e., procurement and expenditure limitations, approval routing, required documents, etc. The segregation of duties is in place to ensure a minimum two-way verification is used. The Management & Fiscal Analyst II will review financial transactions for unusual activity, significant budget variance, fluctuations in expense, and/or accounting segments to identify any discrepancies.

5.2.1.2.1 Research of discrepancies will be conducted by the Management & Fiscal Analyst II and/or the Accounting Assistant II using the available financial systems. discrepancies must be investigated, documented and certified, and captured on a financial reporting mechanism. Shortages and overages must include the reason, if known, and require the manager/supervisor's signature.

5.2.2 Landfill Office – This office is open to the public throughout the workday. It is kept locked at night. The exterior doors of the building are locked as well.

5.2.2.1 As cash and checks are received, either directly from the client or through U.S. Mail, they are logged in on a Daily Check Log. A receipt will always be given to anyone making payment in person at the Landfill Office. The invoice and cancelled check function as the receipt for those making payments by mail. Monies collected throughout the day are placed in the safe located in the office. The Daily Check Log and the proceeds are deposited into the secured safe room at the Landfill. The proceeds will be collected by the Accounting Assistant II as soon as she/he returns to duty.

5.2.3 Landfill Scalehouse – The Scalehouse has a security access system that requires a code to open the door. The Solid Waste Superintendent, Solid Waste Assistant Superintendent, Engineering Assistant IIs, Crew Supervisors, Weighmasters, Scale Operators, Maintenance Mechanic Supervisor, Maintenance Mechanic II, and cleaning crew have individual codes to open the door. A safe is secured to the floor in the closet. The safe has a combination lock. Only scale staff members have the combination to this safe.

5.2.3.1 All cash, checks, and credit card receipts collected at the Scalehouse are placed into the cash drawer as they are received. A receipt is issued for every transaction. All transactions are entered into the computer. The cash drawer funds will be confirmed by the incoming and outgoing personnel whenever a shift change occurs. The outgoing staff member will deposit the proceeds into the secure safe room immediately. At the end of the day all proceeds are reconciled with the Payment Summary in Weighmaster. A deposit is prepared. Three hundred dollars (\$300.00) is secured in a money bag and locked into the safe. This money will be used as the start-up fund the following day. The credit card machine is closed out and a report of





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transactions is printed. This report is also placed in the deposit bag with the rest of the day's receipts. A Scale House Daily Cash Reconciliation Form is completed and placed into the bag with the deposit. The deposit is dropped into the secure safe room in the main building.

5.2.4 Traffic Control – This is a secure building. Only authorized employees are allowed into the building. Authorized employees have keys to open the door. The door will remain locked at all times. A safe is secured to the supply cabinet in the building. This safe has a combination lock. Only regular Traffic Control staff have the combination.

5.2.4.1 Cash, checks, and credit card receipts are collected from customers, rung into the cash register, and placed in the cash drawer. A receipt is issued to the customer for each monetary transaction. Whenever a mistake is made on the cash register which results in the cash drawer contents and the record of transaction not balancing, a Void Explanation Sheet will be completed. The sheet will include a thorough explanation of the problem and will be signed and dated by the clerk. The Void Explanation Sheet is placed into the deposit bag for review and verification by the Accounting Assistant II. The cash drawer funds will be reconciled and confirmed by the incoming and outgoing personnel whenever a shift change occurs. A Traffic Control Daily Cash Reconciliation Form is completed and placed in a deposit bag. The outgoing staff member will deposit the proceeds into the secure safe room immediately. At the end of the day the proceeds are reconciled with the cash register report. Three hundred dollars (\$300.00) is placed in a money bag and placed inside the safe that is secured to the supply cabinet in Traffic Control. This is the start-up fund for the next day. The credit card machine is closed out and a report of transactions is printed. This report is also placed in the deposit bag. A Traffic Control Daily Cash Reconciliation Form is completed and placed in a deposit bag with the rest of the proceeds. The bag is transported to the main building, and deposited into the secure safe room.

5.2.5 Balls Ford Facility - Cash, checks, credit card receipts and charges are collected at the Scalehouse at the Prince William County Yard Waste Compost Facility. The Scalehouse door is opened with a key and has a security access system that requires a code be entered in order to disable the alarm. The code must be entered throughout the day to open the door. The Solid Waste Superintendent, Solid Waste Assistant Superintendent, Engineer III, Crew Supervisor, Weighmasters, Scale Operators, Motor Equipment Operators II & III, Maintenance Workers and cleaning crew have individual codes to disable the alarm. A safe is located in the storage room. The safe is kept locked at all times.

5.2.5.1 All cash, checks and credit card receipts collected at the Scalehouse are placed into the cash drawer. All transactions are entered into the computer. A receipt is issued for every transaction. The cash drawer funds will be reconciled by the incoming and outgoing personnel whenever a shift change occurs. Personnel must document, on the Void Explanation Sheet, the reason for any voided transaction. At the end of the day the proceeds are reconciled with the Payment Summary in WeighMaster. Three





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hundred dollars (\$300.00) is placed in a locked deposit bag inside the locked safe. This is the start-up fund for the next day. A Balls Ford Daily Cash Reconciliation Form is completed and placed in another locked deposit bag with the proceeds. The credit card machine is closed out and a report of transactions is printed. This report is also placed in the deposit bag with the proceeds. This locked deposit bag is transported, by the Superintendent or Motor Equipment Operator II, to the landfill main building, and placed into the secure safe room or given to the Accounting Assistant II. The deposited money bags will be collected from the secure safe room by the Accounting Assistant II.

5.2.6 Accounting Assistant II Office – The deposited money bags will be collected from the secure safe room by the Accounting Assistant II. The Accounting Assistant II and the Solid Waste Superintendent will ensure sequential continuity of transactions both within and between batches. The Accounting Assistant II will process the daily proceeds and will fill out a deposit ticket. The daily proceeds and deposit ticket are then placed in a locked money bag and picked up each day by armored truck services. The Armored truck staff will issue a receipt for the money bag. The Courier will deliver the locked money bags to the County’s Finance Department. If, for any reason, the armored truck service does not pick up the money bags, they are to be secured in the safe room until the next pick up day. Deposits are entered in Ascend daily.

5.2.6.1 Only the Accounting Assistant II will have access to the safe room.

5.2.6.2 The Solid Waste Superintendent, who does not handle proceeds, will verify that the amount certified by the Finance Department agrees with the amount expected to be deposited per the various reports.


5.2.6.3 Invoicing-The Accounting Assistant II will prepare invoices each month for all active charge accounts as outlined in the Solid Waste Regulations for Prince William County, Section 100.8 (g) Charges for Refuse Disposal. Firms that are found to be in default on their accounts will be suspended from further disposal until the account is made current. Account holders suspended for returned checks will not be reinstated until the checks have been cleared. Cash or a cashier’s check must be presented to clear accounts. Account holders with two or more returned checks within a 180-day period may be denied charging privileges.

5.2.6.4 Debt Collection – Unpaid accounts are turned over to the County Attorney’s office to pursue collection. The Accounting Assistant II will retain records of communications with delinquent account holders.

5.2.7 In the absence of the Accounting Assistant II the daily cash deposits will be processed by the Management and Fiscal Analyst II.

5.3 Fees – The Division fee schedule is reviewed annually based on the budget, forecast, and market trends. Any updates and/or changes that are made to the pricing is posted on www.pwcgov.org under the Solid Waste Rules and Regulations tabs.




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- 5.4 Third party billing – Occasionally companies holding charge accounts choose to allow other companies to charge to their Solid Waste Division account. This usually occurs when a company is hired to haul material for the account holder. When this occurs the account holder must:
- 5.4.1 Provide at least a two-business day notice to Solid Waste staff (preferably the Superintendent or Assistant Superintendent) to allow details to be worked out and staff to be notified.
 - 5.4.2 The notice must be in writing and must include the name of the person or company that is allowed to charge to the account, the dates of the project, the number of loads anticipated, and a statement removing liabilities for all issues and problems from the County. The account holder will be responsible for all issues and charges completed by the secondary company.
 - 5.4.2.1 If sub-contractors to the original company are hired a list of qualified trucks in use each day must be provided prior to the arrival of the first load of the day. Any companies not appearing on the list will not be allowed to charge to the account and may not be allowed access to the facility. If no list is provided no secondary companies will be allowed to charge to the account.
 - 5.4.3 Third Party Billing arrangements are for short term (less than a few weeks) projects. For longer term projects the hauling company should pursue their own account and back charge the original company accordingly.

6. Records


- Daily Check Log
- Balls Ford Daily Cash Reconciliation Form
- Traffic Control Daily Cash Reconciliation Form
- Scale House Daily Cash Reconciliation Form
- Void Explanation Sheet
- Application for Solid Waste Facility Account
- Incoming Mail Log
- Individual accounts, invoices, and payment records




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	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

7. Documents approval and history

Revision	Date	Reason for revision
1.0	06/22/2004	Initial release
2.0	10/18/2005	
3.0	09/01/2007	Added job titles with security codes, added names of forms, removed references to recurring reports; added information regarding charge accounts.
4.0	10/16/2012	Combined Balls Ford and Landfill Standard Procedures. Added Admin office procedures. Added credit card procedures. Added debt collection procedure. Indicated the Management & Fiscal Analyst II provides backup for the Accounting Assistant II daily deposit activity. Updated names of forms.
5.0	03/05/2015	Updated section 5.2.2.1 to indicate that monies collected throughout the day at the landfill office are stored in the safe. Removed "Security Officer" from list of those with access to the Landfill Scalehouse in section 5.2.3; indicated voids must be explained on a Void Explanation Sheet at Balls Ford (section 5.2.5); changed name of regulations to "Solid Waste Regulations for Prince William County". Accounting Assistant will retain records of communications with delinquent account holders.
6.0	09/16/19	Added Petty Cash Custodian details. Indicated deposits are collected by armored truck services (not the courier). Added details for processing at the Solid Waste Admin office. Updated names of forms and reports as needed. Indicated Balls Ford scalehouse is secured by access code throughout the day. Changed startup funds amounts to \$300 at each location. Removed revenue sharing section. Added Fees review section. Added Third Party Billing.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Identity Theft Prevention Program	
	Effective Date: 11/12/19	Supersedes Policy Dated: 06/08/2015

1. Purpose

This document explains the Identity Theft Prevention Program designed to detect, prevent and mitigate identity theft in connection with the opening of a Solid Waste charge account, or an existing Solid Waste charge account, and to provide for continued administration of the Program in compliance with Part 681 of Title 16 of the Code of Federal Regulations implementing Sections 114 and 315 of the Fair and Accurate Credit Transactions Act (FACTA) of 2003.

2. Scope

This policy applies to all new and existing Solid Waste charge accounts. These accounts are used at the Prince William County Sanitary Landfill and the Prince William County Yard Waste Compost Facility.

3. Responsibilities

- 3.1 It is the responsibility of the Accounting Assistant II to ensure that account information is secure at all times, that appropriate proof of legitimate business information is provided with all new account applications, to verify the accuracy of that data, to verify all requests for changes to an account and to make a record of all verification and confirmation activities. In addition, the Accounting Assistant II will record any detection of a red flag and its resolution.
- 3.2 In the absence of the Accounting Assistant II, the Solid Waste Assistant Superintendent may accept completed applications for new accounts. It will also be their responsibility to ensure that the application is secured until the return of the Accounting Assistant II.

4. References

None

5. Procedures

5.1 New Accounts

- 5.1.1 An Application for Solid Waste Facility Account will be provided to any company requesting a Solid Waste charge account.
- 5.1.2 The Accounting Assistant II will accept and review completed forms. The form must be entirely complete including listing a business license number if applicable. If the applicant does not have a business license, a valid driver’s license or identification number must be provided.
- 5.1.3 All information provided during the application process will be placed in a secure location when not in use.

5.2 Existing accounts

- 5.2.1 Any requests for changes to existing accounts must be in written form.
- 5.2.2 All account information will be located in a locked location when not in use.

5.3 Identification of Red Flags – Red flags are patterns, practices, or specific activities that indicate the possible existence of identity theft. These are some types of suspicious red flags:

- The presentation of suspicious documents;





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- The presentation of suspicious personal identifying information;
- The unusual use of, or other suspicious activity related to, a Solid Waste charge account;
- Notice from customers, victims of identity theft, law enforcement authorities, or other persons regarding possible identity theft in connection with a Solid Waste charge account.

5.4 Response to Red Flags – these are the appropriate responses when red flags are detected. The response will be commensurate with the degree of risk posed. Appropriate responses may include:

- Monitor a Solid Waste charge account for evidence of identity theft;
- Contact the customer;
- Reopen a Solid Waste charge account with a new account number;
- Not open a Solid Waste charge account;
- Close an existing Solid Waste charge account;
- Notify law enforcement;
- Determine that no response is warranted under the particular circumstances.

5.5 Program Compliance – The Accounting Assistant II will document all changes made to accounts within the Weighmaster or equivalent replacement program.

6. **Records**

Applications for Solid Waste Facility Account

7. **Documents approval and history**

Revision	Date	Reason for revision
1.0	08/31/2013	Initial release
2.0	03/05/2015	Removed all references to the Charge Account Activity form; updated to match the County’s Identity Theft Prevention Program Policy.
2.0	10/30/2019	Reviewed. No changes made.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



	SOP Title: Assets Inventory	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

The purpose of this policy is to establish a system for tracking and reconciling capital and controlled assets in order to meet Prince William County inventory and internal control requirements. This system will also be utilized to monitor the location of a small number of other assets which are portable and frequently change location so as to maintain good control over their whereabouts.

2. Scope

This policy applies to any capital asset and non-capital asset with a replacement value of approximately \$500.00 or more or any other resalable, movable asset that requires tracking to monitor its location. All Solid Waste Division employees must comply with the policy.

3. Responsibilities

- 3.1. Inventory and tracking of all capital assets will be the responsibility of the Solid Waste Superintendent or Management and Fiscal Analyst II for any capital items purchased or located at the Solid Waste Administration office.
- 3.2. Inventory and tracking of controlled assets will be the responsibility of the Solid Waste Assistant Superintendent or Management and Fiscal Analyst II for all assets located within the Solid Waste Administrative office.
- 3.3. All employees involved in the purchase, issuing, transfer, or disposal of any asset will be responsible for notifying the appropriate manager of any of these actions. All employees must report any damaged or missing assets immediately.
- 3.4. Annual reviews and verification of the capital asset inventory log will be completed by the Solid Waste Superintendent, and reviewed by the Solid Waste Division Chief, in coordination with the Department of Finance.
- 3.5. Annual reviews and verification of the controlled asset inventory log will be completed by any member of the staff other than the Solid Waste Assistant Superintendent and Management and Fiscal Analyst II.


4. References

Prince William County Finance Department Procedures Manual, Capital Asset Accounting and Control
 Prince William County Executive Internal Control Policy.

5. Definitions

- 5.1. The County defines a capital asset as:
 - 5.1.1. Any tangible asset that has an acquisition value of \$5000 or more and a useful life expectancy of more than one year, OR
 - 5.1.2. Any intangible asset that has an acquisition value of \$100,000 or more and a useful life expectancy of more than one year, OR
 - 5.1.3. Any infrastructure asset that has an acquisition value of \$5,000 or more and a useful life expectancy of more than one year.”



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5.2. A controlled asset is any item in one of the defined categories below with a replacement value of at least \$500.00 and which are not tracked as a capital asset. Controlled assets to be tracked will fall into these categories:

5.2.1 Information Technology-related items – other than those already tracked by the Department of Information Technology (DoIT).

5.2.2 Cameras

5.2.3 Cell Phones

5.2.4 Other handheld devices (GPS Units, Monitors of any kind, etc.)

5.2.5 Miscellaneous equipment or parts for equipment

5.2.6 Handheld tools

5.2.7 Portable Office and Storage Trailers

5.2.8 Not included – Office furnishings, fixtures, and supplies are not included in this policy.

5.3. Portable Assets- are those which are not included as capital or controlled assets but are regularly moved from location to location. Due to their portability, these assets are more difficult to control and monitor. These assets will be inventoried separately from capital and controlled assets.

6. Procedures

6.1. Capital Assets

6.1.1. All capital assets will be inventoried and recorded by the Department of Finance in accordance with the Capital Asset Accounting and Control procedure. The Solid Waste Superintendent, Management and Fiscal Analyst II, and Solid Waste Division Chief will coordinate with and assist Finance staff in maintaining this inventory.

6.2. Controlled Assets


6.2.1. All controlled assets will be inventoried and recorded when they are received, issued, transferred, or otherwise disposed. Persons responsible for the asset will notify the Solid Waste Assistant Superintendent or Management Analyst II whenever these actions occur.

6.2.2. Inventory of current controlled assets - Current controlled assets covered by this policy will be inventoried and as much information as possible will be completed on the Controlled Assets Inventory Log. It is crucial to record the responsible person for each item and its location, specific so that future inventory is easier.

6.2.3. Portable assets – Current portable assets will be inventoried and as much information as possible will be completed on the appropriate form. Record the responsible person and normal location of the asset so that inventory is easier in the future.

6.2.4. Inventory of new assets - Upon receipt of a new controlled or portable asset, a copy of the invoice(s) and/or Purchase Order (PO) is provided to the Solid Waste Assistant Superintendent or Management and Fiscal Analyst II for recordation. The log will be completed to the fullest extent possible, with the understanding that some of the requested information may not be appropriate or available for some items. The copy of the invoice or PO will be kept with the inventory records.



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6.3. Disposal of assets- Whenever an inventoried asset is to be disposed the responsible person will complete the Asset Disposal Form for damaged, obsolete, lost, stolen, or unusable goods if appropriate. The form will be submitted to the Solid Waste Assistant Superintendent or Management and Fiscal Analyst II for recordation and removal from the inventory. The copy of the Asset Disposal Form will be retained with the inventory records. If an Asset Disposal Form is not necessary, then the responsible person must notify the Solid Waste Assistant Superintendent or Management Analyst II of the intent to dispose and the reasons. That information will be added to the Portable Assets inventory files.

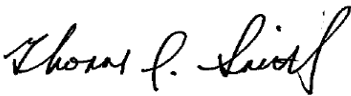
6.4. Verification of the inventory- Prior to the end of each fiscal year, the Controlled Assets Inventory will be verified by a staff member other than the Solid Waste Assistant Superintendent or Management and Fiscal Analyst II. Any deviation from the expected inventory numbers will be recorded and explained. Any updates (responsible person or location, etc.) will be given to the Solid Waste Assistant Superintendent and Management and Fiscal Analyst II who will update the original log. Each person participating in the inventory process will be given instructions and explanations of how to conduct the inventory counts. The completed forms will be reviewed by the Solid Waste Superintendent or Division Chief.


7. Records

Controlled Assets Inventory Log
Asset Disposal Form

8. Documents approval and history

Revision	Date	Reason for Revision
1.0	06/08/2015	Initial Release
2.0	07/23/2018	Updated to include assets of \$500 in value. Added 5.2.8 Portable assets. Added 6.2.3 Inventory of portable assets. Removed Controlled Assets Inventory Log from records.
2.1	09/17/2019	Added details on disposal of assets.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Refuse Hauler Permitting and Truck Inspection Process	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/15

1. Purpose

This policy explains the process used to issue permits to refuse haulers and to perform the necessary truck inspections.

2. Scope

The policy applies to all permitting and truck inspection activities.

3. Responsibilities

- 3.1. The Solid Waste Assistant Superintendent is responsible for all permitting and truck inspection activities. Duties have been delegated to the Engineering Assistant II.
- 3.2. The Engineering Assistant IIs are responsible for assisting with recordkeeping and inspection activities.
- 3.3. The Crew Supervisors, Engineering Assistant IIs and other Solid Waste employees will be called on to assist with truck inspection activities as needed.
- 3.4. The Accounting Assistant II will ensure companies are invoiced for fees for truck inspections and decals. She/he will also check credit references and create new credit accounts for newly permitted companies.
- 3.5. The Solid Waste Division Chief and Solid Waste Superintendent will review and approve Mixed Load Agreements.


4. References

Chapter 22, Article III, Section 22-38 and 22-56 of the Prince William County Code
 Solid Waste Regulations for Prince William County
 Rules for Prince William County Refuse Haulers Delivering Waste to Fairfax County I-95 Energy/Resource Recovery Facility
 Rules of Operation for the Prince William County Sanitary Landfill
 Rules of Operation for the Prince William County Balls Ford Road Yard Waste Composting Facility

5. Procedures - All refuse haulers operating in Prince William County are required to receive a permit from the Department of Public Works. The permits are issued and the associated truck inspections are completed by Solid Waste Division staff. Permits are required to be renewed annually.

- 5.1. Whenever a new company inquires about obtaining a Solid Waste Collection Permit, the Solid Waste Assistant Superintendent or designee will see that they receive a “permit packet” consisting of all forms and information necessary to receive the permit. See section 5.2 for a list of the contents of the packet. The forms will be sent electronically. Completion of the forms in electronic format is easier and faster. It eases the permit renewal process since the electronic forms can be sent to the customer with most information pre-filled, including the list of currently permitted trucks. The applicant will complete and return the forms for review by Solid Waste Division staff. Once the completed forms are approved, the individual trucks will be inspected. Once the trucks pass inspection a permit will be issued. The Application for Solid Waste Division Account must be




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completed the first year a company is permitted. The resulting account is kept active in the database as long as the company remains active and in good standing.

- 5.2. For companies with existing permits, the Engineering Assistant II will ensure that all files are accurate and up to date.
 - 5.2.1. Six weeks prior to the annual permit renewal date for each company the Engineering Assistant II will email a “permit packet” to the company. Each permit package will contain copies of the following:
 - A letter or email explaining the permitting process and requesting that the appropriate forms be completed and returned (most companies will not need to complete every form).
 - Refuse Removal Permit Application
 - Application for Solid Waste Division Account, if necessary
 - Refuse Haulers Contact list
 - Refuse Haulers Recycling Collection Plan
 - Sample Payment Bond
 - Application to Deliver Prince William Waste to Fairfax County I-95 E/RRF
 - Sample Mixed Load Agreement Letter
 - Chapter 22 of the Prince William County Code
 - Rules of Operation for the Prince William County Sanitary Landfill
 - Rules of Operation for the Balls Ford Road Yard Waste Compost Facility
 - Solid Waste Regulations for Prince William County
 - Rules for Prince William County Refuse Haulers Delivering Waste to Fairfax County I-95 Energy/Resource Recovery Facility
 - List of the applicant’s currently permitted trucks
- 5.3. All refuse haulers must complete the forms that apply to their hauling practices and return signed copies of these forms to the Engineering Assistant II via email. Every company MUST complete and return at least these forms: Refuse Removal Permit Application, Application for Solid Waste Division Account (first year only), Refuse Haulers Contact List, Refuse Hauler Recycling Collection Plan and the Application to Deliver Prince William Waste to Fairfax County I-95 E/RRF form. In addition, it is especially important that the Refuse Hauler review the list of currently permitted trucks received with their permit package. The Refuse Hauler must make corrections to the list indicating any trucks that should be added or deleted, or any other changes that have been made (a new license plate number or a change to the fleet number assigned to the truck, for example). This corrected truck list must be returned along with the other completed forms. It serves as the list of the trucks that will be inspected and approved for use in Prince William County for that year.
- 5.4. If the company plans to bring in mixed loads, they must also consult with the Solid Waste Division Chief and/or the Solid Waste Superintendent who will review and approve all new and existing



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mixed load agreements the company has with Prince William County Solid Waste Division. These arrangements must be reviewed and updated annually as part of the re-permitting approval process. The Engineering Assistant II and the Recycling Program Manager will review the returned forms for completeness, accuracy and adherence to applicable codes, rules, and laws. Once the permit paperwork is completed and approved; the refuse hauler must arrange to have all refuse trucks inspected by Solid Waste staff. Appointments for inspections may be made prior to the paperwork being submitted; but the inspections may not take place until the paperwork is complete and approved. Appointments for inspections are made with the Engineering Assistant II.

5.5. During a truck inspection, Solid Waste staff will look for the following:

- A current state inspection sticker (trucks registered in Maryland will NOT have an inspection sticker).
- The license tags must match the tag number listed on the registration.
- The presence of tow hooks or a tow pin on the front bumper.
- The company name and telephone number permanently attached on both sides of the truck, in at least 4-inch lettering, in a color contrasting to the main color of the truck.
- The presence of a fully charged, working fire extinguisher of at least 5 lb. size. The fire extinguisher must be mounted in or on the truck.
- Seals will be in good condition and the body will be watertight.
- Tarps must be available on all rolloff trucks.
- Backup alarms must be in working order.


5.6. A Truck Inspection Form is completed for every inspection of every truck. Staff members indicate on the form whether the truck passed the inspection. If the truck fails the inspection, reasons will be given in the Comments section. Appropriate fees for the inspection will be indicated on the form. The form will be signed and dated by the inspector. The Truck Inspection Form is kept with the permitting forms in the company’s notebook.

5.6.1. If the truck passes inspection on all of the points in section 5.5 a “PW number” is assigned to the truck and the appropriate decals are placed on the truck. A PW number decal is placed on both sides of the truck. If the truck has been inspected previously and still retains the original PW number decals it is acceptable to reactivate the existing PW number so that no new decals are needed.

5.6.2. If the truck fails the inspection for any reason, or the refuse hauler decides not to renew its inspection, it is immediately placed on “Not Authorized” status in the WeighMaster software. It should not be used for waste collection in Prince William County. Dumping will not be allowed at Prince William County solid waste facilities. All existing PW number decals must be removed from the truck. The company may request that it be inspected and added to their approved trucks list any time in the future.

5.6.3. Once a truck inspection is complete the following will be done by the Solid Waste Assistant Superintendent or the Engineering Assistant IIs:




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- Update WeighMaster (or equivalent replacement) software with all appropriate data (Authorized/Not Authorized, make, model, and year of the truck, tag number, inspection pass/fail, date, etc.).
- Update the Refuse Hauler Truck List and print a new copy for the notebook. A copy will be emailed to the refuse hauler.
- Update the PW Number List. Print a new copy and place it in the notebook.
- Copy every Truck Inspection Form for the Accounting Assistant II so that he/she may invoice the company for the inspection fees (\$50 per truck inspection, \$10 for PW decals). The \$50 fee is charged for every inspection, even if the truck fails the inspection.
- An original, signed copy of the permit will be mailed to the company. All completed application forms and a copy of the permit will be kept in the company's notebook file. Old copies of the permitting forms will be kept for 5 years.
- When the permitting process is complete send Fairfax County Solid Waste Division a new list of approved trucks so that they may update their database at the I95 E/RRF plant. This is necessary only for those companies who indicated they wanted to use the Covanta facility at Fairfax to dispose Prince William waste.

5.7. Permitting and truck inspections must be completed by the end of the month in which the permit expires. Any company that does not complete the process will forfeit their permit. Their trucks will be placed on "Not Authorized" status in the WeighMaster (or equivalent replacement) system. The company and trucks will not be allowed to use the Prince William County solid waste facilities. They will no longer be authorized to collect waste in Prince William County.

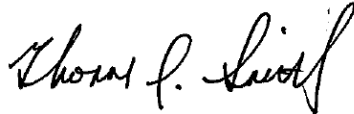
6. Records


Refuse Hauler Truck Files
 PW Number List
 WeighMaster Truck Files and Accounts
 Refuse Removal Permit Application
 Applications for Solid Waste Division Account
 Refuse Haulers Contact Lists
 Refuse Hauler Recycling Collection Plan
 Truck Inspection Form
 Payment Bonds
 Application to Deliver Prince William Waste to Fairfax County I-95 E/RRF
 Sample Mixed Load Agreement Letter

	SOP Title: Refuse Hauler Permitting and Truck Inspection Process	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/15

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	10/17/2012	Added reference to facilities' operations manuals; removed references to Engineering Assistant III; added Field Supervisor; changed 9 VAC 20-80 to 9 VAC 20-81.
3.0	03/03/2015	Reviewed policy. No changes made.
3.0	11/16/2018	Clarified that mixed load agreements must be updated as part of the annual permitting activity.
3.1	08/15/19	Indicated that application forms are now sent and completed electronically and that the entire process is completed online.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/19

	SOP Title: Special Waste Approval Process	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

Solid waste management facilities often receive requests to take wastes that are not normally accepted at that facility. These may be wastes that are not specifically prohibited in the regulations but upon review and inspection of the material and interpretation of the regulations they may be deemed unacceptable. They may simply be wastes that are not usually accepted due to an internal facility policy. In some instances, a waste that is not generally accepted may be accepted on a one-time basis for special clean-up activities sponsored by the County. Some special wastes may simply be so unusual that they must be thoroughly researched before facility staff can determine whether they are acceptable. All of these wastes must be reviewed and inspected to determine whether they may lead to problems in the future. The decision to accept or reject a special waste must be made by well-trained employees who fully understand the regulatory requirements.

2. Scope

This policy covers all questionable, special, and unusual wastes that may come into the solid waste facilities and all requests for approval to dispose of those wastes.


3. Responsibilities

- 3.1. The Solid Waste Division Chief or his designee may approve special wastes and special arrangements.
- 3.2. The Solid Waste Superintendent, Solid Waste Assistant Superintendent, or the Engineer III (Compliance Engineer) may review all data and make a recommendation to accept or reject special wastes. They will notify the appropriate staff members when a decision has been made to accept special wastes. In some cases, final decisions regarding acceptance of a waste must be made by the Solid Waste Division Chief.
- 3.3. The Engineering Assistant IIs may receive the initial request for permission to dispose of special wastes. However, they will pass the information to the staff mentioned in section 3.2 for a final decision.
- 3.4. The Solid Waste Superintendent or Solid Waste Assistant Superintendent will notify appropriate personnel in writing and verbally regarding delivery of special wastes, and will maintain a database where all special approvals are recorded.

4. References

- 9 VAC 20-81 Solid Waste Management Regulations
- Prince William County Landfill Operations Manual
- Prince William County Balls Ford Yard Waste Compost Facility Operations Manual
- Rules of Operation for the Prince William County Sanitary Landfill
- Rules of Operation for the Prince William County Balls Ford Road Compost Facility
- Solid Waste Regulations for Prince William County
- Dirt, Rubble, and Asphalt Acceptance Standard Procedure



	SOP Title: Special Waste Approval Process	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014


5. Procedures

- 5.1. All customer calls and questions regarding disposal of special or unusual wastes, or wastes that would normally not be accepted due to a facility rule or policy, will be referred to the Engineer III (Compliance Engineer), Solid Waste Superintendent, or Solid Waste Assistant Superintendent.
- 5.2. Requests specifically regarding disposal of contaminated soil will be referred to the Engineer III (Compliance Engineer) for evaluation.
- 5.3. A member of the staff mentioned in sections 3.1 through 3.3 will speak with the customer and gather ample information about the waste to enable a decision to be made regarding acceptance of the material. Customer name, address, type and amount of waste, and a delivery date must be included.
- 5.4. When gathering information about the waste, the staff member will request that the customer provide all relevant data. This could include Safety Data Sheets, photographs of the material, descriptions of how the waste was generated (tank removal, manufacturing process, paint removal, etc.), or various laboratory analyses. Additional data may be requested depending on the type of waste being reviewed. The customer must provide all information requested of them.
- 5.5. In some cases, Solid Waste Division employees will need to visit the site to review the waste in person in order for a decision to be made. Photos may be taken and will become part of the record.
- 5.6. Occasionally, the Solid Waste Division Chief or the Solid Waste Superintendent will issue vouchers and/or written approval letters to the customer who requests disposal of special wastes. The documentation must be presented to scale staff for each load. These vouchers or letters will be attached to the transaction ticket for that load.
- 5.7. Whenever a decision is made to accept special or unusual waste all appropriate staff members should be notified verbally and in writing. This notification should include information for scale staff indicating any fees to be charged, vouchers to be collected, or other special requirements. Notifications will be sent to scale staff, the Engineering Assistant IIs, Field Supervisor and workforce crews, and Crew Supervisors as necessary.
- 5.8. The Administrative Support Assistant II will enter the data from the notification into the Special Approvals Database so that a history may be recorded by customer (or company) name and address. All details about the special arrangements will be recorded.

6. Records

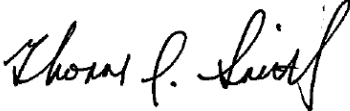
Special Approval Database




	SOP Title: Special Waste Approval Process	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

7. Documents approval and history

Revision	Date	Reason for revision
1.0	09/01/2007	Initial release
2.0	10/17/2012	Added reference to facilities' operations manuals; removed references to Engineering Assistant III; added Field Supervisor; changed 9 VAC 20-80 to 9 VAC 20-81.
3.0	03/03/2015	Reviewed policy. No changes made.
3.1	10/16/2019	Notification to staff will be verbal and written. Deleted "Special Approval Form" that is no longer in use. ASA II makes updates to the Special Approval Database.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Scavenging	
	Effective Date: 11/12/19	Supersedes Policy Dated: 02/03/14

1. Purpose

Scavenging is prohibited at solid waste facilities. Scavenging is very dangerous and can disrupt proper operation of the facility.

2. Scope

The policy applies to all employees, visitors, and customers of County solid waste facilities. It applies to all areas within County solid waste facilities.

3. Responsibilities

3.1 All employees are responsible for informing persons that scavenging is prohibited. They will report to their supervisor anyone who continues to scavenge.

3.2 Supervisors are responsible for preventing persons from removing items from the facilities.

4. References

9 VAC 20-81.10 Solid Waste Management Regulations, Definitions

Rules of Operation for the Prince William County Sanitary Landfill

Department of Public Works Standard Operating Procedure 1.002.6 Scavenging

5. Procedures

5.1 For the purposes of this document, scavenging is defined as the unauthorized or uncontrolled removal of materials from a solid waste management facility. Reuse of materials for County authorized projects is acceptable with the approval of the Solid Waste Superintendent or his/her designee.

5.2 Scavenging will be prohibited at all times.

5.3 Employees will inform any person found scavenging that they are in violation of facility regulations and must cease immediately.

5.4 Employees will report to their supervisor any person who continues to scavenge after being warned to cease.


5.5 Supervisors will inform the offender that he/she must immediately cease scavenging. The offender will be escorted from the premises if they refuse to comply. Prince William County Police may be called for assistance. The supervisor will complete a Solid Waste Division Incident Report.

5.6 The Solid Waste Superintendent will determine any disciplinary actions needed. These may include fines, violations, expulsion from the facility, or other actions as deemed necessary.

5.7 This policy applies to all County solid waste facilities including the Landfill, Balls Ford Road Compost facility, recycling collection sites and trailers.

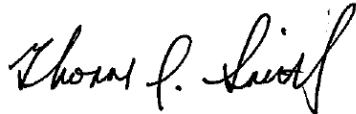
6. Records


Solid Waste Division Incident Reports

	SOP Title: Scavenging	
	Effective Date: 11/12/19	Supersedes Policy Dated: 02/03/14

7. Documents approval and history

Revision	Date	Reason for revision
1.0	09/01/2007	Initial release
2.0	10/17/2012	Added reference to Public Works Scavenging Policy; removed reference to the Too Good to Waste Standard Procedure; changed 9 VAC 20-80 to 9 VAC 20-81. Updated name of incident form.
3.0	03/05/2015	Reviewed policy, no changes made.
3.0	11/16/2018	Reviewed policy, clarified use of material for County authorized projects.
3.0	08/15/19	Reviewed policy. No changes made.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/19

	SOP Title: Regulatory Inspections	
	Effective Date: 11/12/19	Supersedes Policy Dated: 02/03/2014

1. Purpose

This policy establishes consistent procedures to follow during inspections of solid waste facilities by local, state or federal regulatory agencies.

2. Scope

This procedure applies to all Solid Waste Division employees who interact with regulatory inspectors.

3. Responsibilities

- 3.1. All Solid Waste Division employees are responsible for answering inspector’s questions.
- 3.2. All Solid Waste Division supervisors and management staff are responsible for enabling the inspector to perform the inspection by providing access to facilities, records, personnel, or data as requested.
- 3.3. The Solid Waste Division Chief or designee is responsible for responding to regulatory agency correspondence resulting from the inspection.
- 3.4. The Solid Waste Superintendent is responsible for developing, tracking, and reporting on corrective actions as required.


4. References

- 9 VAC 20-60-80 Hazardous Waste Regulations; Enforcement & appeals procedures
- 9 VAC 20-81 Solid Waste Management Regulations

5. Procedures

- 5.1. Regulatory inspectors should be directed to office staff or the supervisor on duty. Solid Waste staff may request inspectors show their credentials.
- 5.2. The office staff or the supervisor on duty will contact the Solid Waste Superintendent, Solid Waste Assistant Superintendent, Field Supervisor, Division Chief, Engineer IIIs, Engineer I, or Crew Supervisor (at Balls Ford) to inform them of the arrival of the inspector.
- 5.3. At least one of the employees mentioned in section 5.2 will accompany the inspector for the duration of the inspection. Be courteous and polite with the inspector at all times.
- 5.4. Escort the inspector to areas as he/she requests. The inspector may look at the surface cover and slopes for evidence of cracking, subsidence, erosion, exposed trash, leachate seeps, ponding and any other condition that threatens the integrity of the cover. The condition of roadways, fences, vegetation, erosion control measures, drainage ditches, pipes and the presence of litter will also be considered. Be prepared to show the inspector training records, gas monitoring records, load inspection data, water monitoring data, and various other records as requested.
- 5.5. All employees interviewed during the inspection should answer the inspector’s questions openly and honestly. Employees should never offer personal opinions, conjectures, or other speculation in response to questions. Employees are free to say “I don’t know” in response to questions they cannot answer and to refer them to appropriate Solid Waste Division staff to obtain an answer.
- 5.6. An exit interview with the inspector should be conducted if possible.



	SOP Title: Regulatory Inspections	
	Effective Date: 11/12/19	Supersedes Policy Dated: 02/03/2014

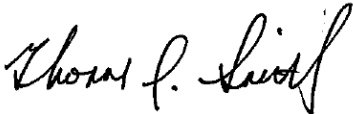
- 5.7. The Solid Waste Superintendent or person accompanying the inspector will receive any written or oral comments made during the inspection. Immediate action will be taken if possible, to perform corrective action of any deficiencies noted in the comments made by the inspector.
- 5.8. The Division Chief or his/her designee will respond to the written inspection report received from the regulatory agency as required.

6. Records


Inspection report generated by regulatory agency

7. Documents approval and history

Revision	Date	Reason for revision
1.0	09/01/2007	Initial release
2.0	10/17/2012	Updated Solid Waste regulations section numbers
2.0	03/05/2015	Reviewed policy, no changes made
2.1	11/16/2018	Added Balls Ford Crew Supervisor to list of people to be notified when an inspector arrives at their facility. Clarified delivery of and action resulting from inspection.
2.1	08/15/2019	Policy reviewed. No changes made.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/19



	SOP Title: Facility Tours	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

Tours of the solid waste facilities are offered to the general public, educational institutions, various government agencies and social groups. Tours are conducted to educate the public about the broad range of solid waste services including landfilling, recycling, composting and citizen’s waste disposal processes.

2. Scope

This policy applies to all tours of County solid waste facilities.

3. Responsibilities

- 3.1. All tours of the landfill will be scheduled by the Solid Waste Assistant Superintendent.
- 3.2. Tours of the composting facility will be scheduled by the Engineer III (Compliance Engineer) or the recycling staff.
- 3.3. At the landfill, the Engineering Assistant IIs will be responsible for conducting the tours, confirming tour dates, ensuring that the landfill tour bus is properly maintained and cleaned for tours, and collecting data and information to be used during tours.
- 3.4 Tours of the Balls Ford composting facility are conducted by the Engineer III (Compliance Engineer) or recycling staff.

4. References

Not applicable

5. Procedures

5.1. Tours of the Landfill:

- 5.1.1. All persons interested in scheduling tours of the facility will be referred to the Solid Waste Assistant Superintendent who will maintain the tour calendar.
- 5.1.2. When a tour is scheduled the Solid Waste Assistant Superintendent will obtain the contact person’s name and telephone number, the number of participants, the age of the participants, and the name of the group.
- 5.1.3. Tours must be scheduled in advance.

5.2. When a tour is scheduled a notification will be sent to the Engineering Assistant IIs, Bird Abatement Staff, and any staff currently participating in providing tours to the public. When tours are expected to include a visit to the power plant Fortistar employees must be notified as well.

5.3. It is recommended that tour participants be at least 8 years of age. Tours for younger groups will be accepted as long as the group leader is informed that the material may be too advanced for the group.

5.3.1.Groups are limited to no more than 52 participants.

5.3.2.Tours will be conducted on weekdays only, between the hours of 9:00 a.m. and 3:00 p.m.





SOP Title: Facility Tours

Effective Date: 11/12/2019

Supersedes Policy Dated: 02/03/2014

- 5.3.3. Participants must behave in a courteous manner. Tour group leaders are responsible for maintaining good conduct of their members. The tour guide may end the tour if the group is rude or unruly or acting in an unsafe manner.
- 5.3.4. Participants must remain seated while the bus is in motion.
- 5.3.5. Participants must remain on the bus throughout the tour unless authorized to exit by the tour guide.
- 5.3.6. The tour bus is not equipped for persons with disabilities. If a physically challenged person is participating, the group's own vehicle may be used, if it is appropriate for the terrain. The decision to use a private vehicle rests solely with the group's driver and/or leader.
- 5.3.7. Prince William County will not be liable for damage to any vehicle.
- 5.3.8. Tours may occasionally need to be rescheduled due to foul weather, wet conditions, problems with the tour bus, etc. Every effort will be made to avoid rescheduling but when necessary staff will give as much notice as possible. Group leaders will be made aware of this possibility when initial arrangements are made and must agree to this condition.

6. **Records**


Tour Calendar

7. **Documents approval and history**

Revision	Date	Reason for revision
1.0	09/01/2007	Initial release
2.0	10/17/2012	Included information regarding Balls Ford tours.
2.0	03/05/2015	Reviewed policy, no changes made.
2.1	11/16/2018	Removed references indicating that the recycling facility manager needed to be notified about tours. Added notification to Bird Abatement staff. Updated Engineer II to Engineer III (Compliance Engineer). Added information for persons with disabilities.
2.1	11/05/19	Reviewed policy. No changes made.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



	SOP Title: Refuse Disposal	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

The purpose of this policy is to ensure that solid waste acceptance and processing, and application of daily cover is conducted in accordance with applicable operating and permitting requirements.

2. Scope

This procedure applies to all refuse and cover material applications at the working face of the Landfill.

3. Responsibilities

- 3.1 The Field Supervisor and Motor Equipment Operator IIIs are responsible for overseeing the unloading, spreading and compaction, and the daily covering of municipal solid waste. The Motor Equipment Operator III in charge of the “dirt crew” is responsible for ensuring that adequate amounts of cover materials are available to meet the daily application requirements.
- 3.2 Motor Equipment Operator IIs are responsible for conducting operations as directed by the Field Supervisor, Motor Equipment Operator IIIs, and the Solid Waste Superintendent in accordance with applicable rules, regulations, and this standard procedure.
- 3.3 Engineering Assistant IIs, Crew Supervisors, Field Supervisor, Solid Waste Superintendent, and the Solid Waste Assistant Superintendent, are responsible for ensuring that hazardous or otherwise unacceptable wastes are not accepted or disposed.
- 3.4 Weighmasters and Scale Operators are responsible for weighing loads and screening their contents as much as possible.


4. References

- 9 VAC 20-81 Solid Waste Management Regulations
- Prince William County Landfill Operations Manual
- Chapter 22 of the Code of Prince William County – Refuse
- Solid Waste Regulations for Prince William County
- Rules of Operation for the Prince William County Sanitary Landfill
- Rules of Operation for the Prince William County Balls Ford Road Compost Facility
- Waste Screening and Unauthorized Wastes Standard Procedure
- Workface Customer Towing Standard Procedure

5. Procedures

- 5.1 Refuse will be accepted and processed in accordance with the most current Virginia Solid Waste Management Regulations, Commonwealth of Virginia Solid Waste Facility Permit #29, and the Rules of Operation for the Prince William County Sanitary Landfill.
- 5.2 Weighmasters and Scale Operators will ensure that all vehicles disposing of waste at the workface are weighed and recorded and a transaction ticket is produced. They will be alert to the type of waste being disposed. They will look for any type of hazardous or otherwise unacceptable wastes. They will contact the Engineering Assistant IIs, Crew Supervisor, Solid Waste Superintendent, or Solid Waste Assistant Superintendent, to inspect any loads that are suspicious. Loads containing




	SOP Title: Refuse Disposal	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

unacceptable wastes will be rejected and will be logged into the Problem/Rejected Load record kept at the Scalehouse. The Prince William County Hazardous Materials Officer will be contacted as necessary regarding loads containing hazardous materials. Further information regarding this screening process is found in the Waste Screening and Unauthorized Wastes Standard Procedure.

- 5.3 The Motor Equipment Operator initially processing the waste is to be watchful for suspicious items. Whenever a load of suspicious nature is dumped, the Motor Equipment Operator will note the company name and description of vehicle. The Engineering Assistant IIs, Solid Waste Superintendent, or Solid Waste Assistant Superintendent will be notified immediately. The refuse will not be landfilled until cleared by one of these persons.
- 5.4 The Motor Equipment Operator IIs and IIIs will evenly deposit and compact refuse along the landfill workface in layers not to exceed 2 feet in depth in order to construct a lift not to exceed a 10 ft. depth after compaction. Motor Equipment Operators will ensure that a 3:1 slope is maintained for the slopes of each cell. A stockpile of cover material will be maintained in accordance with regulations.
- 5.5 The workface is to be compacted and covered daily with soil or an approved alternate daily cover. The area of the exposed workface is to be kept as small as possible. During the mid-afternoon, Motor Equipment Operators will begin placing daily cover along the perimeter of the workface and continue to cover working inward. This method will allow the last loads to be disposed and compacted in a smaller area, reducing the effort required to complete the covering process for the day.
- 5.6 During inclement weather, all vehicles dumping at the workface must have securely mounted tow hooks/pins and mud and snow grip type tires with good tread. Motor Equipment Operators will make sure access roads to the workface are in good condition and covered with sufficient gravel, stone, rubble, or mulch to make sure vehicles are able to get in and out of the workface area as much as possible. If a vehicle is stuck, the Motor Equipment Operators must use proper procedures to pull the vehicle using tow hooks and chains or cables. The truck/vehicle driver is responsible for hooking the cable or chain to their vehicle. Motor Equipment Operators will not push any vehicle without written permission from the owner/operator relieving the County from any damages. See the Workface Customer Towing Standard Procedure for further information.

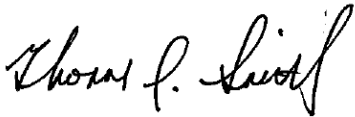
6. Records


Problem/Rejected Load Form
Prince William County Scale Tickets

	SOP Title: Refuse Disposal	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	05/19/1984	Initial Release
2.0	07/1984	
3.0	03/1986	
4.0	09/1988	
5.0	01/1991	
6.0	12/1991	
7.0	03/1994	
8.0	09/01/2007	Updated position titles, deleted suspicious business categories.
9.0	10/17/2012	Updated 9 VAC 20-80 to 9 VAC 20-81.
9.1	03/05/2015	Removed references to "Laborer Foreman".
9.2	01/26/2019	Removed Solid Waste Assistant Superintendent from daily responsibility for workface operation.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Workface Customer Towing	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. **Purpose**

The purpose of this policy is to establish procedures for moving disabled customer vehicles at the workface at the landfill.

2. **Scope**

This policy covers all types of vehicles at the workface.

3. **Responsibilities**

3.1 The Motor Equipment Operator at the workface will assist the customer to ensure that the vehicle is moved as quickly and safely as possible.

3.2 The Solid Waste Superintendent or his designee will determine the appropriate action whenever the subject vehicle does not have tow hooks or tow pins.

4. **References**

Rules of Operation for the Prince William County Sanitary Landfill

5. **Procedures**

5.1 When a customer's vehicle becomes disabled at the workface the Motor Equipment Operator may tow the vehicle to a safe location only if that vehicle is equipped with tow hooks or tow pins.

5.2 The Motor Equipment Operator will offer the tow cable to the driver of the vehicle. In all cases, the driver must connect the cable to his vehicle.


5.3 The Motor Equipment Operator may then pull the vehicle to a safe location.

5.4 The driver will disconnect the cable from his vehicle.

5.5 If the vehicle in question ***does not have tow hooks or pins***, the most appropriate course of action will be determined by the Solid Waste Superintendent or his designee. The company which owns the vehicle will be contacted to request the vehicle be moved. Disabled vehicles that may interfere with normal operations may be moved out of the way by the County at the owner's risk and expense. Prince William County assumes no liability for damage to vehicles resulting from towing or moving. The County may ask the company to sign a letter releasing them of all liability before their vehicle is moved.

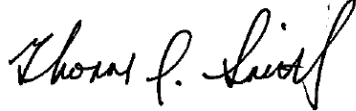
6. **Records**


Release of Liability Letters

	SOP Title: Workface Customer Towing	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	05/19/1984	Initial release
2.0	02/1988	
3.0	9/1988	
4.0	09/01/2007	Updated tow hookup procedure, renamed policy from "Customer Assistance" to "Workface Customer Towing"
4.0	01/18/2013	Reviewed policy, no changes made.
4.0	03/05/2015	Reviewed policy, no changes made.
4.0	09/26/2019	Reviewed policy, added notification to company for vehicles which cannot be moved.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Dirt, Rubble and Asphalt Acceptance Procedure	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

This policy explains standard practices that are in place regarding acceptance of dirt, rubble, and asphalt from projects around Prince William County and other jurisdictions.

2. Scope

The policy applies to all rubble, dirt, and asphalt loads delivered by contractors and institutions. This policy does not apply to small loads brought in by private citizens.

3. Responsibilities

- 3.1 The Solid Waste Superintendent will authorize acceptance of commercial loads of dirt and asphalt. He will notify all appropriate staff of the inbound material.
- 3.2 The Field Supervisor will be responsible for tracking the delivery of all dirt, rubble, and asphalt from contractors and developers. They will ensure that scale staff are aware of all agreements to accept material.
- 3.3 All employees who receive customer questions will be familiar with the procedure and should be able to answer basic questions.
- 3.4 The Engineer III (Compliance Engineer) will review all requests for delivery of contaminated material and will decide whether to accept the material.
- 3.5 Scale Operators and Weighmasters will ensure that loads being delivered to the facility through the scales are approved for disposal.


4. References

Rules of Operation for the Prince William County Sanitary Landfill; Annex C-Soil Acceptance Policy 9 VAC 20-81 Solid Waste Management Regulations

5. Procedures

- 5.1 Private citizens who are residents of Prince William County may bring small loads (pick up size loads and smaller) of clean, uncontaminated soil, rubble, and asphalt without prior approval and regardless of weather conditions.
- 5.2 **Soil Delivery** -- Specific policy on the acceptance of soil in large quantities from contractors and other businesses is found in Annex C of the Rules of Operation of the Prince William County Sanitary Landfill.
 - 5.2.1 Soil is generally accepted only at the Landfill.
 - 5.2.2 Soil is not accepted during wet weather.
 - 5.2.3 County personnel may inspect the origin site before the soil is delivered to the Landfill. This will depend upon the type of project, location, and amount of material.
 - 5.2.4 Soil is accepted only if needed and only with approval of the Solid Waste Superintendent or his designee. Material generated within Prince William County will have priority over material from outside the jurisdiction. The owner/hauler must provide all information requested by the County. This will include type of project, location, amount and type of




	SOP Title: Dirt, Rubble and Asphalt Acceptance Procedure	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

material, hauling arrangements, and a history of the site, if necessary. Other information may be requested.

- 5.2.5 The County may require that soil be tested and analyzed for contamination by the owner or hauler, at the owner's or hauler's expense. Based upon site characteristics, such as evidence of dumping or disturbed areas, the County will require, and determine the frequency of, analytical testing. When the soil is found to be contaminated it may be accepted only if it meets the guidelines for acceptance standards provided in Table I of Annex C in the Rules of Operation for the Prince William County Sanitary Landfill.
- 5.2.6 All trucks delivering material to the landfill are subject to inspection at any time.
- 5.2.7 For soil delivery of over 500 yards, the County may require that a loader/dozer and an operator be supplied to stockpile the material. The County may also require that a flush truck be supplied to keep the roads in the landfill clean.
- 5.2.8 The hauler will be required to haul away any soil with large rocks, roots, stumps or other material which makes the soil unsuitable for use as landfill daily cover. If unsuitable material is not removed, the County will remove the material and charge the hauler for the actual costs.
- 5.2.9 A contact person and a telephone number must be supplied to the County before material is delivered to the landfill.
- 5.2.10 The hauler must supply the County with a list of trucks in service each day before material is delivered to the landfill.
- 5.2.11 All drivers must check in at the scales on their first trip into the facility. Scale Operators and Weighmasters will ensure that the material has been approved and will direct the driver to the dumping area. At the Field Supervisor's or Superintendent's instruction, the Scale Operator or Weighmaster will inform the driver to bypass the scales on subsequent trips. If fees are being assessed per load a transaction ticket will be completed for each load or an arrangement will be made with the owner/hauler to track the number of loads delivered. Fees will be assessed by the Accounting Assistant II with the usual monthly invoicing.
- 5.2.12 All rules and regulations must be followed at all times, including the 15-mph speed limit and the route specified by landfill personnel.
- 5.2.13 The County has the right to stop deliveries of material at any time.
- 5.2.14 *For Contaminated Soils –*
 - 5.2.14.1 All requests for disposal of contaminated soil will be directed to the Engineer III (Compliance Engineer).
 - 5.2.14.2 The County may accept non-hazardous contaminated soils generated only from within the Prince William County area.
 - 5.2.14.3 Contaminated soil will only be accepted in accordance with Annex C of the Rules of Operation for the Prince William County Sanitary Landfill.
 - 5.2.14.4 The Engineer III will notify the Solid Waste Superintendent that the material is



	SOP Title: Dirt, Rubble and Asphalt Acceptance Procedure	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

acceptable. The Superintendent will determine the specific arrangements that are required for delivery of the material. The owner or hauler may need to establish a Landfill Account for billing.

5.2.15 Rubble Delivery – Large loads of Rubble are not accepted. Rubble loads must be no more than 2.5 cubic yards of material. Material generated within Prince William County will have priority over material from other jurisdictions.

5.2.15.1 Rubble which is larger in size than a football or contains wire reinforcement or rebar is never accepted.

5.2.15.2 Rubble is generally accepted at the Landfill only.

5.2.15.3 These small loads of rubble may be delivered to the landfill without prior approval. However, there will be some instances when the landfill cannot accept rubble. It is always best to call first. A fee will be assessed for each load in accordance with the landfill fee schedule.

5.2.15.4 Rubble is usually only accepted in small quantities of 1-2 truckloads.

5.2.15.5 This material is not accepted during wet weather.

5.2.15.6 County personnel may inspect the origin site before the rubble is delivered to the landfill. This depends on the type of project, amount of material, and location of the project.

5.2.15.7 All drivers must check in at the scales for every load. Scale Operators and Weighmasters will ensure that the material has been approved and will assess the appropriate fee. They will then direct the driver to the dumping area.

5.2.16 All trucks delivering material to the landfill are subject to inspection at any time.

5.2.17 The hauler will be required to haul away any rubble with roots, stumps, trash, or other material which makes it unsuitable for use. If unsuitable material is not removed, the County will remove the material and charge the hauler for the actual costs.

5.2.18 All rules and regulations must be followed at all times, including the 15-mph speed limit and the route specified by landfill personnel.

5.2.19 The County has the right to stop deliveries of material at any time.

5.3 Asphalt Delivery – Asphalt is almost always useful in landfill operations.

5.3.1 Most asphalt will be used in road construction and road improvement.

5.3.2 Asphalt should be no more than 6 inches thick and should be broken up into small chunks.


5.3.3 Deliveries of asphalt will require prior approval from the Solid Waste Superintendent or their designee.

5.3.4 A fee of \$50 per load is charged for dump truck size loads. Pickup size loads will be assessed a \$25 fee.

5.3.5 Small amounts of asphalt (1- 3 loads) may be accepted without prior approval.

5.3.6 Hot asphalt will require prior approval except small amounts from Virginia Department of Transportation (VDOT).

5.3.7 Asphalt will usually be accepted, even during wet weather.


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- 5.3.8 County personnel may inspect the site before the asphalt is delivered to the landfill. This will depend upon the type of project, amount of material, and location of the project.
- 5.3.9 All drivers must check in at the scales. Fees will be assessed at that time. Scale Operators and Weighmasters will ensure that the material has been approved and will direct the driver to the dumping area.
- 5.3.10 All trucks delivering material to the landfill are subject to inspection at any time.
- 5.3.11 The hauler will be required to haul away any asphalt that is contaminated with trash or other items which makes the material unsuitable for use. If unsuitable material is not removed, the County will remove the material and charge the hauler for the actual costs.
- 5.3.12 A contact person and a telephone number must be supplied to the County before material is delivered to the landfill.
- 5.3.13 The County has the right to stop deliveries of material at any time.
- 5.4 Special Arrangements for Useable Material – fees may be waived for material that is of use to the County. If so, the trucks may check in at the scales on their first trip and may then be able to bypass the scales on subsequent trips. In all cases, the scale staff will instruct the driver when he checks in with his first load.


6. **Records**
Not applicable.

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	12/19/2012	Changed 9 VAC 20-80 to 9 VAC 20-81; added Field Supervisor responsibilities.
2.0	03/05/2015	Reviewed policy, no changes made.
3.0	09/26/2019	Total revision to reflect actual practices in place, fees are being charged for all material, and trucks must check in at scales on first load at least.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



	SOP Title: Heavy Equipment Preventive Maintenance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. **Purpose**

This policy establishes the operators' responsibilities for heavy equipment preventive maintenance.

2. **Scope**

The policy applies to all operators of heavy equipment.

3. **Responsibilities**

3.1 Every operator is responsible for performing a walk-around pre-trip and post-trip inspection of every piece of heavy equipment they operate. They are also responsible for reporting problems to the Field Supervisor and/or Fleet Management as needed. Equipment operators will be responsible for keeping equipment clean inside and out, including cleaning tracks.

4. **References**


Operating Manuals for specific equipment
Caterpillar Unit Monitor Booklet

5. **Procedure**

- 5.1. Prior to startup of heavy equipment, the operator will do a pre-trip inspection as detailed in Job Aid 102 – Heavy Equipment Preventive Maintenance.
- 5.2. All safety or operability issues will be reported to the Field Supervisor or the Motor Equipment Operator III who will report it to Fleet Management personnel immediately. Any other equipment failures should be written up for repair by the end of the shift.
- 5.3. Throughout the course of the shift the operator will pay attention to all warning indicators and other signs of problems, i.e. leaks, steam, odd noises, etc. Equipment will be shut down immediately whenever safety or operability concerns arise. Fleet Management personnel will be notified by the Field Supervisor or Motor Equipment Operator III when these occur. Non-urgent issues will be written up for repair at the end of the shift.
- 5.4 The Field Supervisor or Motor Equipment Operator III will ensure that equipment is made available on time for all scheduled maintenance.
- 5.5 At the end of the shift the operator will complete a post-trip inspection as specified in Job Aid 102 - Heavy Equipment Preventive Maintenance.

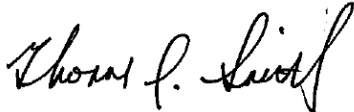
6. **Records**


Prince William County Fleet Management Motor Vehicle Repair Service Request Form
Heavy Equipment Preventive Maintenance Book

	SOP Title: Heavy Equipment Preventive Maintenance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	11/1985	Initial Release
2.0	01/1986	
3.0	09/1989	
4.0	09/01/2007	Changed name from “Maintenance Management” to “Heavy Equipment Preventive Maintenance”; removed references to mechanics working for Solid Waste, added instructions to complete work order requests, removed all reference to recording repairs and maintenance activities and repair and maintenance support for other agencies; created separate standard procedure for Truck Maintenance
5.0	11/07/2012	Included the Caterpillar Unit Monitoring Booklet; added requirement to check brakes and blades for wear. Added requirement to report issues to the Field Supervisor.
5.0	03/05/2015	Reviewed policy; no changes made.
6.0	08/13/2019	Moved details of pre- and post-trips to Job Aid 102.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Commercial Vehicle Preventive Maintenance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. **Purpose**

This policy establishes the drivers' and supervisors' responsibilities for commercial vehicle preventive maintenance.

2. **Scope**

The policy applies to all drivers of commercial vehicles requiring a Commercial Driver's License (CDL) and their supervisors.

3. **Responsibilities**

- 3.1. Every driver is responsible for performing a walk-around pre- and post-trip inspection of every commercial vehicle they drive. They are also responsible for reporting problems to their supervisor and/or Fleet Management as needed.
- 3.2. Crew Supervisors are responsible for making sure that all vehicle problems are written up and that the vehicles are available for maintenance and repair. They must ensure that vehicles are kept clean inside and out.


4. **References**

Virginia Commercial Drivers Manual
 Virginia Motor Carrier Safety Regulations
 Driver/Vehicle Inspection Reports
 Risk and Wellness Services Policy Manual, Section 1103, Commercial Motor Operator Safety Program

5. **Procedure**

- 5.1. Every driver will perform a walk-around pre-trip inspection of their commercial vehicle before operating it. All the following areas and systems will be checked for damage, wear, missing parts, or other problems: tires, brakes, engine, steering systems, suspension system, exhaust system, and emergency equipment. The driver will complete the report documenting the inspection.
- 5.2. Problems affecting safety or drivability must be immediately reported to the Crew Supervisor who will report to Fleet Management personnel. Minor problems may be reported at end of shift. All problems are to be written up using the Prince William County Fleet Management Motor Vehicle Repair Service Request. All problems should be noted in the inspection report.
- 5.3. During operation the driver will watch the gauges for signs of trouble. Use your senses to check for problems. Look, listen, smell, and feel. Check critical parts for problems when you stop: tires, wheels and rims, brakes, lights and reflectors, cargo covers and tie-downs.
- 5.4. If you have vehicle failure, stop immediately and contact the Crew Supervisor or Fleet Management personnel.
- 5.5. The driver will inspect the vehicle at the end of the trip/day/shift. This step is mandatory.
 - 5.5.1. Fuel the vehicle at the end of each day.



	SOP Title: Commercial Vehicle Preventive Maintenance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

5.5.2. Check and grease all fittings as necessary.


5.5.3. If any problems are found, report them immediately to the Crew supervisor or Fleet Management personnel as necessary. Complete the Prince William County Fleet Management Motor Vehicle Repair Service Request for all problems. Make sure all problems are reported on the inspection report.


6. **Records**

Prince William County Fleet Management Vehicle Repair Service Request
Driver/Vehicle Inspection Report

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	11/1985	Initial Release
2.0	01/1986	
3.0	09/1989	
4.0	09/01/2007	Changed name from “Maintenance Management” to “Commercial Vehicle Preventive Maintenance”; removed references to mechanics working for Solid Waste; added instructions for completing work requests; listed specific requirements for inspections
5.0	11/07/2012	Deleted specific pre-trip inspection steps. Indicated driver should report problems to Crew Supervisor and Fleet Management.
5.0	03/05/2015	Reviewed policy; no changes made.
5.0	08/09/2019	Added some supervisor responsibilities. Changed Risk Management to Risk and Wellness Services.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Truck Washing	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

The purpose of this policy is to ensure that all commercial vehicles leaving the landfill during wet weather are free of dirt and mud before entering the state road system.

2. Scope

This policy applies to all large commercial vehicles leaving the landfill during wet weather.

3. Responsibilities

- 3.1. Scale Operators and Weighmasters will remind commercial and County drivers of the need for them to exit through the truck wash.
- 3.2. Landfill supervisors will stop commercial vehicles and send them to the truck wash if they appear to be in danger of leaving mud on the roadway.

4. References

None

5. Procedure

- 5.1. During wet weather, Scale Operators and Weighmasters will remind drivers to use the truck wash when they leave the landfill. After the first trip, scale staff will assume that the driver will remember.
- 5.2. As the driver approaches the wash area he will wait in line until he sees the green light on the stop light at the entrance to the apparatus.
- 5.3. The driver will proceed through the wash apparatus as the water cycles on.
- 5.4. There will be no backing into the truck wash. If the driver wishes to have further washing, he must re-enter through the front of the apparatus.
- 5.5. If the truck wash is not operational, drivers will make every effort to minimize mud transfer to the public roads. The Landfill's water truck will be used to clean the roads as necessary.


6. Records

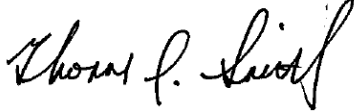
None

7. Documents approval and history


Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	12/17/2012	Removed requirement for non-County vehicles to follow this policy.
2.0	03/05/2015	Reviewed policy; no changes made.
2.1	08/15/2019	Changed Scope to include all large commercial vehicles.



	SOP Title: Truck Washing	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



	SOP Title: Water Truck Operation	
	Effective Date: 11/05/2019	Supersedes Policy Dated: none

1. Purpose

The purpose of this policy is to establish procedures reducing water use for the purposes of dust control and road cleaning.

2. Scope

This policy applies to all uses of the water truck throughout the facility.

3. Responsibilities

- 3.1. Motor Equipment Operator IIs are responsible for operating and filling the water truck as indicated in this policy. They are also required to complete the log form.
- 3.2. Crew Supervisors are responsible for ensuring the water truck is filled using alternate water sources (pond water) whenever possible and ensuring the log is completed accurately and completely.


4. References

Fugitive Dust Standard Procedure
Commercial Vehicle Maintenance Standard Procedure

5. Procedure – The water truck is used for dust control purposes and for cleaning roads throughout the landfill. Large quantities of water are consumed in this process. This process was developed to reduce the amount of water used for these purposes. Employees should fill the truck with pond water whenever possible.

- 5.1. Each driver will perform a pre-trip inspection of the water truck prior to using the truck. Problems or issues will be reported as needed (see Commercial Vehicle Maintenance Standard Procedure).
- 5.2. Each driver will be given on the job training for proper use of the truck.
- 5.3. Three seasons of the year (Spring, Summer, Fall) the truck will be kept full at all times allowing for rapid response to fires at the facility and easy road cleaning. When the temperature nears 32° F the tank will be drained to prevent freezing. The tank is kept empty during cold weather months.
- 5.4. The tank can be filled using either the water hydrant or pond water. Use of pond water is always preferred whenever weather conditions, equipment, pond water levels and staffing allow.
- 5.5. Drivers will complete the Water Truck Daily Log Sheet, or will give the Crew Supervisor the information to do so. The Crew Supervisor will advise their staff on that issue.
 - 5.5.1. The sheet requires entry of date, time, number of loads, and source of water (pond or hydrant). Whenever pond water is not used a reason must be entered in the log. This allows for correction of problems or issues in the future.
 - 5.5.2. Completed forms can be placed in the Superintendent’s office in the appropriate binder. Those forms will be reviewed regularly by the Engineer I for data collection purposes.



	SOP Title: Water Truck Operation	
	Effective Date: 11/05/2019	Supersedes Policy Dated: none

5.5.3. Data collected and the analysis of that data will be reported in the Environmental Management System (EMS) documentation software. The data will be included in the annual EMS report to DEQ.

5.6. The water truck will be fueled at the end of each day.

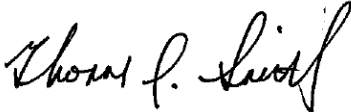
5.7. Any driver moving the water truck over the road must have a tanker endorsement on their Commercial Driver's License.


6. **Records**

Water Truck Daily Log Sheet
Pre- and Post-trip Inspection Sheets

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	11/12/2019	Initial release.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Rolloff Box Hauling	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

This policy is established to provide procedures for daily rolloff box pick up and dumping activities.

2. Scope

The policy applies to all Solid Waste Division rolloff truck drivers or anyone who may drive the trucks in a temporary fashion.

3. Responsibilities

3.1 All Motor Equipment Operator IIs or other drivers-in-training are responsible for performing a pre-trip inspection of their vehicles. They must perform their day to day box pulling activities as outlined below. They are responsible for reporting operational problems or safety issues to their supervisor immediately. They are responsible for performing their tasks safely.

3.2 Crew Supervisors are responsible for assigning tasks related to rolloff hauling, ensuring needed maintenance is reported, and tracking rollofs when placed out in the community for clean ups.

4. References

Commercial Vehicle Preventive Maintenance Standard Procedure
 Customer Service Standard Procedure
 Employee Conduct Standard Procedure

5. Procedures

5.1 All Motor Equipment Operator IIs (a.k.a. “drivers”) and other substitute, temporary, or in-training drivers who are responsible for pulling rolloff boxes will strive to have all boxes empty by 5:00 p.m. each day.

5.2 Each driver must perform a pre-trip inspection of their truck at the beginning of each day as discussed in the Commercial Vehicle Preventive Maintenance Standard Procedure.

5.3 Rolloff boxes from the Citizen Convenience Centers must be pulled throughout the day as they are filled. The Crew Supervisor must ensure that the boxes are pulled promptly when they are full.

5.4 Backing up to the rolloff box is the most difficult and dangerous procedure in this process. The driver will pay particular attention to the surroundings; he/she must ensure that there are no people and no debris in the area. Drivers will NOT back into any area when unauthorized persons are present.

5.5 All vehicles leaving the solid waste facilities must be properly covered and all tie-down straps or appropriate tarps must be employed.

5.6 Every rolloff container will be weighed at the Landfill scales with the exception of the scrap metal, tire and recycling containers located at the Landfill. The boxes are generally weighed inbound and outbound.

5.7 After weighing the load, the driver will proceed to the workface, metal pile, yard waste area, or other appropriate designated location.



SOP Title: Rolloff Box Hauling

Effective Date: 11/12/2019

Supersedes Policy Dated: 06/08/2015

- 5.8 The driver will back into the appropriate dumping area after ensuring that the area is clear. He/She will dump the load or offload the rolloff box as appropriate.
- 5.9 The driver must be wearing safety boots, safety vest, and gloves before exiting the vehicle. Hard hats are required whenever they are dumping a rolloff box (hazards fall from the load frequently), at the landfill workface, on the rolloff box level of the Citizen Convenience Center, or at any other location while dumping a container.
Any rolloff box or vehicle that is damaged or not functioning properly shall be immediately reported to the driver’s supervisor. That box will be removed from service, if appropriate, until repairs are completed.
- 5.10 During inclement weather all rolloff vehicles will utilize the truck wash as available and as necessary to minimize tracking of mud.
- 5.11 When delivering or retrieving rolloff boxes to/from sites around the County (usually for community cleanup events) the Driver will avoid any overhead obstructions or areas of debris. They will ensure that rolloff boxes do not block fire hydrants or prevent access to the area by emergency vehicles. Additionally, when placing the box, the Driver must ensure that there are no persons in the vicinity. If there are people in the vicinity where the box is to be placed the driver will clear the area prior to placing the box.

6. **Records**

Vehicle Inspection Report
Scale Transaction Tickets

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	11/24/2012	Removed specific steps for loading/unloading rolloff boxes. Indicated that Crew Supervisors and Laborer Foreman are responsible for seeing that boxes are pulled as necessary. Removed requirement that trucks be warmed up before use in cold weather. Added the requirement that all over-the-road trucks be properly covered while on the road.
2.1	03/05/2015	Removed reference to “Laborer Foreman”.
3.0	01/28/2019	Changed MEO II to “Driver” to accommodate temporary or substitute personnel. Added placement of boxes in the community. Added hard hat requirement. Removed reference to dumping at the Recycling Building.

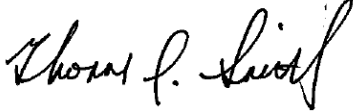





SOP Title: Rolloff Box Hauling

Effective Date: 11/12/2019

Supersedes Policy Dated: 06/08/2015

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



	SOP Title: Scalehouse and Traffic Control Restricted Access	
	Effective Date: 11/1/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

The Scalehouses and Traffic Control Building are cash handling locations for the solid waste facilities. Access to these areas must be restricted in order to maintain security.

2. Scope

This policy applies to all employees and all visitors.

3. Responsibilities

3.1 The Scale Operators and Weighmasters are responsible for ensuring that they do not allow unauthorized persons to enter these areas.

3.2 Employees should enter, or ask for entry to, these areas only if it is necessary and only if they are authorized to be in those locations. All County employees assigned to the Balls Ford facility are authorized to enter the Scalehouse at that location.

4. References

Fiscal Management Standard Procedure

5. Procedures

5.1 Since cash transactions take place in the Scalehouses and the Traffic Control Building, access to these locations is restricted to only those employees who are authorized to enter. Authorized employees have been issued access codes to the security system at the Scalehouses and/or keys to the Traffic Control Building.

5.2 Authorized employees should enter only if it is required in order to perform their job.

5.3 Employees who work in these areas should not enter unless they are scheduled to be there, or they are covering a position unexpectedly.

5.4 Occasionally we will need to allow persons to enter these facilities in order to complete repairs or other projects. Weighmasters and Scale Operators will be notified by the Solid Waste Superintendent or Assistant Superintendent or their designee when this will occur.

5.5 In order to maintain security, the door at the Landfill Traffic Control Building will remain locked at all times.


5.6 Those persons working in the Landfill Scalehouse will ensure that the door to the building is closed and latched (activating the security system) at all times. An access code must be entered in order to open the door. The security system will be armed whenever the facility is closed. The security system at Balls Ford is armed when the person running the scales leaves for the day and requires the input of an authorized access code at all times throughout the day to open the door.

5.7 Customers should not enter these buildings unless authorized and accompanied by the supervisor on duty.

6. Records


Not applicable.




	SOP Title: Scalehouse and Traffic Control Restricted Access	
	Effective Date: 11/1/2019	Supersedes Policy Dated: 02/03/2014

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial release.
2.0	11/24/2012	Added Balls Ford procedures.
2.0	03/05/2015	Reviewed policy, no changes made.
2.1	11/28/2018	Added information on access codes for secure doors. Added Assistant Superintendent authorizes entry by maintenance staff.
2.2	08/15/2019	Indicated that Balls Ford Scales doors are secured so that an access code must be entered each time the door is opened.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Scalehouse and Traffic Control Operations	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

The purpose of this policy is to document the proper procedures for serving customers and operating customer service check points.

2. Scope

This applies to all functions of, and all personnel working in, the Scalehouses and Traffic Control area.

3. Responsibilities

3.1. The Weighmasters at the Landfill and the Crew Supervisor at Balls Ford will be responsible for scheduling staff to cover all Scale and Traffic Control operations and supervising their activities. In addition, they perform all the tasks that Scale Operators perform.

3.2. The Scale Operators will be responsible for manning the Scales and Traffic Control check points, answering customer questions, directing customers to proper locations, recording all transactions, operating the truck scales, handling all customer payments, and all other day to day activities at these locations.

4. References

- Rules of Operation for the Prince William County Sanitary Landfill
- Rules of Operation for the Prince William County Balls Ford Compost Facility
- Scalehouse and Traffic Control Restricted Access Standard Procedure
- Waste Screening and Unauthorized Wastes Standard Procedure
- Fiscal Management Standard Procedure
- Product Sales Standard Procedure


5. Procedures

5.1. The Weighmasters/Crew Supervisor will schedule the Scale Operators for their respective shifts ensuring that proper staffing is accomplished during all hours of operation. At the landfill there will typically be two teams of three employees working 4-day shifts and one employee whose time is split between the landfill office and the scale/traffic control operation. There may be more or less depending upon current circumstances. At Balls Ford there will typically be one scale staff member each day. The Crew Supervisor or Motor Equipment Operator III may cover the position as needed. Written schedules will be given to the employees at the Landfill at least a week prior to the start of the shift. Written schedules are not required at Balls Ford since there is usually only one crew member present and their schedules are permanent. Schedules may need to be changed at the last minute to cover positions for employees who are out unexpectedly. As a result, it may be necessary to require an employee to work extra time.

5.2. The lunch period for all Solid Waste Division employees at the landfill and Balls Ford is 30 minutes.

5.3. There is no formalized morning or afternoon break. These breaks will be accommodated as customer flow allows. At the Landfill, the Weighmaster will determine the best times for these




	SOP Title: Scalehouse and Traffic Control Operations	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

breaks to be taken. At Balls Ford, breaks may be taken when there are staff members available to cover the position.

- 5.4. The Landfill Weighmasters will assign tasks and locations to each person as needed. Employees may be shifted to different tasks throughout the day to best accommodate customer demands.
- 5.5. The Scalehouses and Traffic Control locations are business offices and access to them is restricted. Refer to the Scalehouse and Traffic Control Restricted Access Standard Procedure for more information about this. People needing change or information may speak to staff at the service windows.
- 5.6. Operation of the scale is the responsibility of the Weighmaster with authority delegated to the appropriate staff member when the Weighmaster is off duty. Should the system malfunction, the Weighmaster is responsible for ensuring that correct data is recorded using handwritten scale tickets. They must also ensure that the malfunction is reported to the Solid Waste Assistant Superintendent or to the Accounting Assistant II. If the problem cannot be resolved, it will be reported to the appropriate company or County agency to affect a repair.
- 5.7. For details on procedures for opening the Scales or Traffic Control refer to Job Aid 100 – Scale and Traffic Control Opening.
- 5.8. Each Scale Operator and Weighmasters will review customer ids to confirm Prince William County residency.
- 5.9. When a vehicle arrives, and the load requires inspection, the Weighmaster/Scale Operator will request that the customer pull aside. The Weighmaster/Scale Operator will make note of the weight of the load (if the load is at one of the scales) before the vehicle leaves the scale. They will call the appropriate personnel to inspect the load (refer to the Waste Screening and Unauthorized Wastes Standard Procedure for more information regarding load inspections). The Weighmaster/Scale Operator will continue to assist other customers while this customer waits for their load to be inspected. If loads are rejected, an entry must be made in the Problem/Rejected Load Form or the Rejected Load Form at Balls Ford.
- 5.10. The Weighmaster or Scale Operator will weigh loads and enter data into the WeighMaster system as needed. All transactions occurring at the scales should be entered into the computer. The Weighmaster/Scale Operator at Traffic Control will check customer ids for proof of residency, answer customer questions, direct the customer to the proper locations and accept payment for loads as needed. All payments will be entered on the cash register. Additionally, at all locations, credit card transactions will be approved using the credit card transaction machine. The charge will also be entered on the cash register at Traffic Control and the WeighMaster software at the Scalehouses.
- 5.11. The Weighmasters and Scale Operators will process customers through the system as quickly as possible while still answering their questions and providing directions. They will not carry on conversations with customers while other customers are waiting in line. They will be cordial and courteous but ask that drivers move on so that they may assist other customers. During busy times, if a customer needs more than brief information, they will ask them to pull aside and call someone to assist them so that other customers in line are not inconvenienced.




	SOP Title: Scalehouse and Traffic Control Operations	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

- 5.12. Most customers will not need to pay a fee for most trash. Special fees, as outlined in the Rules of Operation for the Prince William County Sanitary Landfill and the Rules of Operation for the Prince William County Balls Ford Compost Facility, will be charged for some items. Residents of the cities and towns will be charged as well.
- 5.13. Payments for all loads of compost, mulch, firewood, or topsoil at Balls Ford are accepted by the contractor and are not to be processed through the WeighMaster software. The Scale Operator will contact the contractor to let them know when a customer wants to make a purchase.
- 5.14. Weighmasters/Scale Operators will ensure that all transactions are appropriately recorded (in the WeighMaster computer system or using the Traffic Control cash register) and all customers receive receipts. A Void Explanation Sheet will be completed for any transaction completed in error. It will be attached to the transaction ticket and submitted with the other tickets at the end of the day. Be certain to explain the problem clearly so that the Accounting Assistant II can provide a thorough explanation when the change is made in the software.
- 5.15. For details on procedures for closing the scales or Traffic Control refer to Job Aid 101 – Scales and Traffic Control Closing.
- 5.16. Additional information regarding the handling of transactions can be found in the Fiscal Management Standard Procedure.

6. Records

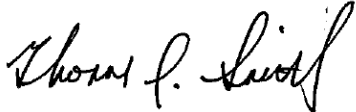
- Scale Transaction Tickets
- Problem/Rejected Load Form
- AED/NOAA/Customer Count Form
- End of Day Closeout Form – Traffic Control
- End of Day Closeout Form – Scalehouse
- End of Day Closeout Form – Balls Ford
- End of Day Reports
- Void Explanation Sheet
- Void Explanations
- Deposit Receipts (Balls Ford)




	SOP Title: Scalehouse and Traffic Control Operations	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	12/17/1991	
2.0	06/09/1993	
3.0	09/01/2007	Added start up and end of day procedures. Removed references to “the Landfill Secretary”. Removed references to community clean ups.
4.0	11/24/2012	Added Balls Ford procedures. Added credit card procedures.
4.1	03/05/2015	Changed “Laborer Foreman” to “Crew Supervisor”; removed step to “set security cameras to record” at Balls Ford.
5.0	08/07/2019	Indicated that MEO III can run the scales at Balls Ford. Changed “overtime” to “extra time”. Indicated that all payments for mulch, compost, firewood, topsoil at Balls Ford are now handled by the contractor. Clarified that “Void Explanation Sheets” must be attached to the affected transaction ticket. Removed details of Scale and Traffic Control opening and closing procedures. Moved that information to Job Aid 100 and Job Aid 101.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Citizens Convenience Centers	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

This policy establishes procedures for maintaining the Citizen Convenience Center at each solid waste facility.

2. Scope

This policy applies to all employees working in and around the Citizen Convenience Centers at the Landfill and Balls Ford Compost Facility.

3. Responsibilities

- 3.1 The Engineering Assistant IIs and Crew Supervisors will ensure that there is sufficient space in the appropriate containers for used oil filters and household batteries and that the containers are properly collected and disposed as needed. They will ensure there is no household hazardous waste in or around the Citizen Convenience Centers.
- 3.2 The Crew Supervisor on duty will assign tasks throughout the day and will ensure that they are carried out.
- 3.3 Maintenance Workers, temporary agency workers, and Motor Equipment Operator IIs will perform tasks assigned to them.
- 3.4 Weighmasters and Scale Operators will check in all customers and direct them to proper areas for disposal of waste.

4. References

- Refrigerant Recovery Standard Procedure
- The Donation Place at the Prince William Landfill Standard Procedure
- Customer Service Standard Procedure
- Employee Conduct Standard Procedure

5. Procedures

- 5.1 All employees working at the Citizen Convenience Centers will ensure customers are directed to the designated areas for proper disposal of waste.
- 5.2 The Crew Supervisor, with the assistance of the Maintenance Workers and temporary agency workers, will make sure the parking areas near the rolloff boxes are cleaned and swept of all debris.
- 5.3 The Crew Supervisor will make sure the Motor Equipment Operator IIs empty all recycling and trash containers.
- 5.4 The Crew Supervisor will make sure the Maintenance Workers and temporary agency workers will clean catch basins in the oil/anti-freeze collection area and organize all used car batteries neatly.
- 5.5 The Crew Supervisor will ensure that the refrigerators, freezers, air conditioners, etc. are placed in a rolloff box for transport to the landfill (if collected at Balls Ford) or are removed promptly and placed in the scrap metal area after the refrigerant has been evacuated, as indicated in the Refrigerant Recovery Standard Procedure. Debris remaining in the area will be removed.





SOP Title: Citizens Convenience Centers

Effective Date: 11/12/2019

Supersedes Policy Dated: 06/08/2015


- 5.6 Maintenance Workers and temporary agency workers will pick up trash, empty trash bins, and clean under and around trash containers when they are pulled.
- 5.7 Maintenance Workers and temporary agency workers will empty used motor oil and anti-freeze into proper containers as needed throughout the day. They will clean the exterior of the used oil and antifreeze tanks each week. They will clean battery storage containers as needed.
- 5.8 Motor Equipment Operator IIs will complete maintenance and clean up tasks as assigned by the Crew Supervisor.
- 5.9 Engineering Assistant IIs, or the Crew Supervisors when Engineering Assistant IIs are not available, will ensure that the household battery collection containers are emptied as needed and that the full containers are delivered to the Household Hazardous Waste warehouse for processing.
- 5.10 During emergencies requiring the services of First Responders the Crew Supervisor and/or his designee will ensure that the appropriate areas are closed to the public and that traffic is routed away from the incident.
- 5.11 In the event of inclement weather all recycling container doors will be kept closed.

6. **Records**


None.

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial release
2.0	12/17/2012	Combined Landfill and Balls Ford Standard Procedures; added Laborer Foreman duties, changed "Laborer" title to "Maintenance Worker", deleted all references to "voluntary workers".
2.1	03/05/2015	Removed all references to "Laborer Foreman".
2.2	11/27/2018	Mentioned MEO IIs responsibilities. Added info about emergency situations.
2.2	10/01/2019	Reviewed policy. No changes needed.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



	SOP Title: The Donation Place at Prince William Landfill	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

This policy establishes procedures for the safe and appropriate operation and maintenance of The Donation Place at the Prince William Landfill (formerly known as The Too Good to Waste Place).

2. Scope

The policy covers all activities in and around The Donation Place at the Prince William Landfill (The Donation Place).

3. Responsibilities

- 3.1. Scale Operators and Weighmasters will ensure, as much as possible, that customers intending to use The Donation Place are residents of Prince William County and that the items they plan to place in the facility are acceptable.
- 3.2. Crew Supervisors are responsible for ensuring that the customers abide by the rules of The Donation Place.
- 3.3. The facility operator is responsible for ensuring the gates to The Donation Place are open and closed and locked at the proper times. They will remove items and clean the area as necessary. They are responsible for weighing the material as well.


4. References

Not applicable.

5. Procedures Rules for The Donation Place:

- 5.1. Acceptable items may be donated during posted hours.
- 5.2. No items may be removed by the public or County staff.
- 5.3. The facility shall not be open unless attended by the facility operator.
- 5.4. Posted Hours: Monday through Sunday 9:00 a.m. to 5:00 p.m. daily. Hours of operation are subject to change.
- 5.5. Use of the facility is restricted to Prince William County Residents only.
- 5.6. Crew Supervisors should be notified of any significant incidents at the facility. Any accidents or altercations should be documented on a Solid Waste Division Incident Report.
- 5.7. Children and pets must remain in the vehicle at all times.
- 5.8. Items donated must be in good working condition.
- 5.9. No item in The Donation Place is for sale.
- 5.10. Trash will not be left in the facility.
- 5.11. The following items are not accepted at The Donation Place: weapons, explosives, building materials, flammable products, auto parts, damaged furniture, beds and bedding parts, stereo consoles, televisions, car seats, swing sets, cribs, encyclopedias, food, pets, large appliances, boats, cosmetics, swimming pools, and any other items deemed unacceptable by the attendant.
- 5.12. The facility operator will ensure that donation trailers/trucks will be weighed inbound and outbound.



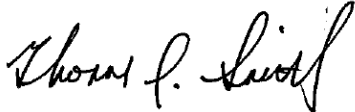
	SOP Title: The Donation Place at Prince William Landfill	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014


6. Records

None

7. Document approval and history

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	12/10/2012	Changed name of facility to “The Donation Place at Prince William Landfill”; modified hours of operation, deleted all references to customers taking items out of the facility; indicated facility will be operated by a contractor, indicated contractor responsibilities. Updated name of incident form.
2.0	03/05/2015	Reviewed policy, no changes made.
3.0	07/26/2019	Revised facility rules: Indicated that Crew Supervisors should be notified of any incidents or problems. Removed requirement for customers to park in designated spaces. Removed requirement for customer to place items where they are instructed by staff. Revised the list of unacceptable items to coincide with that of the facility contractor.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Site Maintenance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. **Purpose**

Prince William County Solid Waste staff have established this policy for the purposes of regulatory compliance, protection of public health and safety, and the beautification of all Solid Waste facilities.

2. **Scope**

This policy applies to all grounds maintenance activities at the facilities.

3. **Responsibilities**

3.1. The Solid Waste Superintendent, Field Supervisor, Crew Supervisor (BFR) Solid Waste Assistant Superintendent, or the Engineering Assistant II will perform a daily site inspection. This inspection includes monitoring windblown debris. They will report any problem areas to the Laborer Foreman who is responsible for site maintenance at the landfill or the Crew Supervisor at Balls Ford who will direct Maintenance Workers to clean the site.

3.2. The Laborer Foreman or Crew Supervisor will be responsible for overseeing the beautification and general site maintenance of each facility. She/he will supervise Maintenance Workers and temporary agency employees to ensure all assigned tasks are carried out in a timely manner. She/he will report all environmental maintenance activities to the Solid Waste Assistant Superintendent.

3.3. The Crew Supervisors will assist as needed.

3.4. The Solid Waste Assistant Superintendent will update the Environmental Maintenance Database with the information received from the Laborer Foreman and the Crew Supervisor.

4. **References**

9 VAC 20-81-140 Solid Waste Management Regulations B.1 – Compaction and Cover Requirements
 Prince William County Sanitary Landfill Operations Manual
 Prince William County Operations Manual Balls Ford Road Yard Waste Composting Facility
 Windblown Debris Standard Procedure


5. **Procedures**

5.1. The Solid Waste Superintendent, Field Supervisor, Crew Supervisor, Solid Waste Assistant Superintendent, or the Engineering Assistant II will perform a daily inspection of each site. Any problem areas will be reported to the Laborer Foreman or Crew Supervisor responsible for site maintenance. For one inspection per week, this information will be recorded on the Prince William County Sanitary Landfill or the Balls Ford Road Daily Inspection Form as appropriate.

5.2. The Laborer Foreman/Crew Supervisor is responsible for ensuring that all grounds maintenance tasks are completed. His/her crew will consist of Maintenance Workers and temporary agency employees.

5.3. The Citizen Convenience Centers at each facility will be monitored throughout each day. Any trash or debris in the Citizen Convenience Center or under the trash boxes will be collected and properly disposed.



	SOP Title: Site Maintenance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

- 5.4. The common areas of each facility and the areas around wells and ponds will be mowed and trimmed as needed. All closed cells at the Landfill will be mowed and trimmed at least twice annually. Litter will be removed from pipe gutters on closed areas as needed.
- 5.5. Litter collection will be performed daily or as needed. The number of bags of litter collected will be recorded and reported to the Assistant Superintendent at least monthly. The Assistant Superintendent will record the data so that it is available for quarterly reporting.
- 5.6. Trees and bushes around ponds and wells will be cut down or trimmed back by the Laborer Foreman and Maintenance Worker who are certified to operate chainsaws. Environmental Services staff may complete clearing projects as needed.
- 5.7. The leachate pond and sediment ponds will be regularly cleaned of all trash/debris.
- 5.8. Twice annually, the inbound and outbound scales at the Landfill will be cleaned and the area under the platforms will be flushed out. Additional cleaning will be performed as needed.
- 5.9. The truck wash holding tank will be dredged, pumped and flushed out quarterly.
- 5.10. The Field Supervisor will oversee all hydroseeding activities performed by contractors and will report to the Solid Waste Superintendent when the hydroseeding is completed. Number of acres seeded will be recorded for later reporting as part of environmental improvements.
- 5.11. During the course of the day the Laborer Foreman/Crew Supervisor will tour the facility checking for windblown debris (refer to the Windblown Debris Standard Procedure).
- 5.12. The Laborer Foreman/Crew Supervisor will inform the Solid Waste Assistant Superintendent of all environmental maintenance activities so that they may be added to the Environmental Maintenance Database.


6. **Records**


Prince William County Sanitary Landfill Inspection Form
 Balls Ford Road Daily Inspection Form
 Environmental Maintenance Database

7. **Documents approval and history**


Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	11/07/2012	Added Balls Ford Road procedures and personnel. Added Field Supervisor and Laborer Foreman duties. Changed "Laborer" title to "Maintenance Worker". Changed "9 VAC 20-80" to "9 VAC 20-81".
2.1	03/05/2015	Changed "Laborer Foreman" to "Crew Supervisor".
2.2	08/15/2019	Changed MEO III to Laborer Foreman responsible for Site Maintenance at Landfill; indicated number of bags of litter collected must be recorded.



	SOP Title: Site Maintenance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



	SOP Title: Windblown Debris	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. **Purpose**

The purpose of this procedure is to prevent debris from blowing off of the property of the solid waste facilities and creating a public nuisance. Controlling windblown debris is also a regulatory requirement.

2. **Scope**

This policy applies to all Prince William County solid waste facilities.

3. **Responsibilities**

- 3.1. The Maintenance Workers and temporary agency workers will collect windblown debris as needed.
- 3.2. The Laborer Foreman and Crew Supervisor who are responsible for the crews will assign litter and debris collection tasks and will record all litter/debris collection activities. This information will be reported to the Solid Waste Assistant Superintendent for inclusion in the Environmental Maintenance database.
- 3.3. The Solid Waste Superintendent, Field Supervisor, Solid Waste Assistant Superintendent, Crew Supervisor or the Engineering Assistant II will perform a daily site inspection. This inspection includes monitoring windblown debris. They will report the need for collection in specific areas to the Laborer Foreman/Crew Supervisor who is responsible for site maintenance.


4. **References**

Prince William County Sanitary Landfill Operations Manual
 Prince William County Operations Manual Balls Ford Road Yard Waste Composting Facility
 Balls Ford Road Permit by Rule

5. **Procedures**

- 5.1. Litter fences will be installed along the perimeter of the landfill and the composting area at Balls Ford to contain blowing litter as much as possible.
- 5.2. The size of the workface is kept to a minimum to reduce the chance of blowing litter.
- 5.3. Cover material (dirt, tarp, or alternative daily cover) will be applied as frequently as needed to assist with the control of windblown waste.
- 5.4. Vehicles using tarps to cover waste will keep the tarps in place until they reach the workface.
- 5.5. Refuse haulers will not open tailgates until they reach the workface area.
- 5.6. The Solid Waste Superintendent, Field Supervisor, Solid Waste Assistant Superintendent, Crew Supervisor or the Engineering Assistant II will perform a daily inspection of each site. This inspection includes checking for windblown debris. Any problem areas will be reported to the Laborer Foreman/Crew Supervisor responsible for site maintenance. Once per week this information will be recorded on the Prince William County Sanitary Landfill Inspection Form or the Balls Ford Road Daily Inspection Form as appropriate.
- 5.7. The Laborer Foreman/Crew Supervisor will tour the facility throughout his shift to check for windblown litter problems.



	SOP Title: Windblown Debris	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

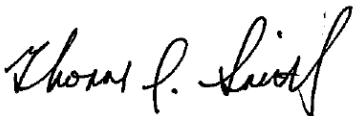
- 5.8. The Laborer Foreman/Crew Supervisor will assign members of the crew to clean problem areas as needed.
- 5.9. The amount of litter collected, areas cleaned, and dates will be recorded by the Laborer Foreman/Crew Supervisor.
- 5.10. Information about the collection activities will be reported to the Solid Waste Assistant Superintendent at least monthly so that the Environmental Maintenance Database can be updated.
- 5.11. Should windblown debris escape the facility control measures and cross the property boundary onto adjacent property, staff will contact the property owners to seek permission for litter pick-up.


6. **Records**

Prince William County Sanitary Landfill Inspection Form
 Balls Ford Road Site Daily Inspection Form
 Environmental Maintenance Database

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	11/24/2012	Added Balls Ford Road procedures and personnel. Added Field Supervisor duties.
2.1	03/05/2015	Changed "Laborer Foreman" to "Crew Supervisor".
2.2	08/15/2019	Changed MEO III to Laborer Foreman for Litter Crew responsibility at the Landfill.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Environmental and Regulatory Compliance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. **Purpose**

The purpose of this policy is to ensure that Solid Waste Division staff members meet all deadlines and requirements for monitoring and submission of regulatory reports.

2. **Scope**

This policy pertains to all requirements found in the Environmental and Regulatory Compliance table included in this policy.

3. **Responsibilities**

3.1. The responsibilities of the Solid Waste Division Chief, Solid Waste Superintendent, Engineer IIIs, Engineer I, and the Recycling Program Manager are indicated in the Environmental and Regulatory Compliance table.

4. **References**

9 VAC 20-81 Virginia Solid Waste Management Regulations
 9 VAC 20-130-110 Virginia Solid Waste Management Plan
 Commonwealth of Virginia Solid Waste Permit 29
 VPDES Permit VA0088510
 VPDES Permit VAR051078
 Spill Prevention Control and Countermeasure Plan (Landfill and Balls Ford)
 Stormwater Pollution Prevention Plan (Landfill and Balls Ford)

5. **Procedures**


5.1. Regulatory requirements, compliance due dates, submission requirements, and responsible parties are indicated in the Environmental and Regulatory Compliance Table that follows.

5.2. Reports are submitted to the regulating agency on or before the deadlines listed in the Environmental Compliance Table.

6. **Records**

VPDES Discharge Monitoring Reports
 Tank Inspection Reports
 Annual Solid Waste Information and Assessment Program Report
 Locality Recycling Rate Report
 Five Year Solid Waste Management Plan
 Compliance Inspections
 Comprehensive Site Compliance Evaluation
 Quarterly Visual Discharge Inspection
 Toxicity Test Report
 Financial Assurance Report
 Landfill Gas Compliance Boundary Wells and Structures results




	SOP Title: Environmental and Regulatory Compliance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

Groundwater Monitoring Reports, Annual and Quarterly
 Surface Emissions Monitoring Reports
 Wellhead Exceedance Monitoring Reports
 Annual Compliance Report
 Annual Compliance Certification
 1st and 2nd Semi-Annual Compliance Report
 Annual Update and Emission Statement Certification
 Annual Operations Manual Updates and Certifications (Landfill and Balls Ford)

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	12/17/2012	Initial Release
1.0	03/06/2015	Reviewed policy; updated Compliance table to include “Engineering Consultant” responsibilities.
2.0	08/15/2019	Removed VPDES Permit VA0086797: added Engineer I

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



SOP Title: Environmental and Regulatory Compliance

Effective Date: 11/12/2019

Supersedes Policy Dated: 06/08/2015

Table 1 – Environmental Compliance Schedule

Compliance Report/ Monitoring Activity	Compliance Due Date/Monitoring Frequency	Reports Submitted or Retained Onsite	Responsible Person
<i><u>AIR (Title V) PERMIT</u></i>			
1. Annual Compliance Report	March 1 st	DEQ-NVRO/EPA	Engineer III
2. Annual Compliance Certification	March 1 st	DEQ-NVRO/EPA	
3. 1 st Semi-Annual Compliance Report	September 1 st (Jan-Jun)	DEQ-NVRO	
4. 2 nd Semi Annual Compliance Report	March 1 st (Jul-Dec)	DEQ-NVRO	
5. Annual Update & Emission Statement Cert.	April 1 st (or date varies)	DEQ-NVRO	
6. Air Emission Fee	September 1 st	DEQ-NVRO	
7. Wellhead Exceedance Monitoring Letter	Monthly	DEQ-NVRO	
8. Surface Emission Monitoring & Data Submission	March 1 st (Annual) (Monitored Quarterly)	DEQ-NVRO	
<i><u>SOLID WASTE PERMIT</u></i>			
Financial Assurance Test	December 31 st	DEQ-Richmond	Eng. III, Division Chief
Operations Manual Reviews (BFR, LF)	Annual	Onsite	Eng. III, Eng. I, Division Chief
LFG Compliance Boundary Wells & Structures Results	Quarterly	DEQ-NVRO	Engineer Assistant II
Groundwater Monitoring & Reports:			
1. Annual	March 1 st	DEQ-NVRO	Engineer III, Engineer I
2. Quarterly	Quarterly	DEQ-NVRO	






SOP Title: Environmental and Regulatory Compliance

Effective Date: 11/12/2019


Supersedes Policy Dated: 06/08/2015

Compliance Report/ Monitoring Activity	Compliance Due Date/Monitoring Frequency	Reports Submitted or Retained Onsite	Responsible Person
<u>STORMWATER PERMIT (VPDES)</u>			
Compost Facility BFR 1. Discharge Monitoring Report. 2. Toxicity Test (Annual Event)	10 th of the following month 10 th of the following month	DEQ-NVRO DEQ-NVRO	Engineer II
Yard Waste Facility Landfill 1. Discharge Monitoring Report 2. Toxicity Test (one-time sampling event)	10 th of the following month Due in 2015 and submitted by the Jan 10, 2016	DEQ-NVRO DEQ-NVRO	Engineer II, Engineering Assistant II
Stormwater Ponds 1. Balls Ford Road Quarterly Discharge Monitoring Report 2. Balls Ford Annual Toxicity Test (sample date varies – refer to permit) 3. Landfill Semi-Annual Discharge Monitoring Report (Jan – Jun; Jul-Dec) 4. Visual inspection of outfall discharge – both sites	10 th of the following month in which the sample was taken Quarterly	DEQ-NVRO DEQ-NVRO DEQ-NVRO Report kept onsite	Engineer I, Engineering Assistants II
SWPPP (Landfill & BFR) 1. Compliance inspections 2. Comprehensive site compliance evaluation	Quarterly Annual	Keep reports in SWPPP onsite (Do not send to DEQ)	Engineer IIIs, Solid Waste Superintendent



	SOP Title: Environmental and Regulatory Compliance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

Compliance Report/ Monitoring Activity	Compliance Due Date/Monitoring Frequency	Reports Submitted or Retained Onsite	Responsible Person
<i>MISCELLANEOUS</i>			
Five Year Solid Waste Management Plan	5 th Anniversary of the Plan's approval date (04/22/2015)	DEQ Richmond	Division Chief; Recycling Manager
Annual Locality Recycling Report	April 30 th	DEQ Richmond	Recycling Manager
SW Annual Tonnage Report (DEQ Form 50-25)	March 31 st	DEQ-NVRO	Engineer III, Engineer I
SPCC Tank Inspection	Monthly	Keep reports in SPCC onsite (Do not send to DEQ)	Engineer I

	SOP Title: Stormwater Monitoring	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/082015

1. **Purpose**

This policy documents procedures for monitoring of stormwater at solid waste facilities.

2. **Scope**

This policy pertains to all stormwater monitoring performed by Solid Waste staff.

3. **Responsibilities**

The Engineering Assistant IIs, Engineer I, Crew Supervisor, and/or Maintenance Workers will perform all stormwater monitoring activities.

4. **Reference**

VPDES Permit VAR051078 (General Permit, Landfill)

VPDES Permit VA0088510 (Balls Ford)

Stormwater Pollution Prevention Plan-Prince William County Sanitary Landfill

Stormwater Pollution Prevention Plan-Balls Ford Compost Facility

5. **Procedure** -- The four types of stormwater samples required are: Quarterly Visual Discharge Analysis, Quarterly Discharge Monitoring, Semi-Annual Discharge Monitoring, and Toxicity/Biological Monitoring. Specific procedures follow:

5.1. Quarterly Visual Discharge Analysis –The Engineering Assistant IIs at the landfill will retrieve samples, record, and report their results on the Quarterly Visual Discharge Analysis Form. At Balls Ford the sampling and recording of data is completed by available staff.

5.1.1. Examination must be made during daylight hours. Visual examinations must be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging from the facility.

5.1.2. All samples, except snowmelt, must be collected from the discharge resulting from a storm event that results in a discharge and that occurs at least 72 hours from the previously measurable storm event.

5.1.3. If no storm event resulted in runoff from the facility during a monitoring quarter, the facility is excused for that quarter if documentation is included with the monitoring record indicating that no run off occurred.

5.1.4. Document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution.

5.1.5. The report must be maintained onsite with the Stormwater Pollution Prevention Plan (SWPPP). The report must include the outfall location, date, time, name of sampler and nature of discharge (runoff or snowmelt), visual quality of the stormwater and probable sources of any observed stormwater contamination. The data is reviewed by the Engineer III and the Division Chief. The Division Chief signs the document indicating acceptance of the data. The document is then placed in the SWPPP book.




SOP Title: Stormwater Monitoring

Effective Date: 11/12/2019

Supersedes Policy Dated: 06/082015

- 5.1.6. If two or more outfalls discharge substantially identical effluent, based on similar activities, the facility may conduct visual monitoring on just one of the outfalls.
- 5.1.7. If a visual sample cannot be performed due to adverse climatic conditions, the samplers must document the reason and retain the documentation onsite with the records of the visual examinations.
- 5.2. Quarterly Discharge Monitoring Report (Quarterly DMR)** – This monitoring is performed at the Balls Ford Road Compost Facility retention pond. The Engineer I, Crew Supervisor and/or Maintenance Workers will collect the samples.
- 5.2.1. The grab sample shall be taken during the first 30 minutes of the discharge. If it is impractical to take the sample within the first 30 minutes a grab sample can be taken during the first hour and the reason shall be documented on the report.
- 5.2.2. All samples must be collected from a discharge resulting from a storm event occurring at least 72 hours from the previously measurable storm event.
- 5.2.3. If it is not possible or practical to collect a sample during the specified period due to adverse weather conditions or drought, a substitute sample from a separate qualifying event in the next period can be taken. This sample and the normal sample for that time period must come from two different qualifying storm events. Both sets of data may be submitted at the same time.
- 5.2.4. A sample kit will be provided by the laboratory. The sampler will fill all bottles to the required level.
- 5.2.5. Temperature and pH readings will be taken using the pH Conductivity Meter. Results will be recorded on the laboratory Chain of Custody form.
- 5.2.6. Once all containers are filled, they will be packed in the sample kit along with an appropriate amount of ice. The Chain of Custody form will be completed and included in the sample kit.
- 5.2.7. The sampler will complete the shipping label and notify the shipping company that a pick up is required. Alternately, the sample kit may be hand carried to a lab. The laboratory is notified that a sample kit will arrive at their facility the next day. The lab will send another sample kit for the next event.
- 5.2.8. Data will be entered online at the DEQ website by the Administrative Assistant III, and is reviewed by the Engineer I and III and Solid Waste Division Chief. The Solid Waste Division Chief will then submit the information. This must be submitted no later than the 10th of the following month.
- 5.3. Semi-Annual Discharge Monitoring Report (Semi-Annual DMR)** – This monitoring is performed only on the landfill sedimentation ponds. Refer to 5.2.1 through 5.2.8 for sampling procedures.
- 5.4. Toxicity/Biological Monitoring** – This monitoring occurs at the Balls Ford Compost facility retention pond. The Balls Ford Road facility must sample annually during varied quarters outlined in the VPDES Permit.

	SOP Title: Stormwater Monitoring	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/082015

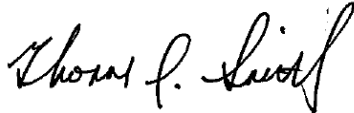
- 5.4.1. The sample must be collected during the first 30 minutes following the commencement of a rainwater discharge event.
- 5.4.2. Sample collection bags will be received from the laboratory and will be filled to the required level.
- 5.4.3. Temperature and pH readings will be taken using the pH Conductivity Meter. Results will be recorded on the laboratory Chain of Custody form.
- 5.4.4. Once the bag is filled it will be packed in ice and placed in the shipping container.
- 5.4.5. The sampler will complete the shipping label and notify the shipping company that a pick up is required. The laboratory is notified that a sample kit will arrive at their facility the next day. The lab will send more sample kits for the next event.
- 5.4.6. Data will be entered online at the DEQ website by the Administrative Assistant III and is reviewed by the Engineer I and III and Solid Waste Division Chief. The Solid Waste Division Chief will then submit the information. This must be submitted no later than the 10th of the following month.

6. **Records**


Quarterly Visual Discharge Analysis Form
 Analytical Reports
 DMRs
 Chain of Custody forms

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	12/07/2012	Combined the Quarterly Visual Monitoring Standard Procedure with the DMR Standard Procedure. Renamed it the Stormwater Monitoring Standard Procedure.
2.1	03/06/2015	Changed “Laborer Foreman” to “Crew Supervisor”.
3.0	08/05/2019	Updated sampling frequency. Removed VPDES Permit VA0086797. Updated position titles as needed.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



	SOP Title: Landfill Gas Monitoring	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

This policy documents procedures for monitoring perimeter gas wells and structures on the landfill.

2. Scope

This policy pertains to all gas monitoring activities performed by Solid Waste staff.

3. Responsibilities

3.1. The Engineering Assistant IIs will perform all gas monitoring activities at the landfill. They will report results to the Engineer III and I and to VDEQ.


4. References

9 VAC 20-81 Solid Waste Management Regulations
 Prince William County Sanitary Landfill Operations Manual
 Commonwealth of Virginia Solid Waste Facility Permit #29 Landfill Gas Management Plan
 Gas Monitoring Device Instruction Manuals

5. Procedure

- 5.1. Gas wells and structures are monitored on a quarterly basis. Date and time of monitoring are at the discretion of the Engineering Assistant IIs. Additional monitoring may be needed if indicated by the monitoring results.
- 5.2. Before any samples are taken the monitor will be calibrated according to the instruction manual for the unit.
- 5.3. Gas samples will be extracted from monitoring wells, analyzed, and results stored using the gas monitoring device. Each reading takes 30 seconds or until readings are stabilized. Pressure readings will be recorded as well.
- 5.4. The gas monitor is zeroed out between samples.
- 5.5. Sample readings are also taken around and within the buildings of the landfill and Animal Control.
- 5.6. Stationary monitors are installed in the landfill office building, scalehouse, Fleet parts room, recycling building, HHW building, and traffic control. The monitors warn of landfill gas buildup. These monitors will be checked as part of the quarterly monitoring activity. A green light indicates safe levels. The monitors have an audible alarm that sounds whenever flammable gas is detected.
- 5.7. All results are recorded on the Prince William County Sanitary Landfill Gas Monitoring Program form and sent to the Department of Environmental Quality and Solid Waste staff via e-mail. Personnel from Animal Control also receive a copy for their records.
- 5.8. Upon review of the results Department of Environmental Quality staff or Solid Waste staff may request additional monitoring.



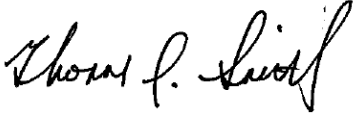
	SOP Title: Landfill Gas Monitoring	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014


6. Records

Prince William County Sanitary Landfill Gas Monitoring Program Form

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	11/07/2012	Changed 9 VAC 20-80 to 9 VAC 20-81. Removed mentions of GEM 2000 and GEM 500 monitors.
2.0	03/06/2015	Reviewed policy; no changes made.
2.1	08/15/2019	Added the need for taking pressure readings at wells.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Landfill Gas Utilization Systems Maintenance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. **Purpose**

The purpose of this policy is to document the maintenance required on equipment using landfill gas.

2. **Scope**

This policy applies to all equipment using landfill gas at the Landfill complex and at the Animal Control facility.

3. **Responsibilities**

3.1. The Maintenance Mechanic Supervisor (MMS) and the Maintenance Mechanic II (MM II) will ensure that all required maintenance activities take place.

4. **References**

Gas Flow spreadsheet

PEI Operation & Maintenance Manual for a 300 scfm Gas Compression System (skid manual)

Roberts Gordon Vantage HE Installation, Operation & Service Manual (Fleet heaters)

5. **Procedure**

5.1. The Gas Skid – The MMS and the MM II are responsible for the routine maintenance on the gas skid in accordance with the skid manual. Major repairs of the skid will be performed by an outside agency.

5.1.1. Operations schedule – From mid-fall to mid-spring the skid operates 24/7 to accommodate the Fleet Shops heaters and Animal Control incinerator. The remainder of the year it is operational one day per week as needed by the Animal Control staff.

5.1.2. Skid flow data – The MMS records gas flow data from the skid monthly and reports to the Engineer III.

5.2. The Pipeline – The MMS and MM II will check and drain all condensate traps along the pipeline semi-annually or more often if needed.


5.3. Fleet Shops Heaters – There are three coalescing filters at the Fleet Maintenance facility. Two of them are 55-gallon drums and one is an inline cartridge filter. The MMS and MM change the filter material. Other maintenance as required by the Fleet heaters manual will be shared between the MMS and MM and Buildings and Grounds staff.

5.4. Animal Control Incinerator – All maintenance of the incinerator is the responsibility of the Buildings and Grounds Division with assistance from the MMS and MM II as needed.

5.4.1. The MMS records gas flow data from the incinerator for billing purposes. The data is given to the Engineer III.

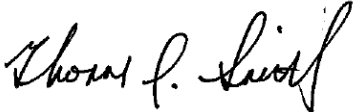
6. **Records**


Gas Flow spreadsheet

	SOP Title: Landfill Gas Utilization Systems Maintenance	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	12/14/2012	Initial release
1.0	03/06/2015	Reviewed policy; no changes made.
2.0	08/15/2019	Indicated that maintenance (section 5.3) is shared between our staff and Buildings and Grounds.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Waste Screening and Unauthorized Waste Plan	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

Prince William County Solid Waste Division staff have developed this plan to detect and prevent disposal of any unauthorized wastes in accordance with Virginia Solid Waste Management Regulations and all other applicable federal and local regulations.

2. Scope

This policy applies to all waste screening and load inspection activities at solid waste facilities.

3. Responsibilities

- 3.1. Scale Operators and Weighmasters should question customers to ensure that loads do not contain hazardous or unacceptable materials. They will contact other staff to review loads that are questionable.
- 3.2. The Engineer Assistant IIs (EAIIs) will be responsible for waste screening activities at the workforce of the landfill including screening, appropriate response and reporting of incidents, and writing warnings and violations as necessary. They will be responsible for recording data about these activities.
- 3.3. Motor Equipment Operators will be watchful for unauthorized wastes in the loads. They will notify the Engineering Assistant IIs when they discover problem loads.
- 3.4. The Crew Supervisors, Solid Waste Superintendent, Solid Waste Assistant Superintendent, or Engineering Assistant IIs will inspect loads that come into the Citizen Convenience Areas and loads that require inspection at the truck scales. Data will be collected about all rejected loads.
- 3.5. The Solid Waste Superintendent will notify the hauling company or other customer when there is a warning or violation issued and whenever fines are assessed, or restrictions are implemented against the hauling company.

4. References

- 9 VAC 20-81 Solid Waste Management Regulations
- 9 VAC 20-60 Hazardous Waste Management Regulations
- 9 VAC 20-120 Regulated Medical Waste Management Regulations
- Rules of Operation for the Prince William County Sanitary Landfill
- Rules of Operation for the Prince William County Balls Ford Compost Facility

5. Procedure

A thorough waste screening and unauthorized waste plan requires an active load inspection program along with proper training and recordkeeping. Weighmasters, Scale Operators and Crew Supervisors will be alert to all material being disposed, but will be especially observant when the material is coming from a business known to produce hazardous wastes, i.e. auto body shops, dry cleaners, carpet cleaners, street sweepers, electric companies, printing companies, medical facilities, marine supplies, etc. They will call the appropriate personnel to inspect the load whenever there is questionable material present.





SOP Title: Waste Screening and Unauthorized Waste Plan

Effective Date: 11/12/2019

Supersedes Policy Dated: 06/08/2015

- 5.1 Engineering Assistant IIs performing load inspections at the workface will look for the following items or characteristics indicating that the waste may be a problem: regulated medical wastes, radioactive wastes, out of county wastes, hazardous materials, containers labeled hazardous or that may have contained hazardous material, excessive or unusual moisture, red or yellow bagged wastes, powders or dusts, smoke or vapors, chemical odors, unusual or brightly colored wastes, sludge, pastes, slurries, large amounts of scrap metal or white goods, tires, fuel tanks or containers, liquids, explosives, ammunition, batteries, PCB waste, asbestos, large carcasses (unless approved in advance), electronic wastes, fluorescent bulbs, compressed gas cylinders, lead acid batteries, oil filters, large loads of construction or demolition debris, large amounts of yard wastes or other recyclables, contaminated soil (if no prior approval was given), stumps, and clearing debris. Other items may be deemed inappropriate on a case by case basis. If any of these items or characteristics are noted in a waste load, further inspection and investigation will be needed to determine whether the waste is an unauthorized waste. Motor Equipment Operators at the workface will be watchful for unauthorized or problem wastes throughout their shift. The Motor Equipment Operators will immediately notify the Engineering Assistant IIs if they encounter suspicious loads.
- 5.2 Types of load inspections - The program includes two types of load inspections taking place at the workface. These inspections are performed by the Engineering Assistant IIs. The Engineering Assistant IIs will make a record of every inspection.
- 5.2.1 **Routine inspections** consist of closely watching the load as it comes off the truck, breaking open accessible bagged trash, and checking unbagged trash to look for unauthorized wastes. Routine inspections will occur Monday through Saturday between the hours of 6:00 a.m. and 6:00 p.m. These inspections take place at the workface. Suspicious loads or generators will always be inspected. Any load known to contain unauthorized waste will be rejected before dumping if possible. An entry will be made in the Problem/Rejected Load Form located in the Scalehouse. In addition, the inspector will keep detailed notes regarding the hauler, generator, and type of unauthorized waste. Other local agencies (i.e. Virginia Department of Environmental Quality, Health Department, Fire and Rescue) may be contacted if necessary.
- 5.2.2 **Random inspections** are a thorough and complete inspection of all contents of the load. They will occur six times per week. The date and time of the inspections will be determined randomly at the beginning of each month. Any load known to contain unauthorized waste will be rejected before dumping if possible. An entry will be made in the Problem/Rejected Load Form located in the Scalehouse. In addition, the inspector will keep detailed notes regarding the hauler, generator, and type of unauthorized waste. Other local agencies (i.e. Virginia Department of Environmental Quality, Health Department, Fire and Rescue) may be contacted if necessary.

When the previously determined load arrives, the Engineering Assistant II will have the driver dump in the designated area at the workface. The dumping area should not disrupt traffic flow and should prevent intermixing with previously dumped loads. The load will be spread as needed in order to open and check every bag and container in the load. The entire





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contents of the load should be accessible. The load should be examined for hazardous or other unauthorized wastes as discussed in section 5.1. The inspector may deem other items to be inappropriate for disposal as well.

5.3 Appropriate actions – The following actions will be taken once the inspection is complete.

5.3.1 Incorporate acceptable waste into the workface. Record data about all inspections on the Prince William County Sanitary Landfill Routine Inspection Report or the Prince William County Landfill Random Load Inspection Form as appropriate. This includes date, time, transaction ticket number, company, type of truck, PW number, driver’s name, source of the load, comments regarding the load, and the inspector’s name or initials. Additional information will be recorded if unauthorized wastes are found.

5.3.2 When a waste that is acceptable by federal and state regulations but is deemed unacceptable by facility rules or policies (e.g. out of county wastes, construction debris, large amounts of recyclables) is discovered, the Engineering Assistant IIs will determine whether the problem warrants writing a warning or a violation.

5.3.2.1 If a warning is needed the inspector will complete the Prince William County Sanitary Landfill Notice of Warning form. Photos of the load will be taken. Addresses from the load will be kept, as proof of out of county waste, if appropriate. Copies of the warning and photos will be kept in the EAII’s office and given to the Solid Waste Superintendent and Solid Waste Assistant Superintendent.


5.3.2.2 If a violation is needed, the inspector will complete the Prince William County Sanitary Landfill Notice of Violation form. Photos of the load will be taken. Addresses from the load will be kept, as proof of out of county waste, if appropriate. Copies of the violation and photos will be given to the Solid Waste Superintendent, and the Solid Waste Assistant Superintendent.

5.3.2.3 The Solid Waste Superintendent will review the warning or violation and contact the hauling company. He or she will assess any fines or restrictions that are necessary against the hauling company.

5.3.3 The inspector will hold suspicious wastes that may violate federal or state regulation, for identification, and report immediately to the Solid Waste Superintendent. Management staff will notify the Department of Environmental Quality of the discovery of unauthorized waste within 24 hours and will submit a written report to the Department of Environmental Quality within 10 days. The written report shall include date and time of discovery, a description of the unauthorized waste, response activities implemented and the ultimate disposal of the unauthorized waste. Other agencies will be notified for assistance as needed (Emergency Services, Health Department, Hazardous Materials Officer, EPA, etc.). Unauthorized waste will be managed in accordance with all applicable federal, state, and local regulations.

5.3.3.1 The inspector will segregate the waste if possible. Place absorbent materials around the area to contain any leaks. Photograph the wastes. Secure the load by covering with tarps as necessary. Secure the area by diverting traffic and preventing customers



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and other employees from entering. Restrict access to persons wearing personal protective equipment as necessary. Ventilate the area as necessary. Contact the hauler and attempt to determine the generator. Contact the generator if possible. If necessary, arrange to have the unauthorized wastes stored temporarily in the Household Hazardous Waste (HHW) building.

5.3.3.2 Arrange to have the unauthorized wastes and all contaminated materials properly handled and disposed of in an appropriate, permitted Subtitle C facility, if necessary. If the generator makes these arrangements the Solid Waste Superintendent and staff must ensure that all wastes are handled and disposed of as regulations require.

5.3.3.3 Provide proof of proper disposal to the Department of Environmental Quality within 90 days.

5.4 PPE – Anyone performing a load inspection at the workface will wear all appropriate Personal Protective Equipment (PPE) at all times. The inspector will always wear safety boots, safety vest and gloves. Additional PPE will be added as needed. This could include Tyvek suits, face shields, eye protection, two layers of gloves, hard hats, ear plugs and dust masks. Any situation requiring more protection than listed here would be handled by emergency response personnel.


5.5 Training – Personnel performing the inspections will be trained in the following areas: methods for identification of unauthorized wastes, handling procedures for unauthorized wastes, record keeping requirements of the program, and occupational safety and health procedures. Training will be conducted in-house or provided through Solid Waste Association of North America staff, or by other authorized training sources as appropriate. Training will be kept as current as possible. Inspection personnel will have a thorough understanding of the Virginia Solid Waste Management Regulations. In addition, they will be familiar with the Virginia Hazardous Waste Management Regulations and Virginia Regulated Medical Waste Management Regulations.

5.6 Records of inspections and response actions – Records of all load inspections will be retained. Records of unauthorized wastes will be thorough and complete. All records, including records of corrective actions or alternate disposal at other facilities, must be retained. Information and records may be included in the [Prince William County Landfill Notice of Warning](#), the [Prince William County Landfill Notice of Violation](#), the [Prince William County Landfill Random Load Inspection Form](#), the [Prince William County Sanitary Landfill Routine Inspection Report](#), inspectors’ log books, or as memos to file, or letters to the Department of Environmental Quality and other agencies as needed.

5.7 Contacts - The following agencies may need to be contacted if problem wastes are found:

Va. Depart. of Environmental Quality	703-583-3800
RCRA Hotline	800-424-9346
National Response Center	800-424-8802



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PWC Risk and Wellness Services	703-792-6741
PWC Risk/Environmental Manager	703-792-5532 571-659-8124 cell
Health Department	703-792-6310
PWC Fire and Rescue - Emergency	911
Non-emergency	703-792-6813
Hazardous Materials Officer	703-792-7405 571-722-8033 cell
Veolia Environmental Services (hazardous wastes)	540-368-9780
Stericycle Inc. (medical waste)	866-783-7422

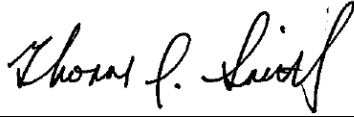
6. Records

Prince William County Sanitary Landfill Random Load Inspection Form
 Prince William County Sanitary Landfill Routine Inspection Report
 Prince William County Landfill Notice of Warning
 Prince William County Landfill Notice of Violation
 Problem/Rejected Load Form


7. Documents approval and history

Revision	Date	Reason for Revision
1.0	08/25/1999	Initial Release
2.0	11/02/2001	
3.0	09/01/2007	Consolidated response actions for hazardous materials, PCBs, medical wastes and other unauthorized wastes. Updated telephone numbers.
4.0	11/07/2012	Added Balls Ford information. Format changes. Took out references to Engineering Assistant III. Incorporated Hazardous Waste Standard Procedure into this one. Increased Random Load inspections to four times per week. Updated telephone numbers. Changed 9 VAC 20-80 to 9 VAC 20-81.
4.1	03/06/2015	Removed all references to “Laborer Foreman”. Changed the frequency of the Random Load inspections to six times per week.
4.2	08/16/2019	Updated Environmental Manager’s title. Removed reference to load inspections at Fairfax.

	SOP Title: Waste Screening and Unauthorized Waste Plan	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2010



	SOP Title: Fugitive Dust Control	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

The purpose of this procedure is to prevent and control fugitive dust across all operations. Excessive dust can lead to citizen complaints.

2. Scope

This procedure applies to all paved and unpaved roads, parking areas, and other open and non-vegetated areas that could reasonably be expected to produce fugitive dust. Fugitive dust typically becomes a problem during dry weather and high wind.

3. Responsibilities

3.1. The Solid Waste Superintendent or his designee is responsible for daily inspections and recordkeeping at the Landfill.

3.2. All supervisors working in the field are responsible for monitoring for excessive dust and directing employees to control the dust.

4. References

9 VAC 5-40-80 Rule 4.1 Clean Air Act

9 VAC 20-81 Solid Waste Management Regulations

5. Procedure

5.1. The Solid Waste Superintendent or his designee will tour the Landfill facility each day checking for indications of excessive dust. The Excess Fugitive Emissions Monitoring and Recordkeeping Form will be completed to maintain a record of these inspections. Other supervisors will monitor the areas throughout the day to look for indications of dust problems. Personnel will be instructed to resolve the dust problems as needed.


5.2. At both facilities, fugitive dust from paved areas will be eliminated or reduced by periodic sweeping and collection of the dust. Facilities are scheduled to be swept as necessary.

5.3. At the Landfill, when dust becomes a problem, all roads will be wet, with potable water, using the water truck. Drivers will apply appropriate amounts of water to the roads; they will refrain from applying excessive amounts of water resulting in runoff. Roads are to be damp but not water logged. Drivers will also strive to maintain good visual awareness of people and vehicles. Nozzles will be shut off to avoid contact with people or vehicles whenever possible. People and vehicles will be allowed to pass before resuming wetting activities.

5.4. At the landfill, before wetting the workface and turn-around area, the driver of the water truck must check with the Motor Equipment Operator III on duty to confirm that the area needs to be wetted. The driver should use as little water as possible.

5.5. On windy days, dusty loads of waste will be placed at the toe of the trash and will be covered as quickly as possible.



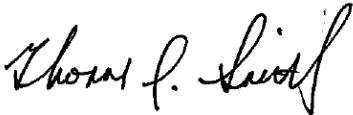
	SOP Title: Fugitive Dust Control	
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6. **Records**

Fugitive Emissions Monitoring and Recordkeeping Form

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	11/24/2012	Combined Landfill and Balls Ford procedures. Changed 9 VAC 20-80 to 9 VAC 20-81.
2.0	03/06/2015	Reviewed policy; no changes made.
2.1	08/15/2019	Corrected the Clean Air Act reference number in Sect. 4.0.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Refrigerant Recovery	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

The policy establishes procedures for all refrigerant recovery activities at the Prince William County Sanitary Landfill.

2. Scope

This policy applies to the Maintenance Mechanic Supervisor, Maintenance Mechanic II and other personnel responsible for refrigerant recovery at the landfill.

3. Responsibilities

3.1. The Maintenance Mechanic Supervisor and Maintenance Mechanic II will have CFC/HCFC Refrigerant Processing Certificate Verification as stated in Section 608 of the Clean Air Act of 1990. The Maintenance Mechanic Supervisor and Maintenance Mechanic II will examine and prepare all refrigerated units to be properly evacuated and will also be responsible for making sure the work area is clear and safe for work.

3.2. At Balls Ford, the Maintenance Workers and Laborer Foreman will keep appliances containing refrigerant in a separate container for transport to the Landfill.

4. References

Section 608 of the Clean Air Act of 1990

CFC/HCFC Refrigerant Processing Certificate Verification Letters

5. Procedure

5.1. Citizens are allowed to dispose of appliances containing CFC (Chlorofluorocarbon) refrigerants without prior evacuation of the refrigerant. Units containing ammonia-based refrigerants will not be accepted.


5.2. Appliances containing CFC refrigerants have a designated drop off point. These appliances are transported from Balls Ford to the Landfill to have the refrigerant evacuated.

5.3. In accordance with Section 608 of the Clean Air Act of 1990, all appliances containing refrigerants, (i.e. refrigerators, vending machines, dehumidifiers, freezers, and air conditioners) will have the refrigerants evacuated. Refrigerant will be evacuated according to CFC types, stored in appropriate containers, and will be recycled.

5.4. All businesses and commercial sources must remove all CFCs before delivering the units to the landfill. A letter from the company indicating all CFCs have been properly removed, the technician's name, certification number, and the number of units for disposal must be presented to the scalehouse or traffic control staff. This information is to verify the units are evacuated and are free of any CFC refrigerants.

5.5. The Maintenance Mechanic Supervisor, Maintenance Mechanic II or other appropriate personnel will mark each unit after evacuating the refrigerant. Spray paint will be used to place an "X" on the unit. After evacuation of CFCs, all marked units are moved to the metal pile to be shipped with



	SOP Title: Refrigerant Recovery	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

outgoing metal to be recycled. The Maintenance Mechanic Supervisor or Maintenance Mechanic II will keep a count of all units evacuated and CFC amounts collected in the Prince William County Landfill Refrigerant Gas Recycling Record.

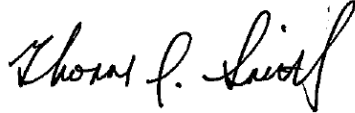
5.6. The Maintenance Mechanic Supervisor or Maintenance Mechanic II will take full containers of recovered CFCs to an approved certified refrigerant recycling facility and exchange them for empty containers.


6. Records

Prince William County Landfill Refrigerant Gas Recycling Record
Technician certificates

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	11/07/2012	Changed CFC to refrigerant. Added Maintenance Mechanic Supervisor duties.
2.0	03/06/2015	Reviewed policy; no changes made.
2.1	08/16/2019	Indicated that ammonia-based units will not be accepted.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Spill Prevention and Response	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/15

1. Purpose

This procedure explains the proper response to any hydraulic oil, fuel, chemical, or other spill that may occur at Solid Waste Division facilities or other sites.

2. Scope

This policy covers employee response to all spills that occur during the performance of their job.

3. Responsibilities

- 3.1. All employees are required to do everything possible to prevent spills or leaks. When a spill or leak occurs, the employee must respond in the manner described below so that damage is kept to a minimum.
- 3.2. Supervisors will assist in the cleanup of spills/leaks and will complete the appropriate paperwork to report the event. Depending upon the size, location, and content of the spill/leak, the supervisor may need to call the appropriate authorities. In all cases, the supervisor will complete a Prince William County Spill Report Form. The Supervisor will notify the Solid Waste Superintendent when dangerous or large (over 25 gallons) spills occur or when any amount of the contaminant enters any drain or waterway.
- 3.3. The Solid Waste Assistant Superintendent will notify the Hazardous Materials Officer, Compliance Engineer, and Risk and Wellness Services when a spill occurs and will maintain a record of all corrective action that takes place.

4. References


Spill Prevention, Control, and Countermeasure Plan (SPCC) – Prince William County Landfill
 Spill Prevention, Control, and Countermeasure Plan (SPCC) – Prince William County Yard Waste Compost Facility

5. Procedures

Refer to the Spill Prevention, Control, and Countermeasure Plan for the appropriate facility to review the full plan for spill response. The following procedures are excerpted from those documents.

- 5.1 Determine the source of the discharge. If flowing contaminants are identified in sufficient quantities deemed to be a hazard, personal protective equipment (PPE) should be donned.
- 5.2 Immediately shut off the source of the discharge and stop the flow of pollutant (i.e. shutting down pumps and closing valves upstream of the leak, etc.).
- 5.3 Remove all sources of ignition (i.e. vehicles should not be running, no smoking in the area of the discharge, etc.).
- 5.4 Use containment absorbent materials (if liquid), booms and other items located in spill kits to prevent the spill from entering the storm drain or other waterways, entering the street, or contaminating other properties.
- 5.5 Evaluate the situation (contact your supervisor if necessary) to determine if you can adequately contain and clean up the spill and its threat to water. If the spill is less than 25 gallons, is no threat



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to water and you can clean it up, skip to step 5.7. If the situation does not meet these conditions continue with step 5.6.

- 5.6 Block the spill to the best of your ability, specifically diverting the flow from going down a drain, into a waterway, or outdoors. Contact the Environmental Manager at Risk and Wellness Services. The Environmental Manager must be notified immediately if any quantity gets into a water body or into a storm drain. They will notify the appropriate agencies. The Environmental Manager and Solid Waste staff will determine how to affect cleanup efficiently and effectively. Proper response may include hiring an outside contractor to complete cleanup activities. Proceed to step 5.8.


PWC Risk and Wellness Services	703-792-6741
PWC Risk/Environmental Manager	703-792-5532
	571-659-8124 cell

- 5.7 Surround the spill with absorbent materials to prevent it from spreading. Put enough absorbent on the spill to absorb all liquids. Sweep up the contents after the liquid has been absorbed. If oil, place the contents in a leak-proof container labeled “Oily Debris”. If other pollutant, place the contents in a leak-proof container and label accordingly.
- 5.8 The Supervisor will complete a Prince William County Spill Report Form located online at the Risk and Wellness Services webpage. A copy will be made prior to submitting the form. The copy will be given to the Solid Waste Assistant Superintendent so that a record of the spill may be kept onsite. Other documentation including photos and records of the type of cleanup activities, and evidence of proper disposal of the material will be kept for larger spills. In the event of a spill requiring outside assistance, a Solid Waste Division Incident Report will also be completed, and all records will be kept with that report.
- 5.9 Replace or restock the contents of the spill kit or notify the Engineering Assistant II of the need to do so.
- 5.10 The Engineering Assistant IIs (EA IIs) will regularly check the contents of all spill kits to ensure they are always properly stocked. A record of the checks will be maintained in the EA IIs office.
- 5.11 When submitting the online spill report form records are sent to the Environmental Manager, Hazardous Materials Officer, and Public Works administrative staff. They will maintain records of all spills and spill response activities.
- 5.12 Spill Prevention and Response will be included in regular safety and environmental training for Solid Waste Division staff.

6. Records

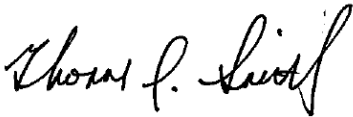
- Prince William County Spill Report Form
- Solid Waste Division Incident Report Form
- Spill Kit Check Spreadsheet




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7. Documents approval and history

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	11/14/2012	Added SPCC for Balls Ford to references. Changed the requirement to call the Risk and Wellness Services Health and Safety Manager to the Environmental Specialist.
2.0	03/06/2015	Added Risk and Wellness Services/Environmental Specialist contact information; added information about outside contractors being used to cleanup larger spills if necessary. Indicated training will take place regularly.
3.0	08/18/2019	Changed “Environmental Specialist” to “Environmental Manager”. Indicated that spill reporting is now done online. Added the EA II’s requirement to check the contents of spill kits regularly.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Incident and Accident Reporting	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

Prince William County Solid Waste Division employees are required to report all accidents, injuries, customer problems and confrontations, unusual occurrences, or other type of incidents so that complete records may be kept, and thorough investigations can take place.

2. Scope

This procedure applies to all employees of the Solid Waste Division. All employees must report all accidents or incidents. Incidents or accidents involving other persons while on Solid Waste Division property must be reported. These persons could include, but are not limited to, customers, contractors, site visitors, and inspectors.

3. Responsibilities

- 3.1. Every employee must immediately report all accidents or incidents to their supervisor and gather as much information as possible.
- 3.2. Each supervisor is responsible for completing, or ensuring that the employee completes, the Solid Waste Division Incident Report. The Supervisor will report the incident to the Solid Waste Superintendent as necessary.
- 3.3. The Solid Waste Superintendent will determine if the incident or accident requires completion of Risk and Wellness Services' Prince William County Incident Report Form. The Superintendent will report the accident or incident to the Solid Waste Division Chief as necessary.
- 3.4. The Solid Waste Assistant Superintendent, Administrative Support Assistant II or III, or other employee designated by the Solid Waste Superintendent, will complete the Prince William County Incident Report Form and ensure the information is forwarded to Risk and Wellness Services. A copy of the completed form will be emailed to the Solid Waste Division Administrative Office. The Solid Waste Assistant Superintendent, or his/her designee, will assign a tracking number to the case and will enter the number into the Incident Report Index for tracking purposes.


4. References

Risk and Wellness Services Manual 25-RSK-200-010 Claims Management
 Public Works Good Catch Policy
 Public Works Incident Investigation Policy

5. Procedures

- 5.1. All accidents, injuries, or incidents are to be reported to the employee's supervisor as soon as possible. In all cases, the event must be reported before the end of the employee's shift.
- 5.2. Call 911 to summon Fire and Rescue and/or County Police personnel as needed. The employee may provide first aid and/or CPR/AED assistance if they have received the appropriate training. The Automatic External Defibrillator (AED) is located in the Traffic Control Building.




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- 5.3. The employee and the supervisor should gather as much information as possible regarding the event and the circumstances leading to it. A complete description of what happened will be necessary; get names, addresses, and telephone numbers of persons involved and witnesses. Provide descriptions of vehicles including the make, model, VIN number and license tags. If emergency response (911) personnel are called, get a copy of their incident report and determine what medical facility the patient is taken to, if appropriate. Include this information in the incident report.
- 5.4. Be sure to get thorough information about witnesses to the incident. Ask them to provide a brief written description of the event if possible.
- 5.5. Whenever possible the employee or supervisor should photograph anything that may be of help in the investigation of the incident. Photos of damage to property and/or vehicles, signage, and conditions at the site can be of great help in resolving problems after the incident. Digital cameras are available at each office. County issued cell phones may be used as well.
- 5.6. The employee and/or his supervisor must complete the Solid Waste Division Incident Report. The form must be turned in to the landfill office as soon as possible.
- 5.7. The Supervisor will notify the Solid Waste Superintendent of the incident.
- 5.8. The Solid Waste Assistant Superintendent, Administrative Support Assistant II or III, or other designated employee will complete the Prince William County Incident Report Form and will immediately send copies to Risk and Wellness Services and to the Solid Waste Division Administrative Office including the Administrative Coordinator and the Safety & Compliance Officer. Digital photos will be emailed to the Claims Manager in Risk and Wellness Services. Other types of photos will be sent via interoffice mail to the Claims Manager.
- 5.9. The Solid Waste Assistant Superintendent or his/her designee will assign a tracking number to the file. Color copies of all photos will be included with the file. Additional paperwork will be added to the file as it is necessary. For all accidents involving Worker Compensation claims, documentation of every doctor visit, diagnosis, limited duty assessment, days off duty, prescriptions, and other medical actions will be forwarded to the Risk and Wellness Services Claims Manager. Copies will be filed with Solid Waste Division Incident Report.
- 5.10. Records of all accidents and incidents will be retained as part of the operating record of the facility.
- 5.11. Whenever an employee experiences or witnesses a “near miss” where an accident could have occurred but didn’t, he/she will complete the “Good Catch” form available on the Public Works website. The supervisor will review the form for completeness and accuracy and then forward the report to the Solid Waste Superintendent for investigation of the incident.
- 5.12. Investigation of the incident and determination of corrective action is the Solid Waste Superintendent’s responsibility. That process will follow Public Works’ “Good Catch Policy” and “Incident Investigation Policy”.

6. Records

Solid Waste Division Incident Reports
 Prince William County Incident Report Forms

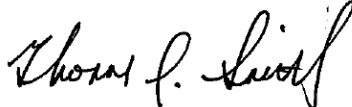



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Documentation of medical actions and reports
 Photos of accident/incident damage, etc.
 Good Catch Forms
 Incident Investigation Forms

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	05/1984	Initial Release
2.0	09/01/2007	Complete revision
3.0	12/10/2012	Removed references to the Engineering Assistant III. Updated name of incident report.
3.1	03/06/2015	Added section 5.10 –records of incidents will be retained as part of the operating record.
4.0	08-19-2019	Changed “Risk Management” to “Risk and Wellness Services”. Added 5.11 and 5.12 about near misses/good catch and incident investigation. Updated ASA I and ASA II to ASA II and ASA III respectively.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: General Site Safety	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

Prince William County Solid Waste Division is dedicated to preserving and promoting the safety of its employees and customers. For that reason, this general policy has been developed to guide our workday procedures and our response to emergency situations.

2. Scope

The policy applies to all activities at solid waste facilities and to all employees.

3. Responsibilities

3.1. The Solid Waste Superintendent and Solid Waste Assistant Superintendent have developed, and will continue to maintain, the general safety policies of the facility. This includes developing, implementing and documenting all safety training activities and programs.

3.2. All other employees will participate in training, will be familiar with safety policies and procedures, will be attentive when working, and will perform their duties in a safe manner.

4. References

- Prince William County Risk and Wellness Services Manual
- Employee Training Standard Procedure
- Heavy Equipment Preventive Maintenance Standard Procedure
- Commercial Vehicle Preventive Maintenance Standard Procedure
- Site Security and Access Control Standard Procedure
- Incident and Accident Reporting Standard Procedure
- Scavenging Standard Procedure
- Fire Prevention and Response Standard Procedure
- Waste Screening and Unauthorized Waste Program Standard Procedure
- Employee Emergency Preparedness and Response Guide
- Prince William County Landfill Operations Manual
- Prince William County Balls Ford Road Yard Waste Compost Facility Operations Manual

5. Procedures

- 5.1.** Site safety will be enhanced by limiting access to the active work areas to authorized personnel. Access to all other areas will be as described in the Site Security and Access Control Standard Procedure. Access is controlled by a combination of signs and physical barriers. Site personnel will be alert for the entrance of unauthorized personnel into prohibited areas.
- 5.2.** All employees are required to read the Risk Management Manual and the Personnel Policy Manual. All employees must sign the record indicating that they have read and understand each manual.
- 5.3.** All employees are required to report all accidents and incidents immediately. Further information appears in the Incident and Accident Reporting Standard Procedure.
- 5.4.** All employees must report any safety violations to their supervisor.





SOP Title: General Site Safety

Effective Date: 11/12/2019

Supersedes Policy Dated: 02/03/2014

- 5.5. As indicated in the Employee Training Standard Procedure, all site personnel will receive monthly site-specific training. This could consist of the following: safe work practices, nature of anticipated hazards, equipment and vehicle safety, site access controls, hazardous materials identification and communication, fire safety, emergency preparedness and response, and employees' rights and responsibilities. Other environmental, safety, and operational topics will be included in training as needed. A record of training will be maintained to confirm that each employee has received the proper training.
- 5.6. Well maintained equipment is vital to the safe conduct of daily operations. Therefore, all equipment will be maintained in proper working order. All safety guards, backup alarms, and engine kill switches will be operational. Equipment operators and drivers will perform equipment checks as indicated in the Heavy Equipment Preventive Maintenance and Commercial Vehicle Preventive Maintenance Standard Procedures. Light equipment, such as mowers and weed-eaters, will be inspected prior to operation.
- 5.7. All employees who hold a Commercial Driver's License will undergo random drug and alcohol testing in accordance with all applicable County policies.
- 5.8. In the event of an emergency, site personnel will assess the situation; notify the Solid Waste Superintendent or designee, and take appropriate actions such as rendering aid, calling for assistance or closing access to the emergency scene. Employees will respond to specific emergency situations as indicated in the Employee Emergency Preparedness and Response Guide.
- 5.9. All employees will be provided with personal protective equipment (PPE) that is appropriate for the tasks they perform. PPE is replaced as needed. Available PPE includes but is not limited to: safety boots, leather, nitrile, jersey, and anti-vibe gloves, safety glasses and goggles, face shields, ear plugs and muffs, hard hats, chaps, dust masks, safety vests, and Tyvek suits. Prescription safety eyeglasses may be provided as needed.
- 5.10. Safety Data Sheets are readily available to all employees. From a County computer click the (M)SDS icon on the speed dial on the County's internal webpage. This will open MSDSONline.com where all Safety Data Sheets (SDSs) are available for review by any employee. Hard copies of SDSs are also available at each site. All employees have been trained in Hazard Communication.
- 5.11. Adequate turn-around areas will be provided for hauling vehicles.
- 5.12. Scavenging will not be allowed. This is discussed in the Scavenging Standard Procedure.
- 5.13. Waste unloading is restricted to designated areas.
- 5.14. Site personnel will be alert to possible hazardous or unauthorized waste. Refer to the Waste Screening and Unauthorized Waste Program Standard Procedure.
- 5.15. Incoming vehicles will be observed for general safe operation.
- 5.16. Fire extinguishers, first aid kits, and the AED will be readily available for use by trained personnel.
- 5.17. Speed limit, directional, and other precautionary signs are displayed.
- 5.18. Roadways will be maintained for two-way traffic and will be kept free of obstructions.
- 5.19. Only adults are allowed to leave their vehicle to unload; children and pets must remain in their vehicle at all times. Signs are posted at the citizen convenience centers.



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- 5.20. Smoking is prohibited throughout each site except in specifically designated areas.
- 5.21. Fire prevention and response plans are in place for each facility. Refer to the Fire Prevention and Response Standard Procedure for more information.
- 5.22. Vehicle safety items are replenished and refreshed as needed throughout the year. In addition, each vehicle's safety gear is inventoried and upgraded/replaced/repared at least annually. This includes a thorough check and refreshment of the contents of first aid kits, spill response kits, spill pools, shovels, vehicle accident response kits, Risk and Wellness Services' accident response cards, fire extinguishers, and flares or triangles.

6. Records


Vehicle Safety Items Check spreadsheet
 Training database
 Fire Extinguisher Certification Records

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	11/14/2012	Included Balls Ford procedures.
2.0	03/06/2015	Reviewed policy; no changes made.
2.1	08/19/2019	Updated section on smoking areas. Changed "Risk Management" to "Risk and Wellness Services". Added information on MSDSONline.com.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



	SOP Title: Fire Prevention and Response	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

Fires are always a possibility at solid waste management facilities. This plan has been compiled to minimize hazards to personnel and the environment and to outline the actions to be taken in the event of an occurrence.

2. Scope

This policy applies to all Solid Waste Division personnel and facilities.

3. Responsibilities

- 3.1. The Solid Waste Division Chief and the Solid Waste Superintendent will direct employee emergency response activities, report to regulatory agencies as required, document all aspects of the event, direct repair and recovery activities, and coordinate with emergency response personnel.
- 3.2. Motor Equipment Operators will maintain stockpiles of soil at the workface, they will participate in firefighting activities as needed, and they will ensure that fire extinguishers and fire suppression systems on equipment are operational at all times.
- 3.3. All other employees will be alert to any possible sign of a fire and will be familiar with the appropriate response when fires are discovered.
- 3.4. The Maintenance Mechanic Supervisor will ensure fire extinguishers are checked and certified annually.

4. References

- 9 VAC 20-81-485 Section A (5) Solid Waste Management Regulations
- Prince William County Landfill Operations Manual, Attachments 5 Safety Plan & 6 Emergency Contingency Plan
- Prince William County Balls Ford Road Yard Waste Compost Facility Operations Manual, Attachments 5 Safety Plan & 6 Emergency/Contingency Plan
- Heavy Equipment Preventive Maintenance Standard Procedure
- General Site Safety Standard Procedure
- Spill Prevention and Response Standard Procedure

5. Procedures

5.1 Fire Prevention

- 5.1.1. Fire response, prevention and protection training is provided to all employees.
- 5.1.2. Coles District Fire and Rescue, Station 6, is the designated fire station for the landfill and is located within 2 miles of the facility. Their station is a 24-hour hazardous materials response unit. Station personnel are familiar with the landfill. Nokesville Volunteer Fire Department, Station 25 is the designated emergency response station for the Balls Ford Road Yard Waste Compost facility. Station personnel are familiar with the yard waste facility.
- 5.1.3. Open burning is prohibited throughout both facilities.





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- 5.1.4. A separate container for “hot” ashes is provided in the landfill Citizen Convenience Center. Ashes are not accepted at the compost facility.
- 5.1.5. Smoking is not allowed at the active workface, the yard waste processing area, around any fuel tank or gas well, and at the Citizen Convenience Centers.
- 5.1.6. The temperatures of the windrows and mulch piles at both facilities are monitored and recorded at least once per week. The windrows and mulch piles are turned as needed to release built up heat. A record of the windrow temperatures is kept in the Temperature Readings Log located in the Scalehouse (Balls Ford) or quality control office (landfill).
- 5.1.7. All spills are contained and cleaned up immediately as required in the Spill Prevention and Response Standard Procedure.
- 5.1.8. Welding and other equipment maintenance will be done away from the workface and yard waste material whenever possible.
- 5.1.9. Incoming loads will be observed for indications of a fire. “Hot” loads will be dumped in a separate area.
- 5.1.10. When compost material becomes too dry water may be added to prevent fires.
- 5.1.11. All heavy equipment used at the workface will be routinely cleaned to remove combustible waste and caked materials which could cause overheating and increased fire potential.
- 5.1.12. Heavy equipment is never parked overnight within 50 feet of any fuel tank and is never parked closer than 10 feet from one another.
- 5.1.13. All grass and weeds will be mowed at least semi-annually. Trees, brush, and vegetation will be removed as needed to reduce the possible spread of forest, grass, or brush fires.
- 5.1.14. Fire extinguishers will be fully charged at all times. They will be replaced after use. The Maintenance Mechanic Supervisor will ensure they are inspected and tagged annually by a certified company.
- 5.1.15. Motor Equipment Operators will check fire extinguishers and all fire suppression gauges on heavy equipment during pre-trip equipment inspections.
- 5.1.16. Fire suppression systems and fire extinguishers on heavy equipment will be checked during all maintenance activities that are performed by Fleet Management personnel.
- 5.1.17. All occupied buildings will have fire extinguishers.
- 5.1.18. The Landfill Maintenance Building, HHW Building and the Recycling Building have sprinkler systems. Sprinkler systems will be maintained regularly.
- 5.1.19. All operational fuel tanks will have fire extinguishers at their locations.
- 5.1.20. All waste will be covered daily with compacted soil or noncombustible alternative covers.
- 5.2 Fire Fighting Equipment and Material
 - 5.2.1. Fire extinguishers or fire suppression systems are present on all heavy equipment and vehicles, in all occupied buildings, and at the Used Oil, Household Hazardous Waste and Yard Waste collection areas.
 - 5.2.2. Fire hydrants are available on site at the landfill. Hydrants are located at either end of the recycling building, near the landfill office in the parking lot, and near the power





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plant. A fire hydrant is located across the street from the entrance at the Balls Ford Compost Facility.

5.2.3. A 4000-gallon water truck is available at the landfill.

5.2.5. Loaders, dozers, compactors, off road trucks, and an excavator are available for firefighting and response at the landfill.

5.2.6. Adequate soil stockpiles will be maintained near the workface.

5.2.7. Water in the stormwater retention ponds could be used to aid in firefighting.

5.3 Fire Response – Fire response activities are outlined in the Employee Emergency Preparedness and Response Guide. Be familiar with its contents. Specific fires will be handled as follows:

5.3.1. Structure Fires

5.3.1.1 Call 911. Post an employee at the facility gate to guide responders to the proper location within the facility.

5.3.1.2 Tell occupants of the building to evacuate.

5.3.1.3 If necessary, close off access to the property (except for fire department vehicles).

5.3.1.4 Assess the extent of the fire and the possibility for the fire to spread. If it appears that the fire can be fought safely with the available equipment do so until the fire department arrives. Do not attempt to fight fires alone or without the appropriate personal protective equipment. Be familiar with the use and limitations of available firefighting equipment.

5.3.1.5 Direct firefighting personnel to the location of the fire.

5.3.1.6 Assist fire department personnel as appropriate.

5.3.1.7 Notify the Solid Waste Superintendent or the Solid Waste Division Chief.

5.3.2 Fires in and around the Citizen Convenience Centers

5.3.2.1 Call 911. Post an employee at the facility gate to guide responders to the proper location within the facility.

5.3.2.2 If necessary, stop incoming traffic and clear an entrance route for fire department vehicles.

5.3.2.3 Assess the extent of the fire and the possibility for the fire to spread. If it appears that the fire can be fought safely with the available equipment do so until the fire department arrives. Do not attempt to fight fires alone or without the appropriate personal protective equipment. Be familiar with the use and limitations of available firefighting equipment.

5.3.2.4 If the fire is located in a rolloff container and it appears safe to do so, remove the rolloff to an area away from the active workface. Dump the container and use soil or water to extinguish the fire. The contents may be spread to assist in fighting the fire.

5.3.3 Fires in or on vehicles and heavy equipment

5.3.3.1 At the first sign of a fire the operator will move away from fuel tanks and other equipment if possible and then stop the equipment.

5.3.3.2 If possible, shut down the engine and engage the brake.

5.3.3.3 Activate the fire suppression system if one is present.






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- 5.3.3.4 If no fire suppression system is present, the operator may attempt to contain the fire using a fire extinguisher if it appears that it is safe to do so.
- 5.3.3.5 If necessary, call 911. Post an employee at the facility gate to guide responders to the proper location within the facility.
- 5.3.3.6 Contact scale personnel to stop traffic to the area. Traffic will be held at the scales.
- 5.3.3.7 Notify the Solid Waste Superintendent and your immediate supervisor.
- 5.3.3.8 Assist fire department personnel as necessary.
- 5.3.4 Surface fires at the workface
 - 5.3.4.1 When a fire occurs at the workface, use heavy equipment to segregate the burning waste before the fire spreads, or cut fire breaks around the fire before it can spread.
 - 5.3.4.2 Evaluate the situation to determine whether or not additional assistance is needed from offsite emergency personnel.
 - 5.3.4.3 Call 911 from your cell phone if you determine it is necessary. Post an employee at the facility gate to guide responders to the proper location within the facility.
 - 5.3.4.4 Notify the Solid Waste Superintendent.
 - 5.3.4.5 Contact scale personnel so that traffic can be held at the scalehouse.
 - 5.3.4.6 Attempt to extinguish the fire by spreading the waste, and smothering the fire with soil.
 - 5.3.4.7 When emergency personnel have been contacted, assist them as needed. Loaders, excavators, off-road trucks, and other heavy equipment will be available for removing material and extinguishing the fire.
- 5.3.5 Subsurface fires in a landfill cell
 - 5.3.5.1 Warning signs of a subsurface fire are smoke, heat emanating from cracks or fissures, localized settlement, and the odor of burning plastic. If you notice these signs, be aware that the surrounding area may be unstable. The rapid decomposition of refuse by burning may have created large voids underground.
 - 5.3.5.2 If you suspect a subsurface fire, block further access to the area and keep people away. Use cones, barricades, survey ribbon or vehicles to prevent access.
 - 5.3.5.3 Call Fire and Rescue Emergency Services to report the event. Post an employee at the facility gate to guide responders to the proper location within the facility. Contact the Solid Waste Superintendent.
 - 5.3.5.4 Tell scale personnel to hold traffic at the Scalehouse.
 - 5.3.5.5 As soon as practicable, contact the operator of the Power Plant and the appropriate consulting engineers to notify them of the fire event.
 - 5.3.5.6 Pumping water into the ground may not stop the smoldering and will not prevent future fires. Smothering with dirt is the preferred method.
 - 5.3.5.7 Try to stay upwind of any smoke.
 - 5.3.5.8 Identify all landfill gas wells in the immediate vicinity.
 - 5.3.5.9 Have landfill gas wells in the area valved off or the entire system shut down depending on the severity of the fire.




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- 5.3.5.10 Assist fire department personnel as necessary. Be certain to inform them regarding the locations of gas wells.
- 5.3.5.11 Consider the need for additional dirt and how that dirt may be transported to the site.
- 5.3.5.12 Once the fire has been extinguished, monitor the site for possible flare ups. Subsurface fires can be deceptive and may appear to be extinguished when they are not.
- 5.3.5.13 Consider the need for a survey of the fire location to record the actual site in the facility operating records.
- 5.3.6 Surface fires in or around the windrows
 - 5.3.6.1 When a fire occurs in or around the windrows at Balls Ford, use heavy equipment to segregate the burning waste before the fire spreads or cut fire breaks around the fire before it can spread.
 - 5.3.6.2 Evaluate the situation to determine whether or not additional assistance is needed from offsite emergency personnel.
 - 5.3.6.3 Call 911 if you determine it is necessary.
 - 5.3.6.4 Notify the Solid Waste Superintendent.
 - 5.3.6.5 Notify the Contractor.
 - 5.3.6.6 Contact scale personnel so that traffic can be held at the scalehouse if necessary.
 - 5.3.6.7 Attempt to extinguish the fire by spreading the waste, and smothering the fire with soil if appropriate or applying water.
 - 5.3.6.8 When emergency personnel have been contacted, assist them as needed. Loaders, excavators, and other heavy equipment may be available for removing material and extinguishing the fire.
- 5.4 Reporting requirements
 - 5.4.1 Fire events will be reported to the Virginia Department of Environmental Quality if required by regulation or permits. The Solid Waste Superintendent or the Solid Waste Division Chief will make the report if necessary. The event will be reported verbally within 24 hours and a written report will be sent within 10 days.
 - 5.4.2 All additional documentation will be compiled by the Solid Waste Superintendent or his designee.

6. Records


- Reports to Department of Environmental Quality
- Fire and Rescue reports
- Employee Training Database
- Independent Hill Temperature Readings Log (Mulch piles)
- BFR Temperature Log




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7. Documents approval and history

Revision	Date	Reason for Revision
1.0	09/01/2007	
2.0	12/20/2012	Changed 9 VAC 20-80 to 9 VAC 0-81. Combined Landfill and Balls Ford procedures.
2.1	03/06/2015	Added water truck at Balls Ford Compost Facility; added section Error! Reference source not found..
2.2	08/20/2019	Revised heavy equipment parking distance from any fuel tank to 50 ft. and to 10 ft. from other equipment.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Chemical Management	
	Effective Date: 11/11/2019	Supersedes Policy Dated: N/A

1. Purpose

The purpose of this policy is to provide direction on the proper purchase, documentation, storage, handling, inventory, inspection, and disposal of chemicals purchased and used by Solid Waste Division staff.

2. Scope

This policy applies to all Solid Waste Division employees.

3. Responsibilities

- 3.1. Every employee is responsible for knowing the hazards and effects of chemicals they use in the course of their work and for using those chemicals safely.
- 3.2. All supervisors are responsible for ensuring that their staff use only chemicals that appear in the Solid Waste Division inventory (approved chemicals) and that they use them properly and safely.
- 3.3. The Solid Waste Assistant Superintendent will: maintain the Safety Data Sheets (SDS) for each chemical online and in hard copy, ensure that expiration dates are placed on all chemicals as needed, purchase most chemicals used by the department, see that an annual review of all SDSs is completed to ensure the most up to date version is always available, work with Solid Waste employees along with Risk and Wellness Services employees to ensure that the best performing product that has the least health and environmental hazards is always the product used by the Division.
- 3.4. All employees holding “P cards” in the Division will purchase only those chemicals that are currently in the Division inventory (except in very rare emergency situations), will provide SDSs for chemicals they purchase, will purchase the least amount of chemical needed, will place expiration dates on the chemical containers, and will ensure that all who use the chemicals are aware of the hazards of the chemicals and how to properly and safely handle them.

4. References

Public Works Department Standard Operating Procedure 1.004-10, “Managing and Disposing of Chemicals”
 Risk and Wellness Services “Better Chemicals” guidelines

5. Procedure –

- 5.1. Purchasing Chemicals – The goal within the Division is to minimize the number of chemicals in use by our employees. To accomplish this the purchase of chemicals is limited to the Solid Waste Assistant Superintendent and those persons holding “P Cards”. In all cases, when an employee requests a chemical purchase the Division’s chemical inventory (the list of SDSs found on MSDSONline.com and shown as residing in the Solid Waste Division portfolio) will be checked to ensure that the chemical requested is already approved and appears in the inventory.
 - 5.1.1.If the requested chemical appears in the inventory the purchase can be completed. Make sure that the chemical appears in the portfolio of the location where it is to be used






SOP Title: Chemical Management

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(Landfill, Balls Ford, or both). If not, notify the Assistant Superintendent to make that change.

- 5.1.2. When the requested chemical does not appear in the Division's inventory a brief review of the approved chemicals will be completed. Check to see if there is already a chemical appearing that can perform the same function and, if so, use that chemical. If a chemical new to the inventory must be purchased the one that is least hazardous to health and the environment must be chosen. A review of the chemical's SDS will provide that data. Risk and Wellness Services staff can assist in determining the best choice. The purchaser of any chemical new to the Division's inventory must provide a Globally Harmonized System (GHS) compliant Safety Data Sheet for the chemical along with a notation for which location (Landfill, Balls Ford, or both) will be using the chemical, to the Solid Waste Assistant Superintendent, for inclusion in the online inventory.
- 5.1.3. When emergency situations occur that require purchase of new chemicals, without first reviewing the inventory, the purchaser will secure an SDS prior to use of the chemical. The SDS indicates all necessary safety procedures and personal protective equipment that should be used. Ensure that all users are briefed on safety, proper use, and hazards of the chemical. Provide the SDS to the Solid Waste Assistant Superintendent as soon as possible.
- 5.1.4. Remember that chemicals that do not appear in the Solid Waste Division inventory, but do appear in the inventory of other divisions, still must go through review and approval prior to use. Solid Waste employees need to be careful when getting chemicals from Fleet Management for use in and on vehicles and equipment. Many of those chemicals are extremely hazardous and can frequently be replaced by less hazardous choices.
- 5.1.5. Never purchase more chemicals than needed in the near future. Stocks of chemicals not in use create unnecessary hazards and paperwork. Chemicals in constant use should be stored in quantities that will be used within several months. One-time use chemicals should always be purchased in the smallest quantity that satisfies the need.
- 5.2. Documenting Chemicals – All chemicals in use in the Solid Waste Division must appear in the inventory maintained on MSDSOnline.com. The Solid Waste Assistant Superintendent maintains the inventory. New SDSs are added as needed and old SDSs for chemicals no longer in use are archived or moved to inactive status. Notes indicating dates and locations of use within the Division are entered in the Product Summary Archive Log. A hard copy of each SDS will be kept in the Safety Data Sheet notebook at each location so that they are readily available for staff review.
 - 5.2.1. A review of all SDSs will be done annually to ensure that we have the most current version available to our staff. Expired versions will be archived, not discarded, since new versions often indicate a change in chemical content has taken place. Old SDSs are kept so that all versions of the chemical used by the Division are documented. Old versions will be archived on MSDSonline.com. Safety Data Sheet notebooks at each location will be updated as part of this process.


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- 5.3.** Expiration Dates - Every chemical purchased must have an expiration date clearly displayed on the container. If the manufacturer has not indicated an expiration date staff will follow the chemical expiration guidelines provided by Risk and Wellness Services. Generally, a two-year shelf life for most chemicals is acceptable. Manufacturers will indicate expiration dates for chemicals with short shelf lives.
- 5.3.1. When the expiration date is not provided by the manufacturer Solid Waste staff will write the expiration, generally two years forward, on the container using a permanent marker.
- 5.3.2. For chemicals used rapidly and in larger quantities (Lysol wipes, Windex, etc.) the expiration date can be written on the shipping carton instead of small individual containers.
- 5.4.** Inventory – An inventory of all chemicals at each location will be completed each year. The list of chemicals will be provided to the Solid Waste Assistant Superintendent for review. Chemicals that were not documented throughout the year will be set aside for disposal or review for addition to the inventory. Chemicals no longer in use will be set aside for disposal. Site personnel will work with the Assistant Superintendent to determine proper disposition of all chemicals. We will always strive to reduce the number of chemicals in use.
- 5.4.1. Whenever possible the annual inventory of chemicals will be scheduled approximately two months prior to the next Small Quantity Generator collection event to avoid holding chemicals needing disposal for long periods of time and to allow time for a disposal quote to be provided by the vendor and a purchase order created if necessary.
- 5.4.2. During the inventory process all chemical containers will be inspected for integrity and expiration dates.
- 5.5.** Disposal – Some chemicals can be disposed in the trash (dried latex paint for example). Staff will review the Safety Data Sheet and confer with Risk and Wellness Services staff when necessary to determine which chemicals may be placed in the trash. Other chemicals that are expired or no longer in use will be disposed via the Small Quantity Generator collection events arranged by Risk and Wellness Services. When necessary the Solid Waste Division can arrange disposal through the appropriate vendor in order to avoid holding a chemical for a long time.
- 5.6.** Training – Annual training on chemical handling and hazard communication will be provided to all appropriate staff members.

6. Records

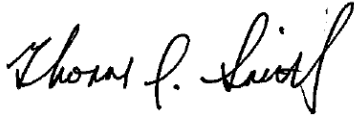
- MSDSonline.com Safety Data Sheets and chemical inventory notes
- Safety Data Sheet notebooks at the Landfill and Balls Ford
- Chemical purchase records for use during inventory events
- Annual review of Safety Data Sheets documentation
- Annual inventory of chemicals documentation




	SOP Title: Chemical Management	
	Effective Date: 11/11/2019	Supersedes Policy Dated: N/A

7. Documents approval and history

Revision	Date	Reason for Revision
1.0	09/11/19	Initial release.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Site Security and Access Control	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

Site security and access control measures are designed to prevent unauthorized persons from entering the site, to protect the facility and its equipment from possible damage caused by trespassers, and to prevent disruption of facility operations caused by unauthorized site entry. Site security also reduces public exposure to hazards associated with solid waste facilities.

2. Scope

This applies to all solid waste facilities and to all persons entering Solid Waste facilities.

3. Responsibilities

- 3.1. At the Landfill, the contract Security Officer on duty is responsible for making certain that the facility gate is closed at the proper time. The Security Officer will patrol the site throughout the night checking for fires or problems of any kind. He/she will contact the appropriate agencies or staff when problems are discovered. He/she will record pertinent data relating to problems or events that occur. Contract security officers will secure the site whenever the facility is closed, including holiday closures.
- 3.2. Crew Supervisors, or other personnel designated by the Superintendent, will patrol the landfill facility at closing to ensure that all patrons have left the site.
- 3.3. At Balls Ford, the Crew Supervisor or his/her designee will close and lock the gate when everyone has left the facility.
- 3.4. Contractors working at the sites overnight will ensure that the gate is closed and locked after hours. When they leave the site, they will lock the gate in such a way that County employees are able to unlock the gate using the County key.

4. References

- Prince William County Landfill Operations Manual
- Prince William County Balls Ford Road Yard Waste Compost Facility Operations Manual
- Rules of Operation for the Prince William County Sanitary Landfill
- Rules of Operation for the Prince William County Balls Ford Compost Facility
- 9 VA 20-81 Solid Waste Management Regulations
- Employees Emergency Preparedness and Response Guide
- Difficult Customers Standard Procedure

5. Procedures–

- 5.1. Public access to each site is through a single entry located at the front of the facility. All other entrances are gated and locked at all times. These entrances are reserved for emergency or utility access only.
- 5.2. Entrance to the facilities is monitored by site personnel located at the Scalehouses and Traffic Control check points.






SOP Title: Site Security and Access Control

Effective Date: 11/12/2019

Supersedes Policy Dated: 06/08/2015

- 5.3. Unauthorized entry into the sites is minimized by use of fences and gates at the public entrance. After normal operating hours the gates at the main entrances will be locked.
- 5.4. The sites are monitored by security cameras 24 hours a day. When the facility is closed the security camera recorders will be on.
- 5.5. Public access roads to the facilities are paved, all-weather roads. Except during emergencies only vehicles authorized by the Solid Waste Superintendent, Solid Waste Division operating vehicles, and authorized refuse hauling vehicles will have access to areas beyond the Scalehouse.
- 5.6. Signage will provide direction to public unloading areas.
- 5.7. **At the landfill:**
 - 5.7.1. A private security firm is contracted to provide after-hours security services
 - 5.7.2. The contract Security Officer will ensure that the public entrance gate is closed at closing time.
 - 5.7.3. Once the front gate is closed for the evening the Crew Supervisor, or designated employee, will patrol the area checking for remaining customers. He/she will escort those customers from the facility. The gate will be locked once all customers have left the facility.
 - 5.7.4. The contract Security Officer will make frequent and regular inspections throughout the landfill facility checking for fires or other problems. He/she will ensure that all doors and entryways are locked and secured.
 - 5.7.5. When contractors are working overnight at the facility the contract Security Officer is responsible for ensuring that the gate remains closed and no unauthorized persons enter the facility.
 - 5.7.5.1. The contract Security Officer will be responsible for closing and locking the gate once the contractor leaves the site.
 - 5.7.6. Should an incident occur during the Security Officer's inspection of the landfill facility, or should he/she find a breach that is reportable, he/she will call the Prince William County Police. He/she will notify the Solid Waste Superintendent or Maintenance Supervisor as appropriate and he/she will record pertinent data about the event as discussed in the Incident and Accident Reporting Standard Procedure. Any incidents or unusual observations will be entered into the log book assigned to him/her. The log book will remain at the facility for review by Solid Waste management staff.
- 5.8. **At Balls Ford:**
 - 5.8.1. The compost facility at Balls Ford Road does not have overnight security staff. Typically, the front gate is closed and locked by the Crew Supervisor, Motor Equipment Operator III, or the Maintenance Workers.
 - 5.8.2. The facility gate is locked at closing and the scalehouse entrances and service window are locked. The security alarm is armed as the employee leaves for the night.
 - 5.8.3. When contractors are working overnight at the facility, they are responsible for ensuring that the gate remains closed and no unauthorized persons enter the facility.
 - 5.8.4. When contractors leave the site after overnight work they will close and lock the gate in such a way that County personnel can open the gate with the County key.



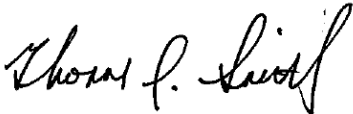
	SOP Title: Site Security and Access Control	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015


6. **Records**

Security Officer's Log Book
Solid Waste Division Incident Report

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	12/1982	Initial Release
2.0	09/01/2007	Removed incident reporting procedures, included access control methods, removed all references to afterhours operations and fee collection
3.0	12/20/2012	Combined Balls Ford and Landfill procedures. Changed 9 VAC 20-80 to 9 VAC 20-81. Updated name of incident report.
3.1	3/06/2015	Indicated that private security staff is now used at the landfill; security is in place throughout the nighttime hours, and that their logbook is to remain at the facility at all times. Security may call the Maintenance Supervisor instead of the Solid Waste Superintendent if it is appropriate.
4.0	08/19/2019	Removed all references to a County Security Officer. Included statements about overnight contractor work.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019

	SOP Title: Emergency Preparedness	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

1. Purpose

Prince William County Solid Waste management staff will ensure that their employees are prepared for emergencies.

2. Scope

This policy applies to all employees in the Solid Waste Division.

3. Responsibilities

- 3.1. Solid Waste Division employees who are designated members of the Facility Emergency Response Team (FERT) for each facility will instruct employees what to do in the event of an emergency.
- 3.2. All employees will keep their Employee Emergency Preparedness and Response Guide readily available during working hours and will become familiar with the contents of the guide.
- 3.3. The Solid Waste Division Chief and the Solid Waste Superintendent will ensure that all employees have received Emergency Preparedness training as required by Prince William County Risk and Wellness Services.
- 3.4. The Solid Waste Assistant Superintendent or his/her designee will keep records of trained personnel in the employee training database.


4. References

- Employee Emergency Preparedness and Response Guide
- Risk and Wellness Services Policy Manual
- Prince William County Debris Management Plan

5. Procedures

- 5.1. All Solid Waste Division employees have received copies of the Employee Emergency Preparedness and Response Guide. The guide is modified to show information specific to the facility at which they work. They have received training specific to the content of that guide.
- 5.2. During emergencies, all employees will respond as indicated in the Employee Emergency Preparedness Response Guide, or as instructed by a member of the Facility Emergency Response Team.
- 5.3. Employees who are designated members of the Facility Emergency Response Team will be ready to take action as indicated in the guide.
- 5.4. In the event of an emergency all employees will be contacted by a member of the Facility Emergency Response Team. Depending upon the type of emergency the employees will be instructed regarding the proper course of action.
- 5.5. Employees will refer to their copy of the Employee Emergency Preparedness and Response Guide to determine appropriate response if they are not contacted by a member of the Facility Emergency Response Team.
- 5.6. During a weather-related emergency, employees will monitor the weather radios for information. The twenty-four-hour weather radios are located in the main office, traffic control, and scalehouses.



	SOP Title: Emergency Preparedness	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 06/08/2015

Portable radios are also kept in the office. The Crew Supervisor, or supervisor on duty, will keep the portable radio with him or her during all weather-related emergencies.


- 5.7. Solid Waste Division staff will participate in all training exercises and demonstrations as appropriate and as practicable.
- 5.8. The Prince William County Debris Management Plan will be activated in the event of a major debris generating event.
- 5.9. After hours emergency contact information has been provided to Crew Supervisors, Weighmasters, Engineering Assistants, Motor Equipment Operators, Fleet Management personnel, security staff, and the Maintenance Supervisor. Knox boxes containing that information and keys to the facility gates and access doors have been placed at the entrances for use by Fire and Rescue personnel after hours.

6. **Records**


Employee Training Database
Training records

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	11/14/2012	Combined Balls Ford and Landfill procedures.
2.1	03/06/2015	Added section 5.9.- after hours emergency contacts
2.2	08/19/2019	Changed "Risk Management" to "Risk and Wellness Services".

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



	SOP Title: Sharps Disposal by Private Citizens	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

1. Purpose

The Solid Waste Division has developed this policy to provide a convenient and safe method of disposal for medical sharps at the landfill by private citizens.

2. Scope

This policy applies to medical sharps brought in to the landfill by private citizens who are residents of Prince William County or the towns of Haymarket, Occoquan, Dumfries, or Quantico.

3. Responsibilities

3.1. The Scale Operator, Weighmaster, Solid Waste Assistant Superintendent, Engineering Assistant IIs, Administrative Support Assistant II or III, or other employee responding to customer questions will inform the private citizen of the appropriate method of disposing of medical sharps.

3.2. The Engineering Assistant II will ensure that the sharps collection container is emptied as needed and that Motor Equipment Operators at the workface are aware that the material must be buried immediately.

3.3. The Motor Equipment Operators at the workface will ensure that the sharps are placed away from the tipping area of the workface and that they are covered promptly.

4. References

9 VAC 20-120 Regulated Medical Waste Regulations (for definition of “sharps”)

5. Procedures


5.1. Medical sharps brought in from private citizens’ homes could include, but is not limited to, syringes, scalpels, knives, pipettes, and catheters. Other sharps from home medical treatments would be accepted.

5.2. Sharps from any commercial source will not be accepted. Commercial sources include doctors, dentists, veterinarians, medical clinics, health departments, Community Service Boards, home healthcare technicians, and any other operations providing services to any person who is not a member of their immediate family.

5.3. The Scale Operators, Weighmasters, Solid Waste Assistant Superintendent, Engineering Assistant IIs, Administrative Support Assistant II or III, or any other employee who answers citizen questions about this program will inform the citizen that sharps must be brought to the facility in rigid, opaque containers with screw-on or permanently attached lids. The containers must be sealed and labeled “Do not recycle, Medical Sharps”.

5.4. The Scale Operator or Weighmaster will inform the customer when he/she arrives that the sharps collection container is located outside the door of the Traffic Control Building. Citizens will be asked to drop their sealed containers of sharps into the container. This removes the necessity for Scale Operators or Weighmasters to handle the material. The employee will check to see that the customer is placing the material into the correct container. For safety reasons, the weighmaster or Scale Operator on duty at Traffic Control will ensure that nothing is placed on top of the sharps



	SOP Title: Sharps Disposal by Private Citizens	
	Effective Date: 11/12/2019	Supersedes Policy Dated: 02/03/2014

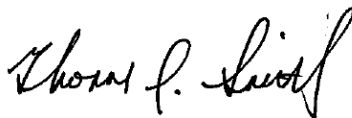
collection container. Sharps are not collected at any other location. The Scale Operators/Weighmasters will inform the customer that no loose sharps are accepted.

- 5.5. The Engineering Assistant IIs will regularly check the sharps collection container to ensure that it is not overfilled. Should a customer fill the container unexpectedly, the Scale Operator/Weighmaster will notify the Engineering Assistant II so that they may empty the container.
- 5.6. The Engineering Assistant II will empty the container at the workface, ensuring that the Motor Equipment Operators are aware that this material must be processed and covered immediately.

6. **Records**
None

7. **Documents approval and history**

Revision	Date	Reason for Revision
1.0	09/01/2007	Initial Release
2.0	11/14/2012	Updated employee titles. Changed container name to “sharps collection container”.
2.0	03/06/2015	Reviewed policy; no changes made.
2.1	08/19/2019	Changed ASA I to ASA II and III.

Name and Title	Approval Signature	Date
Thomas J. Smith, P.E. Solid Waste Division Chief		11/12/2019



APPENDIX - Job Aid 100

Effective Date: 11/12/19

Supersedes Job Aid Dated: None

Job Aid Number 100 Scale and Traffic Control Operation – Opening

The Weighmaster or Scale Operator who is opening a service check point:

1. At the Landfill Scale should:

- 1.1. Use your code to open the door. This deactivates the alarm.
- 1.2. Unlock the windows.
- 1.3. Check voice mail and record anyone who has called out for the day. Record the information on the “Call In Sheet”.
- 1.4. Check email for any instructions from office staff or management.
- 1.5. Notify Traffic Control staff of any instructions that affect their work.
- 1.6. Confirm that the startup money is correct.
- 1.7. Log in to the WeighMaster software.
- 1.8. Check the weather station to see that it is operating correctly and enter the information on the appropriate form.
- 1.9. Be ready to process customers at the scheduled opening time.

2. At the Landfill Traffic Control should:

- 2.1. Use the key to unlock the door.
- 2.2. Unlock the window.
- 2.3. Confirm that the startup money is correct.
- 2.4. Take an “X” and “Z” reading on the cash register.
- 2.5. Confirm that the credit card machine was settled the previous day. If not, settle it and notify the Accounting Clerk and Assistant Superintendent that previous staff did not settle.
- 2.6. Check the AED, the Customer Count indicator, and the weather radio. Enter the information on the proper form and indicate any issues.
- 2.7. Be ready to process customers by the scheduled opening time.

3. At the Balls Ford Scales, should:

- 3.1. Disarm the alarm system.
- 3.2. Confirm that the startup money is correct.
- 3.3. Confirm that the end of day batch report was done on the credit card machine. If not done, do it now.
- 3.4. Log in to the WeighMaster software.
- 3.5. Turn on ticket printer and copier. Unlock the window.
- 3.6. Check the voice mail and respond or record information from messages as needed.
- 3.7. Ensure that the previous day’s deposit is immediately transported to the Landfill by the Superintendent. In the absence of the Superintendent the Motor Equipment Operator II may deliver the deposit to the Accounting Assistant at the landfill.
- 3.8. Be ready to process customers by the scheduled opening time



Appendix – Job Aid 101

Effective Date: 11/12/19

Supersedes Policy Dated: None

Job Aid Number 101 Scale and Traffic Control Closing

The Weighmaster or Scale Operator who is closing a service check point:

1. At the Landfill Scales should:


- 1.1. Prepare the next day's startup cash and lock it, in the money bag, in the safe.
- 1.2. Check and print the "Payment Summary Report" on WeighMaster and reconcile the contents of the cash drawer.
- 1.3. Run the batch report on the credit card machine and ensure it coincides with the "Payment Summary Report". Include the printed report in the daily deposit bag.
- 1.4. Complete an End of Day Closeout Form – Scalehouse and enclose with the deposit.
- 1.5. Print the "End of Day Report". It prints directly to the Accounting Assistant's printer.
- 1.6. Gather the transaction tickets.
- 1.7. Ensure that the building is secure. Arm the alarm system.
- 1.8. Drop the deposit in the secure safe room, "Fort Knox", in the main building.
- 1.9. Place the transaction tickets in the basket by the secure safe room.

2. At Traffic Control at the Landfill:

- 2.1. Take an "X" and a "Z" reading on the cash register and reconcile the cash drawer contents with the with the "X" reading.
- 2.2. Run the batch report on the credit card machine and ensure it coincides with the data from the cash register.
- 2.3. Prepare the next day's startup cash and lock it, in the money bag, in the safe.
- 2.4. Complete the End of Day Closeout Form – Traffic Control enclose it with the deposit.
- 2.5. Zero the customer count indicator and make the entry on the AED/NOAA/Customer Count Form.
- 2.6. Secure the building.
- 2.7. Drop the deposit in the secure safe room, (Fort Knox), in the main building.

3. At the Balls Ford Scales should:

- 3.1. Prepare the next day's startup money. Place it, in a money bag, in the safe.
- 3.2. Run the "Payment Summary Report" and reconcile the contents of the cash drawer with it.
- 3.3. Run the batch report on the credit card machine and ensure it coincides with the "Payment Summary Report". Include the report with the deposit.
- 3.4. Complete the End of Day Closeout Form – Balls Ford. Include with the deposit.
- 3.5. Run the "End of Day Report" under "Report Groups".
- 3.6. Run the "File Saver" program and save the data to the travel drive. The travel drive should be sent to the Accounting Assistant II at the end of each month.
- 3.7. Place the deposit, travel drive (if appropriate), End of Day Closeout Form – Balls Ford, and deposit receipt along with any Void Explanation Sheets in the deposit bag. The bag should

	Appendix - Job Aid 101	
	Effective Date: 11/12/19	Supersedes Policy Dated: None

be placed in the secure safe in the storage room. Make sure the safe is locked when leaving. These items will be collected and brought to the Accounting Assistant II by the Superintendent or the Motor Equipment Operator II on the next regular business day at the beginning of his workday.

- 3.8. Turn off lights and copier. Secure the window. Make sure all exterior doors and the storage room door are locked. Turn on outside light. Lock the gate as you leave if appropriate.
- 3.9. Record the number of customers in the traffic counter book.
- 3.10. Arm the security alarm at the door when leaving.





Appendix – Job Aid 102

Effective Date: 11/12/19

Supersedes Policy Dated: None

Job Aid Number 102

Heavy Equipment Preventive Maintenance

Pre and Post Trip Inspections

1. Pre-Trip Inspections

a. Prior to startup of heavy equipment, the operator will check the following for signs of wear and tear, damage, leaks or other indications of problems.


- i. Check engine oil level.
- ii. Check engine coolant level.
- iii. Check engine belt tension.
- iv. Check hydraulic fluid level.
- v. Check fan blades for damage.
- vi. Clean engine radiator pre-screen.
- vii. Check fuel level.
- viii. Inspect steering cylinder rods, seals, hoses, and fittings.
- ix. Check for missing wheel lugs or track pad bolts.
- x. Inspect pump compartment for fluid leaks.
- xi. Check engine compartment, clean if necessary.
- xii. Inspect intake air connections.
- xiii. Check radiators/hydraulic oil cooler.
- xiv. Check for broken, damaged, or leaking lines or hoses.
- xv. Grease all fittings at least daily; every 8 hours is recommended.
- xvi. Check fire suppression system or fire extinguishers.
- xvii. Check first aid kits.
- xviii. Clean service platform if necessary.
- xix. Make sure cab glass is clean.
- xx. Clean under and around speed control pedal if required.
- xxi. Check windshield washer fluid level.
- xxii. Inspect the area around the equipment for obvious signs of leaks.
- xxiii. Check the hours on the equipment to see if service is due.
- xxiv. Check gauges and indicator lights.
- xxv. Check brakes and blades for signs of wear.

b. Record results of the inspection in the Heavy Equipment Inspection Book.

2. Post-Trip Inspections

a. At the end of the shift the operator will do the following:

- i. Fuel the equipment.
- ii. Grease all fittings.
- iii. Allow all diesel engines to idle down for at least 2 minutes before shutting down.

	Appendix - Job Aid 102	
	Effective Date: 11/12/19	Supersedes Policy Dated: None

- iv. Clean tracks as needed.
 - v. Check for obvious problems i.e., leaks, loose tracks, pins, etc.
 - vi. Record the inspection in the Heavy Equipment Inspection Book.
 - b. Ensure that all issues not already addressed by Fleet Management personnel are written up for repair by completing a Prince William County Fleet Management Motor Vehicle Repair Service Request Form.






Appendix - Acronyms

Effective Date: 11/12/19

Supersedes Policy Dated: None

Error! Bookmark not defined. ADC	Alternative Daily Cover
AED	Automated External Defibrillator
ASA	Administrative Support Assistant
BFR	Balls Ford Road
CDL	Commercial Driver's License
CEU	Continuing Education Unit
CFC(s)	Chlorofluorocarbon(s)
CPE	Continuing Professional Education
CPR	Cardiopulmonary Resuscitation
DEQ	Department of Environmental Quality
DEQ-NVRO	Department of Environmental Quality – Northern Virginia Regional Office
DMR	Discharge Monitoring Report
DoIT	Department of Information Technology
E4	Extraordinary Environmental Enterprise
EAI	Engineering Assistant II
EPA	Environmental Protection Agency
E/RRF	Energy/Resource Recovery Facility
FACTA	Fair and Accurate Credit Transaction Act
FERT	Facility Emergency Response Team
GEM	Gas Extraction Monitor (a brand name of a specific device)
GPS	Global Positioning System
HCFC	Hydrochlorofluorocarbon
HE	High Efficiency
HHW	Household Hazardous Waste



	Appendix - Acronyms	
	Effective Date: 11/12/19	Supersedes Policy Dated: None

LF	Landfill
MEO	Motor Equipment Operator
MMII	Maintenance Mechanic II
MMS	Maintenance Mechanic Supervisor
NOAA	National Oceanic and Atmospheric Association
NVRO	Northern Virginia Regional Office (of DEQ)
PBR	Permit-by-Rule
PCB	Polychlorinated Biphenyl
PE	Professional Engineer
PEI	Perennial Energy Inc.
PO	Purchase Order
PPE	Personal Protective Equipment
PW	Prince William (PW number)
PWC	Prince William County
RCRA	Resource Conservation and Recovery Act
RSK	Risk
SDS	Safety Data Sheet
SCFM	Standard Cubic Feet per Minute
SOP	Standard Operating Procedure
SP	Standard Procedure
SPCC	Spill Prevention, Control and Countermeasure
SW	Solid Waste
SWANA	Solid Waste Association of North American
SWD	Solid Waste Division
SWPPP	Stormwater Pollution Prevention Plan



Appendix - Acronyms

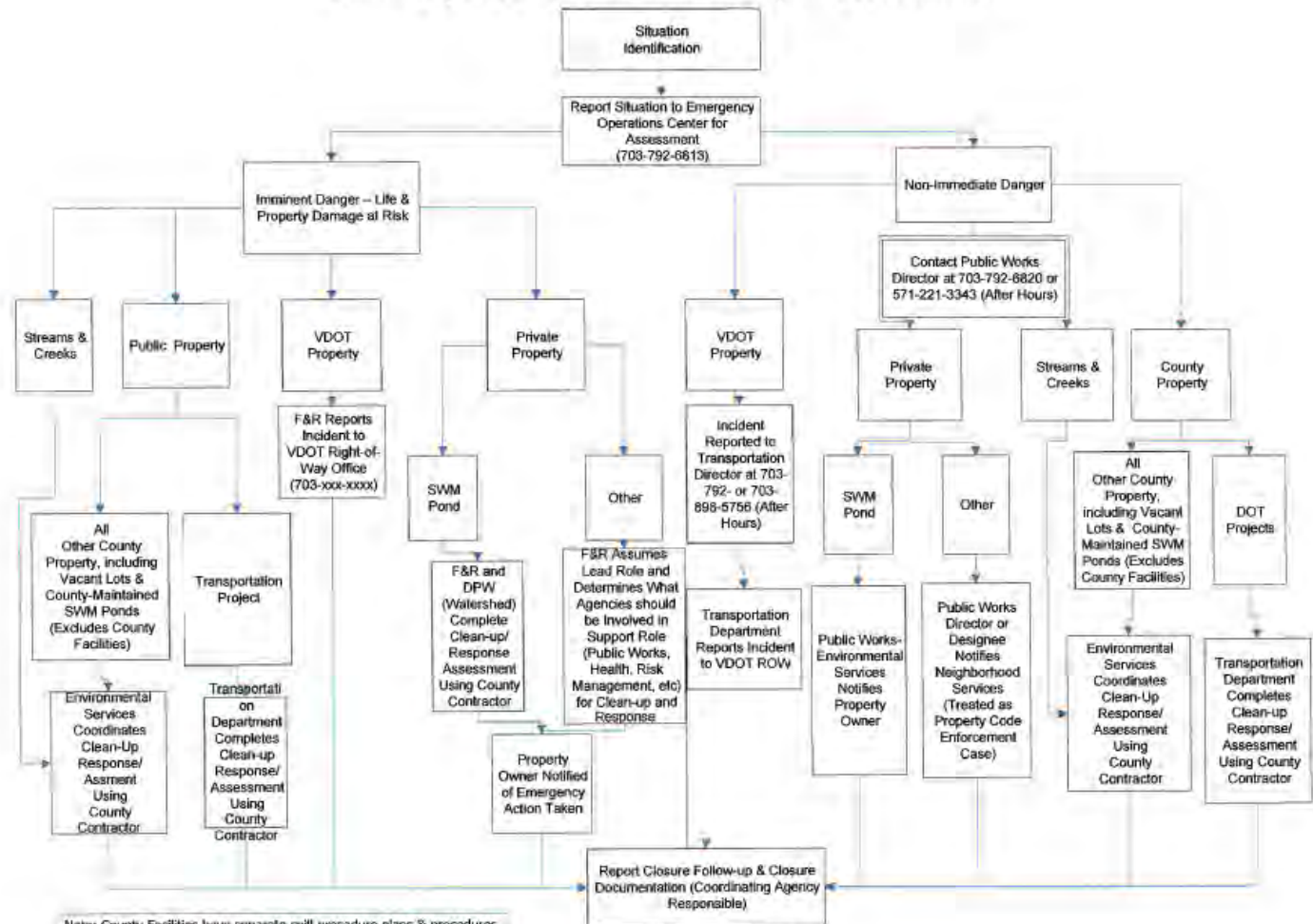
Effective Date: **11/12/19**

Supersedes Policy Dated: **None**

TDP@PWLF	The Donation Place at Prince William Landfill
US	United States
VA	Virginia
VAC	Virginia Administrative Code
VDEQ	Virginia Department of Environmental Quality
VDOT	Virginia Department of Transportation
VEEP	Virginia Environmental Excellence Program
VPDES	Virginia Pollutant Discharge Elimination System

Appendix 7: Spill Prevention and Response

Prince William County Community Environmental Incident Response Procedures




Appendix 8: Industrial and High Risk Runoff




Standard Operating Procedure

Department of Public Works

Environmental Services Division

Title:	Industrial & High Risk Runoff Facilities Inspection Program
Number:	3.047.5
Subject:	Identification & Monitoring of all Industrial & High Risk Runoff Facilities that Discharge into Prince William County's Municipal Separate Storm Sewer System (MS4)
Cross Reference:	APWA Management Practice (s) <u> N/A </u>
Date Issued:	April 1, 2015
Date Revised:	November 1, 2018
Date Last Reviewed:	April 1, 2015
Signature of Issuer:	 _____ Marc T. Aveni, Environmental Services Division Chief
Applicability:	Environmental Services Division
Effective Date:	November 1, 2018



	SOP Title: Industrial and High Risk Runoff Facilities Inspection Program	SOP No.: 3.047.5
	Effective Date: 11/01/2018	Supersedes Policy Dated: 04/01/2015

A. Purpose

The purpose of this Standard Operating Procedure (SOP) is to describe the procedures involved in the management, identification, and monitoring of industrial and high risk runoff facilities that discharge into the County's Municipal Separate Storm Sewer System (MS4).

B. Applicability

This SOP applies to the inspection of all industrial and high risk facilities that discharge into MS4. This includes all state-permitted Virginia Pollutant Discharge Elimination System (VPDES) and "No Exposure" facilities.

C. Specifics


1. Pre-Inspection

- a. A list of all known industrial and high risk runoff facilities that discharge into Prince William County's MS4 will be maintained and updated as needed. The list will include any industrial or commercial stormwater discharges not covered under the Virginia state water control law that are determined to be contributing to significant pollutant loading to MS-4.
- b. A prioritized schedule to inspect outfalls pertaining to all VPDES permitted facilities that discharge into County's MS4 will be developed and maintained. Prioritization may be based on historical discharges, history of citizen complaint, industrial category, location to nearby sensitive areas, or other method.
- c. Prior to facility inspection, pre-inspection desktop analysis of the site will occur. This includes an assessment of the outfall and storm system, access to the applicable facility components (outfalls discharging to the County's MS4) through County easements, the status of facility permits and monitoring reports (if applicable), and general information pertaining to industrial activities at the facility.

2. Facility Site Inspection

- a. If County easements do not allow for required access to facility components, a letter requesting access to facility stormwater discharge locations will be sent. Upon allowance of access a site inspection will occur, if access is not granted, DEQ will be notified for compliance inspection of the facility.
- b. Outfall locations will be tested for flow. If flow exists samples of the flow will be taken and tested for excess levels of detergents, chlorine, copper, phenol, fluoride, potassium, ammonia, nitrate, and nitrite. If excess sediment or analytes are found to be present, significant pollution discharge is determined to occur and post inspection procedures will commence.



	SOP Title: Industrial and High Risk Runoff Facilities Inspection Program	SOP No.: 3.047.5
	Effective Date: 11/01/2018	Supersedes Policy Dated: 04/01/2015

3. Post-Inspection
 - a. If significant pollutant discharge is determined to occur, VPDES permitted Facilities will be directed to DEQ for compliance review through a notification letter to appropriate department staff. Upon inspection of the facility an Industrial Inspection Form will be completed and documentation of the discharge will occur. The facility will be listed for periodic inspection to confirm removal of the discharge.
 - b. Non-VPDES Permitted Facilities determined to be discharging significant pollutant loads to the MS4 will be directed to DEQ to obtain proper permits. Upon inspection of the facility an Industrial Inspection Form will be completed and documentation of the discharge will occur.
 - c. Facilities which do not meet requirements for stormwater permitting will be listed for prioritized inspection and monitored periodically. These facilities can include major automotive facilities such as repair shops, body shops, auto dealers, car rental dealers, and service stations. Recommendations will be made to the facility to insure compliance and improve storm water pollution prevention controls if needed.
4. High Priority County Municipal Facilities will be identified throughout the County. A stormwater pollution prevention plan will be developed for these facilities if necessary.

D. Authority

The approving authority for this SOP is the Environmental Services Division Chief. Any changes to or deviations from this SOP must be approved by the Environmental Services Division Chief.

E. Administration

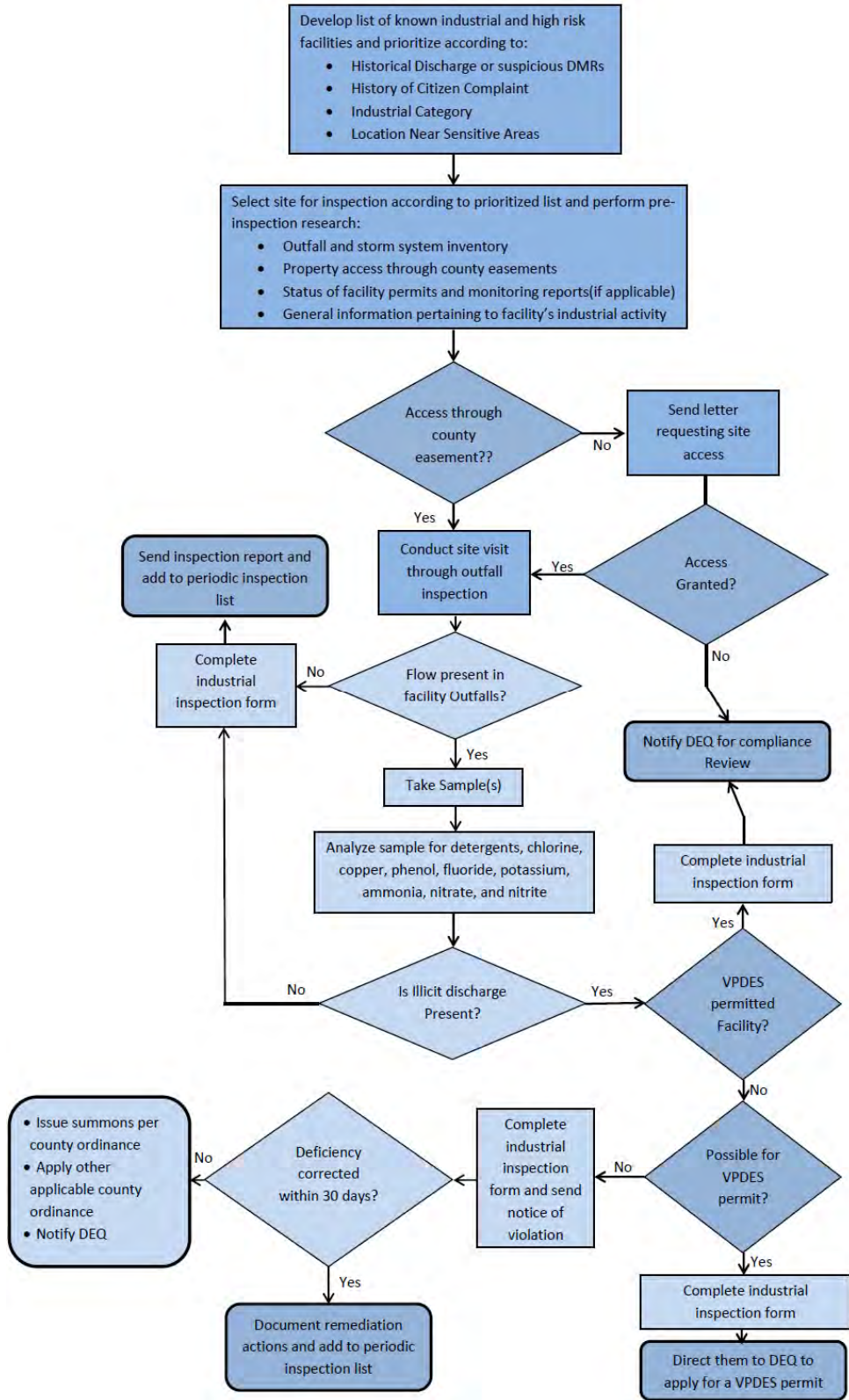
The administration of this SOP shall be the responsibility of the Environmental Services Division Chief and Watershed Management Branch Chief.

Attachment A: Industrial and High Risk Storm Water Runoff Flowchart



Attachment A

Industrial and High Risk Storm Water Runoff Flowchart



Appendix 9: Stormsewer Infrastructure Management




Standard Operating Procedure

Department of Public Works

Environmental Services Division

Title:	Privately Maintained SWM/BMP Facilities Inspection and Maintenance
Number:	3.047.2
Subject:	SW Drainage Facility, Infrastructure and BMP (Privately Maintained) Inspection & Maintenance.
Cross Reference:	APWA Management Practice(s) <u>26.16 & 26.17</u>
Date Issued:	December 19, 2011
Date Revised:	November 1, 2018
Date Last Reviewed:	June 1, 2015
Signature of Issuer:	<u>Marc T. Aveni</u> Marc T. Aveni, Environmental Services Division Chief
Applicability:	Environmental Services Division
Effective Date:	November 1, 2018



	SOP Title: Privately Maintained SWM/BMP Facilities Inspection and Maintenance	SOP No.: 3.047.2
	Effective Date: 11/01/2018	Supersedes Policy Dated: 06/01/2015

A. Purpose

The purpose of this Standard Operating Procedure (SOP) is to establish procedures within the Environmental Services Division to randomly inspect privately-maintained Storm Water Management (SWM) and Best Management Practices (BMP) facilities (pipes, drainage structures, manholes, drainage ditches, and grass/stone or concrete swales etc.) within easements dedicated for the purpose of storm drainage or stormwater management.

B. Applicability

This SOP applies to all Environmental Services Division employees.

C. Specifics

The privately maintained SWM/BMP facilities are inspected at a minimum of once every five years.

1. The SWM/BMP facility is selected.
2. The SWM/BMP file is reviewed for appropriate documentation such as location map, as-built plans, plats, deeds and maintenance agreements.
3. The field inspection results are entered onto an Inspection Check List Form in the SWM Inspection Application (on iPad) and the scope of maintenance noted therein. Photos are attached to the inspection app.
4. If no deficiencies found - no action is noted and property owner is notified by letter.
5. If deficiencies found – property owner is notified by letter of all deficiencies and requested to perform needed repairs within 60 days.
6. The following inspection information is tracked for inclusion into the yearly MS4 report: facility number, facility type, inspection date, HUC code, and type of maintenance needed.

D. Authority

The approving authority for this SOP is the Environmental Services Division Chief. Any changes to or deviations from this SOP must be approved by the Environmental Services Division Chief.

E. Administration

The administration of this SOP shall be the responsibility of the Environmental Services Division Chief and Branch Chiefs.






Standard Operating Procedure
Department of Public Works
Environmental Services Division

Title:	Publicly-Maintained SWM/BMP Facilities Inspection and Maintenance
Number:	3.047.1
Subject:	Stormwater Drainage Facility, Infrastructure and Inspection and Maintenance Procedures
Cross Reference:	APWA Management Practice(s) <u>26.16 & 26.17</u>
Date Issued:	December 19, 2011
Date Revised:	November 1, 2018
Date Last Reviewed:	June 1, 2015
Signature of Issuer:	<u>Marc T. Aveni</u> Marc T. Aveni, Environmental Services Division Chief
Applicability:	Environmental Services Division
Effective Date:	November 1, 2018



	SOP Title: Publicly Maintained SWM/BMP Facilities Inspection and Maintenance	SOP No.: 3.047.1
	Effective Date: 11/01/2018	Supersedes Policy Dated: 06/01/2015

A. Purpose

The purpose of this Standard Operating Procedure (SOP) is to establish procedures within Environmental Services Division to “periodically or complaint based” inspect and maintain publicly maintained Storm Drainage Systems, Best Management Practices (BMP) facilities and Storm Water Management (SWM) facilities (pipes, drainage structures, manholes, drainage ditches, and grass/stone or concrete swales etc.) located within an easement dedicated for the purpose of storm drainage.

B. Applicability

This SOP applies to all employees within the Environmental Services Division of Public Works.

C. Specifics


The County maintained SWM/BMP facilities are inspected under two scenarios:

1. General inspections performed approximately once per year.
2. When requested by an impacted property owner. A property owner’s request is tracked as a complaint (RDRP or SWM) case in the EnerGov™, a county maintained database.

Scenario 1 – General Inspection

1. SWM/BMP facilities are selected for each day of inspection.
2. The field inspection results are entered onto an Inspection Check List Form utilizing a SWM Inspection electronic application (on iPads), with the scope of maintenance noted therein. Digital photos are taken.
3. When maintenance is required, the inspection notes are documented and the photos attached in the SWM case in EnerGov™.
4. If no deficiencies are found during the inspection, the inspection results are entered in SWM Inspection App.
5. If deficiency is found, a brief description and approximate location of the problem is noted, photos attached, and the case is assigned to the maintenance crew via EnerGov™.
6. The maintenance crew chief receives the assignment(s) via ‘Task List’ in EnerGov™ and an email from the Drainage Services Coordinator. The list is reviewed, priority assigned based on severity of the problem, the site inspected, and scope of needed resources (material, equipment, labor and time to complete the job) assessed. The availability of the site access is also explored. If needed, permission to access the problem area through the respective property owner’s (or their neighbor’s) property is requested.
7. After completion of the maintenance, the maintenance case is identified as “Completed” in EnerGov™ by the maintenance crew chief.
8. The following inspection information is tracked for inclusion into the yearly MS4 report: facility number, facility type, inspection date, HUC code, and type of maintenance needed.



	SOP Title: Publicly Maintained SWM/BMP Facilities Inspection and Maintenance	SOP No.: 3.047.1
	Effective Date: 11/01/2018	Supersedes Policy Dated: 06/01/2015

Scenario 2 - When requested by an impacted property owner

1. A property owner’s request is tracked as a complaint (SWM) case in EnerGov™.
2. The drainage system is identified on County Mapper and a location map printed.
3. The drainage facilities are inspected and photos taken.
4. The inspection notes are documented and the photos attached in the SWM case in EnerGov™.
5. If no problem found - no action is noted, and the case is closed.
6. If problem found - brief description and approximate location of the problem is noted. The case is then assigned to the maintenance crew via EnerGov™.
7. The maintenance crew chief receives the assignment(s) via ‘Task List’ in EnerGov™ and an email from the Drainage Services Coordinator. The list is reviewed, priority assigned based on severity of the problem, the site inspected, and scope of needed resources (material, equipment, labor and time to complete the job) assessed. The availability of the site access is also explored. If needed, permission to access the problem area through the respective property owner’s (or their neighbor’s) property is requested.
8. After completion of the maintenance, the SWM case is identified as “project completed” in EnerGov™ by the maintenance crew chief.
9. The complainant and other interested parties are notified of the completed project.

D. Authority

The approving authority for this SOP is the Environmental Services Division Chief. Any changes to or deviations from this SOP must be approved by the Environmental Services Division Chief.

E. Administration

The administration of this SOP shall be the responsibility of the Environmental Services Division Chief and Watershed Management Branch Chief.






Standard Operating Procedure

Department of Public Works

Environmental Services Division

Title:	Stormwater Facility Infrastructure Inventory Procedures
Number:	3.047.3
Subject:	Inventory of SWM Facility, BMP Facility and Storm Drainage Infrastructure
Cross Reference:	APWA Management Practice (s) <u>26.8 & 26.9</u>
Date Issued:	December 19, 2011
Date Revised:	November 1, 2018
Date Last Reviewed:	June 27, 2015
Signature of Issuer:	<u>Marc T. Aveni</u> Marc T. Aveni, Environmental Services Division Chief
Applicability:	Environmental Services Division
Effective Date:	November 1, 2018



	SOP Title: Stormwater Facility Infrastructure Inventory Procedures	SOP No.: 3.047.3
	Effective Date: 11/01/2018	Supersedes Policy Dated: 06/17/2015

A. Purpose

The purpose of this Standard Operating Procedure (SOP) is to establish procedures within the Environmental Services Division to maintain and update an inventory of Storm Water Management (SWM) and Best Management Practice (BMP) facilities, and Storm Drainage Infrastructure (Conveyance - pipes, drainage structures, manholes, drainage ditches, and grass, concrete or stone swales within storm water easement).

B. Applicability

This SOP applies to all the employees within the Watershed Management Branch, Environmental Services Division of Public Works.


C. SWM/BMP Facilities and Storm Drainage Infrastructure Inventory

1. The Geographic Information System (GIS) inventory of the facilities and the drainage infrastructure is created and maintained by the Watershed Management Branch.
2. Development plans are required to show all storm drainage infrastructures.
3. Upon completion of a land development project, the area site inspector from the Branch submits a copy of the approved as-built plan to the GIS section of the Branch.
4. The as-built plan information (plan number, name of the plan/subdivision, and the date received) is logged in by the GIS section. The as-built drainage infrastructure and SWM/BMP facilities are entered into the GIS storm drain inventory within 30 days.
5. The as-built plan and associated plats are scanned and an electronic copy/file is created. It is placed in the County's Electronic Data Management System (EDMS).
6. The following information is retrieved from the plans and digitized:

Storm Drain Information

- Location
- Easement width and length
- Pipe sizes
- Invert elevations
- Structure type
- Specific outfall information including (if provided):
 1. Size
 2. Subdivision name
 3. Drainage area




	SOP Title: Stormwater Facility Infrastructure Inventory Procedures	SOP No.: 3.047.3
	Effective Date: 11/01/2018	Supersedes Policy Dated: 06/17/2015

4. Year built
5. Land use
6. Hydrologic unit code (HUC)
7. Latitude/longitude)

SWM/BMP Facility Information

- Facility type
 - Location
 - Subdivision/site name
 - HUC of receiving stream
 - Total areas treated by the BMP
 - Year built
 - Land use
 - Latitude/longitude
 - Maintenance notes
 - Maintenance agreements
 - Easement boundaries
 - Pipe or ditch sizes
 - Drainage structure profiles
 - Invert elevations
 - Control structure details
 - Performance bond
7. All SWM/BMP facilities are assigned a specific County identification number.
 8. Hard-copy files are created for all SWM/BMP facilities that are part of the as-built plans.
The files include:
 - GIS inventory sheet
 - County Mapper printout of the parcel(s) with owner information included
 - Copy of final inspection signoff
 - Site plan cover sheet
 - Vicinity map
 - Detail drawing(s) of the facilities
 - Profile drawing(s)
 - Plan view
 - Easement information on the plat
 - Bond estimate
 - SWM fact sheet
 - Maintenance notes
 - Copy of the Storm water Management Agreement if applicable
 - Type of BMP



	SOP Title: Stormwater Facility Infrastructure Inventory Procedures	SOP No.: 3.047.3
	Effective Date: 11/01/2018	Supersedes Policy Dated: 06/17/2015

- State HUC
- Acres treated
- Water body to which the facility is discharging into.

An electronic file/folder for each stormwater management facility is placed on the shared PW (Public Works) folder. The folders are accessed through Ridge 1 → PW → Environmental Services → Watershed Management → Drainage & Stormwater Management → SWM Ponds → General SWM Inspection, and choose County or Commercial Facility folder based on facility number. Hard-copy files are sent to the Stormwater Management Pond Site Inspectors.

9. County Mapper is updated to show the updates on SWM/BMP facilities and the storm drainage infrastructure.
10. An EnerGov™ case is created for each new SWM/BMP facility.
11. Storm drain maps are printed periodically and provided to the storm drainage inspection crew for their inspection tasks.

D. Authority

The approving authority for this SOP is the Environmental Services Division Chief. Any changes to or deviations from this SOP must be approved by the Environmental Services Division Chief.

E. Administration

The administration of this SOP shall be the responsibility of the Environmental Services Division Chief and Branch Chiefs.



Appendix 10: Illicit Discharge Elimination & MS4 Permit Compliance



DEPARTMENT OF FINANCE

Prince William County, Virginia

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Effective Date:
09/01/2024

**Subject: ILLICIT DISCHARGE
ELIMINATION AND MS4
PERMIT COMPLIANCE**

No:
25-RSK-400-030

Supersedes:
09/13/2017

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100 INTRODUCTION

Pursuant to the federal Clean Water Act, 33 U.S.C. § 1251, *et seq.*, the Virginia Stormwater Management Act, Va. Code § 62.1-44.15:24, *et seq.*, and Prince William County Code of Ordinances Chapter 23.2 and regulations adopted pursuant thereto, Prince William County is authorized to discharge in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in state permit No. VA0088595.

100.1 PURPOSE

This policy establishes methods for controlling the discharge of pollutants from the municipal separate storm sewer system (ms4) into state waters, in compliance with requirements of virginia stormwater management program [permit issued to Prince William County government \(PWC\)](#).

100.2 SCOPE

The following written illicit discharge policy has been established for all County locations and applies to any potential discharge or pollutant which could be generated during the normal course of business.

100.3 AUTHORIZATION

This policy is authorized by the County Executive.


100.4 APPLICABILITY

This policy applies to all County agencies/departments.

100.5 RESPONSIBILITY

Agency/Department Directors or designees shall:

- Ensure department specific standard operating procedures (SOPs) are developed, implemented and maintained for activities impacted by this policy.
- Ensure all MS4 SOPs are internally approved by the Department of Public Works, Environmental Management Division.
- Ensure all applicable policies, procedures and internal SOPs are available to impacted agencies and personnel responsible for monitoring and ensuring compliance.
- Assign roles and responsibilities as applicable, for all policies, procedures and SOPs under the “control” or “ownership” of his/her individual agency/department,

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- Ensure all training requirements are met.
- Report any noncompliance issues including any spill or discharge.

Department of Public Works, Environmental Management Division shall:

- Provide support to departments and agencies in the implementation of this policy.
- Submit annual reports and any other formal communications that reference MS4 activities to regulatory bodies.
- Disseminate information, updates, and responsibilities to departments and agencies concerning compliance with permit requirements.
- Approve department specific SOPs pertaining to MS4 compliance.
- In conjunction with Risk & Wellness Services periodically inspect high-risk facilities.
- Respond to specific departmental compliance inquiries and provide technical knowledge.
- Notify impacted departments of annual reporting requirements

Risk & Wellness Services shall:


- Ensure that all departments are aware of and comply with this policy through inspection and program audits.
- Provide technical assistance to departments and agencies for all aspects of this policy when requested.
- Assist agencies and departments in facilitating pertinent training.
- Notify Environmental Management of any reported noncompliance issues at County facilities including fuel spills and illicit discharges, along with any follow up actions taken.

Employees shall:

- Comply with this policy and SOPs set forth by department management.
- Attend all required training.
- Inform supervisor of spills and discharges.

100.6 EXCEPTIONS

Exceptions to this policy must be approved in writing by the County Executive or designee.

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100.7 DEFINITIONS

Allowable Discharge - any direct or indirect discharge that is authorized by the MS4 permit.

Contractor - an individual or company, including a subcontractor, hired by PWC government to perform services within PWC.

Clean Water Act (CWA)- the federal Clean Water Act (33 U.S.C. §1251 et seq.) and any subsequent amendments thereto

Discharge - allowable liquid, gas, or other substances that enter a storm drainage system.


Hazardous Material Personnel- County personnel responsible for responding to incidents related to hazardous materials.

Illicit Discharge- any direct or indirect non-stormwater discharge into the storm drain system not authorized by the MS4 permit.

Illicit Connections- either of the following: (1) any drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the storm drain system including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process waste water, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains to sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved, by the County or, (2) any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the County.

MS4 (Municipal Separate Storm Sewer System) - a conveyance or system of conveyances, otherwise known as a municipal separate storm sewer system or "MS4" including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains, designed or used for collecting and conveying stormwater.

MS4 Permit- a permit issued to Prince William County that authorizes the discharge of stormwater from all existing and new municipal separate stormsewer point source discharges to surface waters of the State and includes a comprehensive planning process involving public participation and intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the CWA and regulations, and this article and its attendant regulations, using management practices, control techniques, and system, design, and engineering methods, and such other provisions that are appropriate.

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Pollutant – anything which causes or contributes to pollution. This may include but is not limited to: paints, chemicals, soap, wash water, oil, automotive fluids, non-hazardous liquid and solid wastes, yard wastes, garbage, pesticides, herbicides, fertilizers, hazardous substances and wastes, animal wastes, dissolved and particulate metals, leaves and yard clippings, and particulates such as soil, sand and salt.

Potable Water- water that is deemed safe to drink or to use for food preparation, without risk of health problems.

Spill Prevention Control and Countermeasure (SPCC) Plan - a federally required and defined plan for facilities storing over 1,320 gallons of oil (fuel) cumulatively at a site including tanks, generators, and drums of oil (fuel).


Standard Operating Procedure (SOP) – SOPs are those policies/procedures related only to the internal operations of an agency/department, division or other sub-unit thereof. SOPs are not communicated or meant to provide direction to any external agency/department. Other names for SOPs include, but are not limited to: general orders, desk manuals, procedures, field guides, process flowcharts, and checklists, etc.

Storm Drainage System- facilities by which stormwater is collected and/or conveyed including but not limited to any roads with drainage systems, streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detentions basins, natural and human made or altered drainage channels, reservoirs, and other drainage structures.

Storm Water – precipitation that is discharged across the land surface of through conveyances to one or more waterways and that may include stormwater runoff, snow melt runoff, and surface runoff and drainage.

Policy – Policies are directives for the conduct of County business affairs and are often in support of higher level of authority dictates such as County Code or Ordinance; Board of County Supervisor Resolutions, County Executive Order, the County's Strategic Plan, compliance with federal laws and standards, the Code of Virginia or other regulatory agency as defined by law or contract.

Procedure – Procedures are the steps required to ensure policies are followed. Procedures are more detailed in nature and communicate operational requirements to internal and external staff for a specific transaction or a business cycle.

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100.8 KEY RISK FACTORS

1. Policies, procedures and internal SOPs are inconsistent or not properly documented, approved and disseminated.
2. Policies, procedures and internal SOPs are not reviewed and updated on a systematic basis.
3. Departments and agencies may overlook responsibilities and fail to report permit violations or annual reporting requirements.

200 ILLICIT DISCHARGE ELIMINATION AND MS4 PERMIT COMPLIANCE POLICY


200.1 ILLICIT DISCHARGES

No County employee, visitor, contractor, department, or agency shall cause or allow discharges into the PWC storm drainage system which are not composed entirely of stormwater, except for the allowed discharges listed below in Section 200.2. Prohibited discharges include, but are not limited to: paints, chemicals, soap, wash water, oil, automotive fluids, non-hazardous liquid and solid wastes, yard wastes, garbage, pesticides, herbicides, fertilizers, hazardous substances and wastes, animal wastes, dissolved and particulate metals, leaves and yard clippings, and particulates such as soil, sand and salt.

200.2 ALLOWABLE DISCHARGES

Allowable discharges are identified in the MS4 permit and include, but are not limited to the following:

- Landscape irrigation (sprinklers) and other potable water discharges
- Air conditioning condensation
- Fire-fighting emergency activities
- Water line flushing
- Discharges from potable water sources
- Fountain drains
- Flooring drains
- Lawn watering
- Irrigation water
- Other unforeseen activities that Environmental Management deems as allowable under the permit

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200.3 ILLICIT CONNECTIONS

The construction, use, maintenance, or continued existence of illicit connections to the storm drain system is prohibited. This expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

200.4 GOOD HOUSEKEEPING REQUIREMENTS

200.4.1 VEHICLE AND EQUIPMENT WASHING AND MAINTENANCE

County vehicles shall be washed at a commercial car wash facility whenever possible. For oversize or specialty equipment and vehicles that require specialty cleaning, washing must be done in a way that prevents runoff water from entering storm drains. This includes:

- Using waterless washing products or a phosphate-free, pH neutral soap, and
- Washing on a grassy area or gravel, where all runoff water infiltrates the ground, or
- Capturing all runoff so no discharge occurs

Should site-specific issues prevent all of the above conditions from being met, a SOP approved by Public Works Environmental Management is required to be adopted and posted at the site.

200.4.2 VEHICLE AND EQUIPMENT FUELING

All fuel tanks, generators, and fueling stations at Prince William County facilities must have a spill response kit that is labeled, visible to users, and stocked at all times.

County personnel must remain at the pump during vehicle and equipment fueling. Should a spill occur or be discovered, personnel must respond by:


- utilizing a clean-up kit,
- notifying the County’s fuel vendor via self-dial phones posted at Garfield, Western District, and Central District fueling stations, and/or
- dialing 911 for significant or hazardous spills

For spills of all sizes, a [spill report](#) form must be completed following protocol found in section 200.6.

All spent cleanup supplies must be properly disposed. Risk & Wellness Services can assist departments in making arrangements.

200.4.3 OUTDOOR STORAGE OF EQUIPMENT AND MATERIALS

Outdoor storage of equipment and materials not in regular use should be temporary and kept to a minimum. When storing equipment and materials outdoors, the following conditions must be met:

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- Store materials and equipment as far away from storm drains and water bodies as feasible
- Cover and protect materials stored outside from rainfall and wind dispersal
- Keep outdoor storage containers in good condition
- Conduct regular inspections of storage areas

Should site-specific issues prevent all of the above conditions from being met, a SOP approved by Public Works Environmental Management is required to be adopted and posted at the site.

200.4.4 OUTDOOR STORAGE OF CHEMICALS

Outdoor storage of chemicals should be temporary and kept to a minimum. When storing chemicals outside, the following conditions must be met:


- Store chemicals as far away from storm drains and water bodies as feasible
- Seal storage containers and ensure they are impervious to rainfall
- Keep outdoor storage containers properly labeled and in good condition
- Store containers so they are not in direct contact with the ground
- Store containers in a way that prevents damage from vehicle and equipment impacts, wind damage, or any other external force
- Conduct regular inspections of storage areas

Should site-specific issues prevent all of the above conditions from being met, a SOP approved by Public Works Environmental Management is required to be adopted and posted at the site.

200.4.5 ROAD, STREET, AND PARKING LOT DEICING/MAINTENANCE

Deicing and other maintenance activities performed in roads, streets, and parking lots must be done in a way to minimize discharge. When performing these activities, the following conditions must be met:

- Deicing
 - Store and transfer de/anti-icing materials on an impervious containment pad or an equivalent containment area and/or under cover
 - Do not use deicing agents containing urea, or other forms of nitrogen or phosphorus
 - Avoid applying chemical deicing agents when the temperature is less than 15°F
 - Use the lowest application rate of deicing chemicals possible to loosen snow and ice for further removal by shovel or plow
- Maintenance

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- Use an approved vendor for parking lot sweeping services and, per the contract requirements, confirm the collected debris is:
 - removed from the property within 4 hours of collection (no stockpiling),
 - kept out of storm drains, and
 - properly disposed of at an approved site
- Parking Lot/Curb Painting
 - Use and approved vendor for parking lot/curb painting and, per the contract requirements, confirm that paint and other materials are:
 - Kept out of storm drains, and
 - properly disposed of at an approved site

Should site-specific issues prevent all of the above conditions from being met, a SOP approved by Public Works Environmental Management is required to be adopted and posted at the site.

200.4.6 PESTICIDE, HERBICIDE, FERTILIZER APPLICATION, STORAGE, TRANSPORT AND DISPOSAL

Application, storage, transport, and disposal of any pesticide, herbicide, and fertilizer products must be done in a manner that minimizes the impact to the environment to the greatest extent practicable. When performing these activities, the following conditions must be met:

Application


- Apply materials on an as needed basis only and at a time the target is most receptive/susceptible and effective
- Do not exceed application rates defined on the product label
- Utilize only properly trained or certified personnel to perform applications of these chemicals

Storage

- Store all pesticide, herbicides and fertilizer indoors or under covered areas, with proper labeling on both the containers and the storage structure
- Keep an inventory of storage areas in case of a fire
- Conduct regular inspections of storage areas

Transport

- Secure materials during transport to prevent spills and/or utilize secondary containment

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- Follow the Virginia Department of Agriculture and Consumer Services pesticide safety guidance when transporting pre-mixed chemicals
- Equip vehicles that transport liquid products with a spill kit

Disposal

- Dispose of expired and unwanted materials through a qualified, contracted County vendor
- Maintain records of material disposal indefinitely

Should site-specific issues prevent all of the above conditions from being met, a SOP approved by Public Works Environmental Management is required to be adopted and posted at the site.

200.4.7 FIRE-FIGHTING TRAINING

Fire-fighting training activities must be performed in a manner that minimizes the impact to the environment to the greatest extent practicable. When performing these activities, the following conditions must be met:


- Direct water flows to grass or gravel areas or contain the water onsite and allow it to evaporate and infiltrate
- Block off all potentially affected storm drain inlets with socks, barriers, or other materials to divert water to sanitary sewer or grass or gravel infiltration

Should site-specific issues prevent all of the above conditions from being met, a SOP approved by Public Works Environmental Management is required to be adopted and posted at the site.

200.4.8 FUEL TANKS, GENERATORS AND OTHER OIL/FUEL STORAGE

All oil (including cooking oil) and fuel containers must be maintained and utilized in a manner that prevents leaks, spills and discharges. All drums, tanks, generators or other outdoor oil/fuel storage containers must comply with the following:

- With the exception of cooking oil storage, ensure secondary containment is utilized, either through container design or added structure
- Properly label equipment and containers and ensure they are free of drips, leaks, and film, and that the ground/pavement around it is, too
- Ensure filling and dispensing by vendors is done in accordance with County policy and that any spill is reported in accordance with 200.6 of this policy
- Inspect equipment and containers regularly and ensure any needed repairs are made in a timely manner

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- Place a spill response kit near the equipment or container and ensure it is labeled, stocked, and visible to others at all times

200.4.9 SWIMMING POOL DE-CHLORINATION

During daily back-washing operations and annual flushing, steps must be taken to minimize the level of chlorine in discharge water to the greatest extent practicable. This can be achieved by:

- Direct water flows to grass or gravel areas or contain the water onsite and allow it to evaporate and infiltrate
- For annual flushing, de-chlorinate the water either chemically with appropriate products, or naturally through a 10-day retention period with no chlorine addition prior to release
- Verify chlorine and pH levels prior to release during annual flushing, with pH levels falling between 6.0 and 8.0 and free chlorine levels of 0.01 mg/l or less
- Release discharge from annual flushing at a controlled rate, as slowly as reasonably feasible

Should site-specific issues prevent all of the above conditions from being met, a SOP approved by Public Works Environmental Management is required to be adopted and posted at the site.

200.4.10 DUMPSTER AND TRASH CONTAINER MANAGEMENT AND MAINTENANCE


All dumpsters and trash containers, either directly owned or provided by a vendor, must:

- Be located as far away from storm drains as reasonably achievable
- Be in good condition, free of significant rust or peeling paint, and with intact lids and side panels
- Have closed lids and closed side panel openings at all times to prevent rain water from entering and trash from escaping. Should the vendor not close lids after emptying, facility must manually close the lid and report the issue to the contract manager
- Have closed/plugged drains, where applicable
- Be regularly inspected to ensure above requirements are met and any trash or debris around the container is removed

200.5 TRAINING

200.5.1 GENERAL TRAINING

The following personnel must receive stormwater training biennially (every two years):

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- Field personnel, including public safety
- Personnel responsible for road, street, and parking lot maintenance working in and around recreation, public works, and maintenance facilities
- County plan reviewers, inspectors, emergency response employees, and construction site operators
- Any additional personnel deemed necessary by the permit

Training must include, at a minimum: MS4 requirements, recognition and reporting of illicit discharges, and good housekeeping and pollution prevention practices.

200.5.2 PESTICIDE AND HERBICIDE APPLICATION TRAINING

Employees and contractors who apply pesticides and herbicides must be properly trained or certified per the Virginia Pesticide Control Act (§3.2-3900 et seq. of the Code of Virginia).

200.5.3 EROSION AND SEDIMENT CONTROL TRAINING

County plan reviewers, inspectors, program administrators, and construction site operators must be trained and obtain appropriate certifications as required under Virginia Erosion and Sediment Control Law and attendant regulations.

200.5.4 SPILL RESPONSE TRAINING


All County personnel with responsibilities for complying with a facility's Spill Prevention Control and Countermeasure Plan (SPCC) must receive annual spill response training.

All Department of Fire & Rescue uniformed personnel must be trained to the level of Hazardous Materials First Responder Operations as required by OSHA standards (29 CFR 1910.120(q)(6)(ii). Annual refresher training is required and must, at a minimum, meet requirements of OSHA Standards (29 CFR 1910.120(q)(8)(ii).

The Department of Fire and Rescue's Hazardous Materials Response Team must include Uniform personnel that are trained to the Hazardous Materials Technician Level (29 CFR 1910.120(q)(6)(iii). Annual refresher training is required and must meet the requirements of OSHA Standards (29 CFR 1910.120(q)(8)(ii).

200.6 NOTIFICATION OF SPILLS AND/OR ILLICIT DISCHARGES

If an illicit discharge is observed or created, departments are responsible for immediately reporting the incident to Public Safety Communications for dispatching of Fire and Rescue Resources by calling 911 or non-emergency number at (703) 792-6500. Details such as location of the incident and description of the discharge should be conveyed, and the reporting party

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needs to remain on site until emergency response personnel inform them they are free to leave. Secondary notification should be made within 24 hours to Environmental Management and Risk & Wellness Services via the [Spill Report Form](#) located on the Safety First, Environmental Health & Safety intranet site.

200.7 RECORD KEEPING/ ANNUAL REPORTING

Public Works Environmental Management will notify all impacted departments of annual reporting requirements in the first quarter of each fiscal year. Within the first 30 days following the close of that fiscal year, Departments will provide Environmental Management of all required data, reports, and other deliverables assigned to them at the start of the year. Should a new or revised requirement be imposed, Environmental Management will notify impacted departments within 30 days.

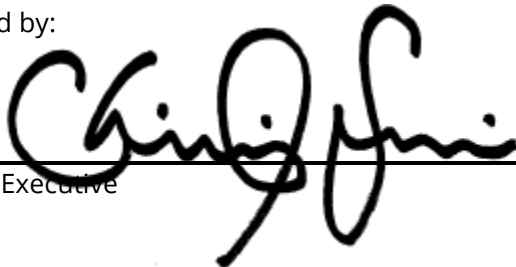
200.8 SWPPP

Facilities that have been identified as high priority through the MS4 permitting process will be notified by Environmental Management and required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). Additionally, some departments may be required to maintain a SWPPP independent of the County’s MS4 permit. Departments are responsible for complying with all SWPPP requirements including good housekeeping, record keeping, training, and inspections.

200.9 OVERSIGHT

Risk & Wellness Services and Environmental Management will audit records and inspect facilities for compliance with the MS4 permit on an annual basis. Results of audits and inspections will be reported to department management and executive management.

Approved by:



County Executive

9/4/2024

Date

Appendix 11: Good Housekeeping



**DEPARTMENT OF FINANCE
RISK MANAGEMENT**

Prince William County, Virginia

Subject: General Housekeeping and
Storage

No:
25-RSK-300-104


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4/2/2018

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100 INTRODUCTION

Prince William County is committed to the establishment of a healthy and safe workplace. Good housekeeping and storage practices help to protect the well-being of all persons within our facilities.

The Occupational Safety and Health Administration (OSHA) specifically regulates workplace housekeeping in general industry and construction in 29 CFR 1910.22 and 29 CFR 1926.25, as well as within other standards and regulations. The State of Virginia Fire Prevention Code also contains sections on housekeeping and storage.

100.1 PURPOSE

This Prince William County Policy was developed to ensure that workplace and storage areas are maintained in a clean and orderly manner. The goal of this policy is to eliminate the exposure to hazards and the potential for illness and injuries.

100.2 SCOPE

The following written housekeeping policy has been established for all County facilities, including vehicles, equipment, and interior and exterior building areas.

100.3 AUTHORIZATION

This policy is authorized by the County Executive.

100.4 APPLICABILITY

This policy applies to all County agencies/departments including those with Independent Boards, with the exception of the Prince William County Schools.

100.5 RESPONSIBILITY

Department Management shall:

- Develop and maintain department-specific protocols to ensure all department employees comply with this policy.
- Conduct periodic inspections to detect any unsafe or unhealthful conditions, practices, or equipment, and take corrective action.
- Develop and implement procedures for identification and timely removal of defective equipment and materials.
- Plan for appropriate material handling and storage.
- Ensure that employees are appropriately trained in proper housekeeping, material handling and storage.



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RISK MANAGEMENT**

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- Ensure that employees handle and store materials in a safe manner.
- Ensure that employees know how to safeguard against, report and/or correct hazards, including spills.
- Assign responsibilities for various elements of housekeeping and storage, as needed

Employees shall:

- Keep all work and storage areas in a clean and orderly condition.
- Report or correct all potential hazards including accumulations of waste, unsafe and unsanitary conditions, spills, and potential slip, trip and fall hazards.
- Actively participate in any required training.

Risk Management shall:

- Develop and maintain the housekeeping written policy.
- Conduct periodic inspections of various facilities to ensure housekeeping requirements are being met.

100.6 EXCEPTIONS

Exceptions to this policy must be approved in writing by the County Executive or designee.

100.7 DEFINITIONS

Flexible Cords - Used to connect electrical equipment to a power source. Flexible cords may have an electrical plug that connects to a power source or they may be permanently wired into a power source.

100.8 KEY RISK FACTORS

- Proper housekeeping can reduce the risk of injuries and property damage.
- Policy and procedures are not applied in accordance with Federal, State and Local regulations.
- Departments and agencies may overlook responsibilities and fail to identify and correct hazards.

200 HOUSEKEEPING POLICY

Prince William County is committed to providing a safe and healthy work environment for all County employees, contract employees, and the general public that utilize our facilities and grounds. All County Agencies will make reasonable efforts to provide a place of employment that is free from recognized hazards.



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Good housekeeping practices must be followed by all personnel to reduce potential injuries or illnesses in the workplace. All County facilities must be inspected regularly and hazardous conditions corrected, repaired or guarded against.

It is everyone's responsibility to become familiar with their department's procedures for reporting hazards found.

Regular inspections, preventative maintenance, and timely repair of tools, equipment, and facilities must be implemented.

Items identified as being hazardous and needing repair or disposal must be tagged or otherwise secured against use.

200.1 CLEANLINESS

All facilities, including outside areas, equipment, and vehicles, must be kept clean, orderly and maintained in a sanitary condition to the extent by which the nature of work allows.

All items that are no longer in use must be removed and properly disposed of to maintain a safe, sanitary and clutter-free workplace.

Light fixtures, air vents and ceiling tiles must be kept clean and free of dust to improve lighting efficiency and to maintain indoor air and environmental quality.

All floors shall be kept free from wet and dry spilled materials and water by prompt cleaning and drying.

Smoking, eating, or drinking is prohibited in areas where hazardous materials are stored and handled.

Eating and food preparation areas must be cleaned after each shift to maintain a sanitary condition.


200.2 WALKWAYS AND WORKING SURFACES

All walking and working surfaces must be maintained, so far as practicable, dry and free of debris that can create slip, trip, and fall hazards.

Every floor, working surface, and passageway must be kept free from holes, openings, protruding nails, splinters, loose boards, and debris.

All passageways and stairways must be kept clear of obstacles at all times, in good repair, and clearly defined.

Areas that cannot be cleaned continuously, such as entranceways, must have anti-slip flooring. When wet processes are used, adequate drainage must be maintained, and false floors, platforms, mats, or other dry standing places must be provided.

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200.2.1 SPILL CONTROL

All spilled materials must be contained and cleaned up immediately by qualified individuals. Spills involving hazardous chemicals or that may adversely impact the environment must be managed by qualified individuals or approved vendors, and per any applicable regulations.

All leaks must be properly contained or repaired.

All spill areas must be blocked to prevent others from entering the area while spill cleanup supplies and assistance is obtained.

200.2.2 ELECTRICAL

All electrical equipment must be maintained in good working order. Authorized and qualified personnel must be contacted when repairs are needed.

Sufficient access and working space must be provided and maintained around all electrical equipment to permit safe operations and maintenance. At least three feet of clearance is required in front of electrical panels and emergency shut-off equipment.

Electrical cords must be organized and out of walking areas to prevent tripping.

Extension cords and flexible cords must be used appropriately, and not extend through walls, ceilings, floors, under doors or floor coverings, or otherwise be subjected to damage.

Flexible cords must be inspected regularly to confirm the cord is free from splices and taps, and are effectively grounded.

Extension cords are only allowed to be used on a temporary basis (90 days or less), and must be stored neatly when not in use.

200.3 STORAGE AND MATERIAL HANDLING

Storing and handling materials must take the following factors into consideration:

- The specifications, such as height and weight of the material
- The accessibility of the stored materials
- The condition of the location where the materials are being stored.

Employees must be trained regarding the orderly storage and handling of materials from point of entry to exit.

200.3.1 MATERIAL STORAGE

All stored materials must be placed in a designated area, and must be stored safely and have adequate access and working space.

All storage areas, furnishings, and equipment must be adequate and appropriate for the items being stored. All storage and supply rooms and areas must be kept clean and well organized.



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Storage areas must be kept free of an accumulation of materials that may cause tripping, strains, fires, explosions, or that may contribute to the harboring of pests. Materials and supplies that are no longer needed must not be allowed to accumulate.

Heavier items should be stored on lower shelves and in close proximity to their point of use to minimize handling hazards.

Storage buildings, lofts, mezzanines, storage racks, and similar storage areas must be designed and maintained for the weight of the materials being stored.

- Maximum safe load limits of floors within buildings and structures, in pounds per square foot, must be conspicuously posted in all storage areas, except for floors or slabs on grade.
- Maximum safe loads must not be exceeded.

When storing materials overhead on mezzanines, lofts, or balconies, adequate toe boards must be provided to keep objects from falling over the edge.

Storage is not allowed in stairways or in any areas of emergency egress, even on a temporary basis. When maintenance, repairs, or other work requires temporary obstruction of any parts of emergency egress, the area must be attended at all times and attending staff must be ready to immediately remove any obstructions in an emergency.

200.3.1.1 INTERIOR

Storage shall be maintained 2 feet or more below the ceiling in nonsprinklered areas of buildings or a minimum of 18 inches below sprinkler head deflectors (on a horizontal plane) in sprinklered areas of buildings.

Sprinkler heads must not be obstructed. Storage of, or retrieval of, materials must not extend into the proximity of sprinkler heads or light fixtures to prevent potential damage.


200.3.1.2 EXTERIOR

Outside storage areas and structures must be maintained and kept clear of unnecessary materials and equipment, rubbish, leaves/vegetation accumulation, weeds, and snow/ice.

Only items deemed appropriate for outside storage may be stored outside. Adequate means must be taken to protect stored items from excessive deterioration caused by outdoor environmental elements.

Open storage areas of combustible materials must have driveways between and around piles that are at least 15 feet wide.

Combustible material piles must be stable and in no case higher than 20 feet.

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200.3.1.3 COMBUSTIBLE/HAZARDOUS MATERIALS

Combustible materials, such as paper, cardboard boxes, or pallets, must not be allowed to accumulate to create a fire hazard, impede egress, or block access to other equipment.

Combustible materials must not be stored in boiler rooms, mechanical rooms, or electrical equipment rooms.

Combustible material must not be stored any closer than 36 inches from heating appliances or electrical lights.

Flammable, combustible, toxic, and other hazardous materials must be stored in approved containers in designated areas that are appropriate for the different hazards that they pose.

200.3.2 MATERIAL HANDLING

All movement of materials must be undertaken in a safe manner. If a load is determined to be too heavy or awkward for one employee to handle, the employee must obtain assistance or use a lifting aid to perform the operation in a safe manner.

All materials to be handled must be first inspected for hazards, and to assess the load weight and graspability.

The material movement route must be assessed for hazards and a plan must be initiated for safe and clear passage. No materials may be transported when vision is obstructed.

Dock boards or bridge plates must be used when transferring material between docks and trucks.

200.3.2.1 MATERIAL HANDLING EQUIPMENT

Employees must be trained in the proper use of material handling equipment before use.

200.4 WASTE DISPOSAL

All sweepings, solid or liquid wastes and garbage must be removed as often as necessary to maintain a safe, sanitary and clutter-free condition.

Dirty, oily, and wet waste rags and cleaning cloths used in shop facilities must be deposited in properly labeled, covered metal containers and be disposed of as soon as practicable, using approved methods and vendors, and per any applicable regulatory requirements.

Materials, chemicals, and equipment no longer needed must be appropriately disposed of in a timely manner.



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4/2/2018

Christopher E. Martino
County Executive
Prince William County

Date

Appendix 12: PWC Clean Water Program

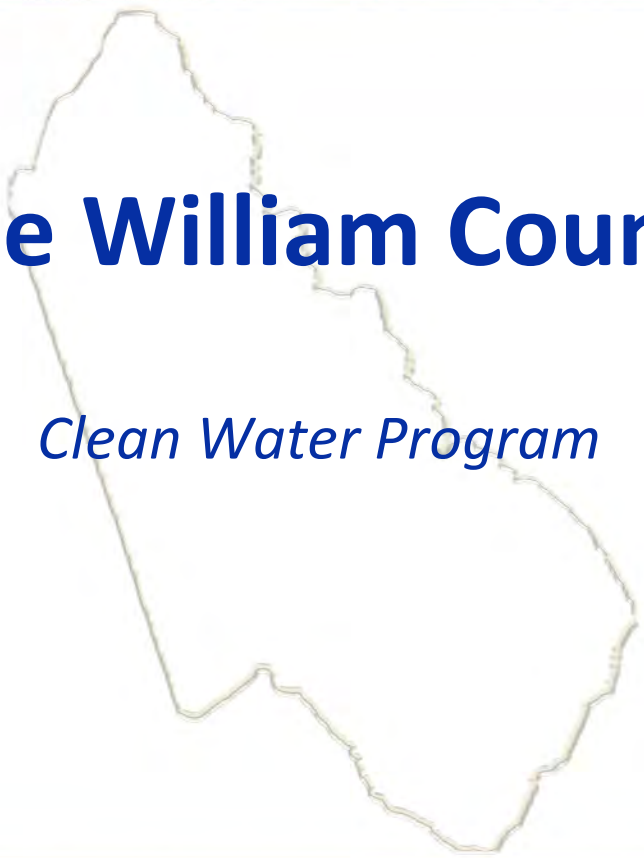


Prince William County Government
Board of County Supervisors



Prince William County

Clean Water Program



What is the PWC Clean Water Program?



A comprehensive public outreach program dedicated to reducing the impact of stormwater on County Rivers/Streams and the Chesapeake Bay



Regulatory Drivers



MS-4 Section II.B.2.j) Public Participation



Homeowners



- Leaf Management
- Pool Management
- Pet Waste (including Horses)
- Nutrient Management
- Car Washing/Maintenance
- Household Hazardous Wastes
- General Litter
- Septic Systems?



Commercial Businesses



■ Auto Related Industries

◆ Fluids/maintenance BMPS

■ Restaurants

◆ Grease, cleaning BMPs, Waste Management

■ Pond Maintenance

■ Industrial (VPDES) applicable Facilities

■ Marinas (Boat Washing/maintenance/fueling)



Source: Arlington Virginia



Possible Stakeholders/Partnerships



- Environmental Services
 - ◆ outreach and planning
- Landfill
 - ◆ Recycling
- School Board
 - ◆ Outreach and volunteer work
- Parks & Rec
 - ◆ Pet waste stations
- Neighborhood Services
 - ◆ Outreach Illicit Discharge Detection
- KPWB
 - ◆ Litter Surveys
- PWC soil and water
- Conservation alliance
- Cooperative Extensions
- Environmental Groups within PWC
- Homeowner Associations
 - ◆ Outreach



Resources



■ Buzz Videos

■ Posters

◆ Municipal Buildings/Library/Local Businesses

■ Brochures

■ Outreach Events

■ Schools

■ Social Media

■ Pet Waste Stations

More best management practices ...

• Pet Care

Pet waste washed from yards and paved areas is a major source of bacteria and excessive nutrients in local waters. Pet waste can contribute up to 50% of the total bacteria in a stream. Please pick up and flush pet wastes down the toilet or place pet wastes in the trash.

• Car Maintenance

Ensure your car is not leaking oil or fluids. Visit repair shops that properly dispose of oil and wastes.

Properly dispose of used oil and batteries. Learn more at: www.pwvcgov.org/trashandrecycling

• Septic System Maintenance

A leaking septic system can release nutrients and pathogens into near by waters. Inspect and pump your septic system every two years.

• Household hazardous waste disposal

Properly dispose of items in designated locations, and never flush HW. Slow the drain or toilet. For more information visit: www.pwvcgov.org/trashandrecycling

• Manage your lawn and landscape

Use fertilizers and pesticides sparingly (don't use within 15 to 30 feet of a stream) or Follow nutrient management plan. For more information visit: <http://www.aic.vt.edu/>

Don't allow grass clippings and leaves to enter the storm drain/sink. This can add nutrients and organic matter to streams.

Sweep excess fertilizer and pesticides off of impervious surfaces and onto lawn.

Landscape with low maintenance and native plants — use less turf.

Leave grass height between 3 and no higher than 12".

Install practices such as rain barrels, permeable pavement, rain gardens and vegetated filter strips that have less impact.



Resources and Who to Call

Solid Waste Division at 703-792-4670

- Recycle motor oil, anti-freeze and car batteries
- Household Hazardous Waste
- Electronic Recycling
- Yard Waste Composting



Virginia Cooperative Extension at 703-792-6285

- Nutrient Management Planning

Environmental Health Department at 703-792-6310

- Well and Septic Maintenance

Fire & Rescue at 703-792-6360 or after hours public safety communications at 703-792-6500

- Hazardous Waste Spills

- Emergency situations — call 9-1-1

Keep Prince William Beautiful at 571-285-3772

- Litter Control, Prevention and Clean Ups

- Heavily littered areas in a specific spot

Prince William County

Watershed Management
Department of Public Works
5 County Complex Court, Suite 170
Prince William, VA 22192
703-792-7070

Wlittercharge@pwvcgov.org
www.pwvcgov.org/publicworks



Prince William County

Help Stop Pollutants from Entering Our Streams



Illicit Discharge Detection and Elimination Program

Protecting the health, safety and welfare of the public, environment, and infrastructure by controlling pollution entering our local waterways and the Chesapeake Bay.



Measuring Program Impact



- Instances of Illicit Discharge
 - ◆ Commercial Sector
 - ◆ Industrial Reports
- Reports of Illicit Discharge
- Water Quality Monitoring Data
- Litter Surveys
- Citizen Feedback



Program Needs – MS-4



■ Full time environmental Outreach Position

- ◆ Attend Outreach Events
- ◆ Conduct outreach to businesses and homeowners
- ◆ Work with existing staff to create and distribute material
 - Brochures
 - Videos
- ◆ Coordinate Outreach Efforts
 - Charity Car Wash Program
 - Voluntary Stormwater Management
 - Local TMDL Initiatives



Program Needs – MS-4 (Cont.)



- Coordination With other Agencies on MS-4 related initiatives
 - ◆ Solid Waste – Recycling and Trash reduction
 - ◆ Main Point of Contact to Community Partners



Program Needs – Non MS-4



- Other Responsibilities can include
 - ◆ Web Development
 - ◆ News and press briefings on Stream Restoration projects
 - ◆ Coordinate



Appendix 13: Training Procedures

Standard Operating Procedures – Training

200.5.1 GENERAL TRAINING

The following personnel must receive stormwater training biennially (every two years):

- Field personnel, including public safety
- Personnel responsible for road, street, and parking lot maintenance working in and around recreation, public works, and maintenance facilities
- County plan reviewers, inspectors, emergency response employees, and construction site operators
- Any additional personnel deemed necessary by the permit

Training must include, at a minimum: MS4 requirements, recognition and reporting of illicit discharges, and good housekeeping and pollution prevention practices.

200.4.7 FIRE-FIGHTING TRAINING

Fire-fighting training activities must be performed in a manner that minimizes the impact to the environment to the greatest extent practicable. When performing these activities, the following conditions must be met:

- Direct water flows to grass or gravel areas or contain the water onsite and allow it to evaporate and infiltrate
- Block off all potentially affected storm drain inlets with socks, barriers, or other materials to divert water to sanitary sewer or grass or gravel infiltration

Should site-specific issues prevent all of the above conditions from being met, a SOP approved by Public Works Environmental Management is required to be adopted and posted at the site.

200.5.2 PESTICIDE AND HERBICIDE APPLICATION TRAINING

Employees and contractors who apply pesticides and herbicides must be properly trained or certified per the Virginia Pesticide Control Act (§3.2-3900 et seq. of the Code of Virginia).

200.5.3 EROSION AND SEDIMENT CONTROL TRAINING

County plan reviewers, inspectors, program administrators, and construction site operators must be trained and obtain appropriate certifications as required under Virginia Erosion and Sediment Control Law and attendant regulations.

200.5.4 SPILL RESPONSE TRAINING

All County personnel with responsibilities for complying with a facility's Spill Prevention Control and Countermeasure Plan (SPCC) must receive annual spill response training. All Department of Fire & Rescue uniformed personnel must be trained to the level of Hazardous Materials First Responder Operations as required by OSHA standards (29 CFR 1910.120(q)(6)(ii)). Annual refresher training is required and must, at a minimum, meet requirements of OSHA Standards (29 CFR 1910.120(q)(8)(ii)). The Department of Fire and Rescue's Hazardous Materials Response Team must include Uniform personnel that are trained to the Hazardous Materials Technician Level (29 CFR 1910.120(q)(6)(iii)). Annual refresher training is required and must meet the requirements of OSHA Standards (29 CFR 1910.120(q)(8)(ii)).

Appendix 14: Illicit Discharge Detection
Elimination Manual



Illicit Discharge Identification and Elimination Program Manual FY2017

Prince William County Public Works
Environmental Services Division

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I. Introduction



Through environmental permitting the Environmental Protection Agency (EPA) and Virginia Department of Environmental Quality (DEQ) require Prince William County to identify and prohibit any individual non-storm water discharges that are contributing significant amounts of pollutants to the Municipal Separate Storm Sewer System or MS4. The Illicit Discharge Detection and Elimination (IDDE) Program Manual will describe the methodologies to meet the requirements of the MS4 permit and to protect local water quality, the Potomac River, and the Chesapeake Bay.

The Prince William County IDDE program includes Dry Weather, Industrial/High Risk, and General Discharge Monitoring. Representative outfalls are selected for screening through desktop and Geographic Information System (GIS) analysis. Once selected, outfalls are inspected according to a schedule developed relative to the probability of discharge impact. If a discharge is identified, follow-up activities to eliminate illicit discharges will be prioritized based on magnitude and nature of the suspected discharge and sensitivity of receiving waters. Priorities and schedules have been established to visit representative outfalls at least once in the permit term (5 years).


In accordance with the MS4 permit, the illicit discharge shall be eliminated as expeditiously as possible and where it can't be removed within 30 days, then various actions can be taken. The discharge can be eliminated through issuing violation summons according to County ordinance, through violation of County zoning ordinances (if applicable), notice of the Fire Marshalls Office (Hazmat incidents), or through notifying the Virginia Department of Environmental Quality, Northern Virginia Regional Office.

II. Standard Operating Procedures

a. Dry Weather Monitoring

	<p style="text-align: center;">Standard Operating Procedure</p> <p style="text-align: center;">Department of Public Works</p> <p style="text-align: center;"><u>Environmental Services</u> <u>Division</u></p>
<p style="text-align: right;">Title:</p>	<p>Dry Weather Monitoring Program</p>
<p style="text-align: right;">Number:</p>	<p>3.047.6</p>
<p style="text-align: right;">Subject:</p>	<p>Identification and Removal of Unauthorized Non-Stormwater Discharges to the County's MS4.</p>
<p style="text-align: right;">Cross Reference:</p>	<p>APWA Management Practice (s) _____</p>
<p style="text-align: right;">Date Issued:</p>	<p>June 9, 2015</p>
<p style="text-align: right;">Date Revised:</p>	<p>June 9, 2015</p>
<p style="text-align: right;">Date Last Reviewed:</p>	<p></p>
<p style="text-align: right;">Signature of Issuer:</p>	<p> Marc T. Aveni, Environmental Services Division Chief</p>
<p style="text-align: right;">Applicability:</p>	<p>Environmental Services Division</p>
<p style="text-align: right;">Effective Date:</p>	<p>June 9, 2015</p>



	SOP Title: Dry Weather Monitoring Program	SOP No.:3.047.6
	Effective Date: 06/09/2015	Supersedes Policy Dated: N/A

A. Purpose

The purpose of this standard operating procedure is to describe the methods for the detection and elimination of all unauthorized, non-storm discharges to the County's Municipal Separate Storm Sewer System (MS4).

B. Applicability

This SOP applies to all storm sewer infrastructures in Prince William County's MS4 through the authority established by the County's MS4 permit, applicable County ordinances, the Virginia Department of Environmental Quality (DEQ), and United States Environmental Protection Agency (USEPA).

C. Policy Details


1. Pre-Inspection

- Site visits will be conducted by County Water Quality inspectors according to a prioritized list of stormwater outfalls to check for dry weather flows (See flow chart in Attachment A). The prioritized list will be determined by the following criteria:
 - i. List of sites requiring further investigation
 - ii. Age and density of development
 - iii. Outfalls representing the general land uses of the county
 - iv. High risk businesses such as gas stations, service centers, and shopping centers
 - v. Presence of environmentally sensitive elements
 - vi. Citizen complaints received on illicit discharges

2. Outfall Site Inspection

- A period of at least 48 hours of dry antecedent conditions should exist prior to a site visit. Upon arriving at the site, an outfall inspection workflow will be completed with guidance from an electronic or paper outfall inspection form. The outfall inspection form directs the inspector through the identification and characterization of stormwater outfall conditions. If flow is observed in the outfall and indicators of illicit discharge are found, then a sample will be taken.
- The sample will be analyzed for water temperature, pH, specific conductance, detergents, chlorine, copper, phenol, fluoride, potassium, ammonia, nitrite and nitrate as determined by the inspector. An illicit discharge exists if one of the parameters exceeds the screening levels or the inspector determines there is an obvious visual pollutant discharge from the outfall.
- If a more in depth analysis is needed, an outside laboratory with more thorough testing capabilities shall be used.



	SOP Title: Dry Weather Monitoring Program	SOP No.:3.047.6
	Effective Date: 06/09/2015	Supersedes Policy Dated: N/A

3. Track down

- If an illicit or unlawful discharge is suspected to have occurred, as referenced by County Ordinance 23.2-4.1, a "track down" to identify the source of flow will be conducted. At this time a Trackdown Report and EnerGov Code Case will be created, violations will be tracked by case number and referenced in all documentation. If the source of discharge is not located, the site will be re-inspected within 48 hours for reoccurrence of the illicit discharge. If no illicit discharge is found during re-inspection, an outfall inspection form is to be completed and the outfall is to be listed for periodic re-inspection. Field and desktop research will be conducted until a responsible party is identified. Corrective action will be discussed with the responsible party if possible.

4. Enforcement

- If warranted, a Notice of Violation will be issued/mailed by the issuing inspector stating the activity must cease or be operated in a manner that will avoid the discharge of the pollutant to the storm water system within 30 days of notice. Any mitigation efforts should also be outlined and completed by the assigned date. If the discharge is not ceased, or discharge effects not mitigated, within the allotted time the most effective method of elimination/enforcement will be taken. These actions include:
 - i. Issuing a Summons and installing fines per County Ordinance through coordination with the Prince William County Attorney's Office
 - ii. Enforcement of other applicable county ordinances through partnering County agencies (Zoning, Neighborhood Services, Fire Marshalls office)
 - iii. Contact with the Department of Environmental Quality

5. Documentation

- A detailed discharge report will be completed for each instance where trackdown is needed, with the outfall inspection form describing steps taken during the discovery of the discharge, track down, and follow-up/enforcement.
- The EnerGov System will be used to organize all Trackdown and Violations.

D. Authority

The approving authority for this SOP is the Environmental Services Division Chief. Any changes to or deviations from this SOP must be approved by the Environmental Services Division Chief.

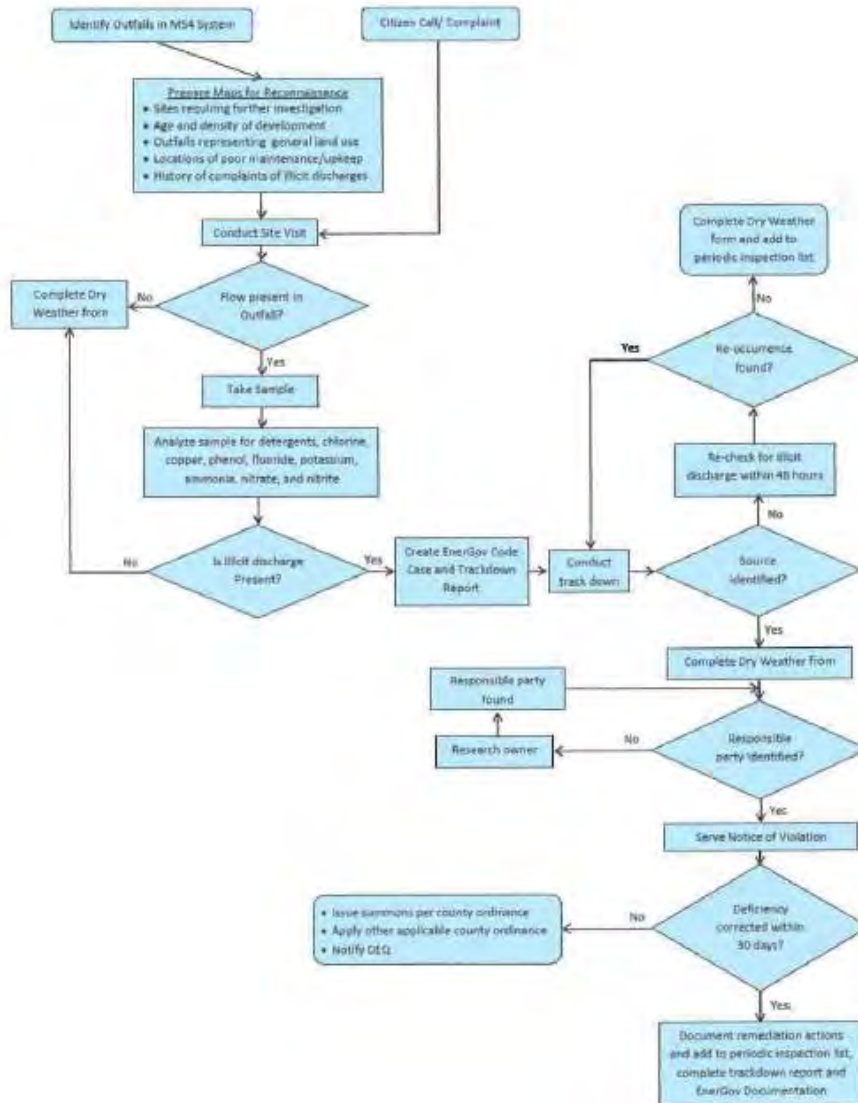
E. Administration

The administration of this SOP shall be the responsibility of the Environmental Services Division Chief and Watershed Management Branch Chief.

Attachments: Attachment A: Dry Weather Monitoring Process Flowchart



Attachment A




b. Industrial and High Risk Monitoring

	<p align="center">Standard Operating Procedure</p> <p align="center">Department of Public Works</p> <p align="center"><u>Environmental Services</u> <u>Division</u></p>
<p>Title:</p>	<p>Industrial and High Risk Runoff Facilities Inspection Program</p>
<p>Number:</p>	<p>3.047.5</p>
<p>Subject:</p>	<p>Identification and Monitoring of all industrial and high Risk Runoff Facilities that Discharge into Prince William County's Municipal Separate Storm Sewer System (MS4)</p>
<p>Cross Reference:</p>	<p>APWA Management Practice (s) _____</p>
<p>Date Issued:</p>	<p>April 1, 2015</p>
<p>Date Revised:</p>	<p></p>
<p>Date Last Reviewed:</p>	<p></p>
<p>Signature of Issuer:</p>	<p> <hr/> Marc T. Aveni, Environmental Services Division Chief</p>
<p>Applicability:</p>	<p>Environmental Services Division</p>
<p>Effective Date:</p>	<p>April 1, 2015</p>

Prince William County Department of Public Works

5 County Complex Court, Suite 260, Prince William, Virginia 22192 | 703-792-6820 | www.pwcgov.org/publicworks



	SOP Title: Industrial and High Risk Runoff Facilities Inspection Program	SOP No.: 3.047.5
	Effective Date: 04/01/2015	Supersedes Policy Dated: N/A

A. Purpose

The purpose of this standard operating procedure is to describe the procedures involved in the management, identification, and monitoring of industrial and high risk runoff facilities that discharge into the County's Municipal Separate Storm Sewer System (MS4).

B. Applicability

This SOP applies to the inspection of all industrial and high risk facilities that discharge into MS4. This includes all state-permitted Virginia Pollutant Discharge Elimination System (VPDES) and "No Exposure" facilities.

C. Specifics of the SOP


1. Pre-Inspection

- a. A list of all known industrial and high risk runoff facilities that discharge into Prince William County's MS4 will be maintained and updated as needed. The list will include any industrial or commercial stormwater discharges not covered under the Virginia state water control law that are determined to be contributing to significant pollutant loading to MS-4.
- b. A Prioritized schedule to inspect outfalls pertaining to all VPDES permitted facilities that discharge into County's MS4 will be developed and maintained. Prioritization may be based on historical discharges, history of citizen complaint, industrial category, location to nearby sensitive areas, or other method.
- c. Prior to facility inspection, pre-inspection desktop analysis of the site will occur. This includes an assessment of the outfall and storm system, access to the applicable facility components (outfalls discharging to the County's MS4) through County easements, the status of facility permits and monitoring reports (if applicable), and general information pertaining to industrial activities at the facility.

2. Facility Site Inspection

- a. If County easements do not allow for required access to facility components, a letter requesting access to facility stormwater discharge locations will be sent. Upon allowance of access a site inspection will occur, if access is not granted, DEQ will be notified for compliance inspection of the facility.
- b. Outfall locations will be tested for flow. If flow exists samples of the flow will be taken and tested for excess levels of detergents, chlorine, copper, phenol, fluoride, potassium, ammonia, nitrate, and nitrite. If excess sediment or analytes are found to be present, significant pollution discharge is determined to occur and post inspection procedures will commence.



	SOP Title: Industrial and High Risk Runoff Facilities Inspection Program	SOP No.: 3.047.5
	Effective Date: 04/01/2015	Supersedes Policy Dated: N/A

3. Post-Inspection

- a. If significant pollutant discharge is determined to occur, VPDES permitted Facilities will be directed to DEQ for compliance review through a notification letter to appropriate department staff. Upon inspection of the facility an Industrial Inspection Form will be completed and documentation of the discharge will occur. The facility will be listed for periodic inspection to confirm removal of the discharge.
- b. Non-VPDES Permitted Facilities determined to be discharging significant pollutant loads to the MS4 will be directed to DEQ to obtain proper permits. Upon inspection of the facility an Industrial Inspection Form will be completed and documentation of the discharge will occur.
- c. Facilities which do not meet requirements for stormwater permitting will be listed for prioritized inspection and monitored periodically. These facilities can include major automotive facilities such as repair shops, body shops, auto dealers, car rental dealers, and service stations Recommendations will be made to facility to insure compliance and improve storm water pollution prevention controls if needed.

4. High Priority County Municipal Facilities will be identified throughout the County. A stormwater pollution prevention plan will be developed for these facilities if necessary.

D. **Authority**

The approving authority for this SOP is the Environmental Services Division Chief. Any changes to or deviations from this SOP must be approved by the Environmental Services Division Chief.

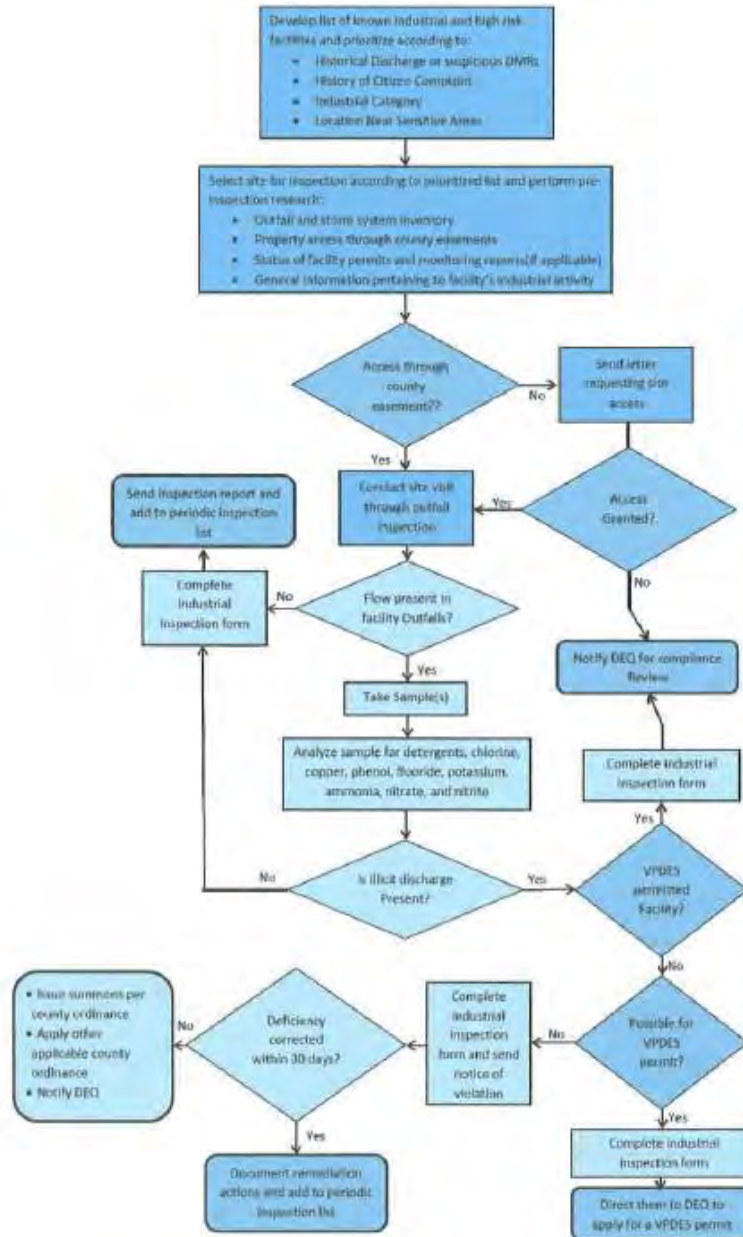
E. **Administration**

The administration of this SOP shall be the responsibility of the Environmental Services Division Chief and Branch Chiefs.

Attachments: Attachment A – Industrial and High Risk Storm Water Runoff Flowchart.



Attachment A



Prince William County Department of Public Works

5 County Complex Court, Suite 260, Prince William, Virginia 22192 | 703-792-6820 | www.pwcgov.org/publicworks



III. DWM Inspection Quick Reference Guide

The Dry Weather Monitoring Inspection Quick Reference Guide outlines and summarizes the Field Inspection Staff procedures for a standard DWM inspection. This section provides a quick overview for reference to what is expanded on in detail within this manual.

- 1) Pre-Inspection
 - a. Check iPad Application for assigned outfall locations for the specific inspection date.
 - b. Plan appropriate routing to most efficiently reach monitoring location
 - c. Insure field equipment has been properly calibrated. If calibration is needed follow steps outlined in Section [IV.3.b](#) of this document.
 - d. Insure all field equipment is accounted for before embarking on field inspections. A list of needed field equipment is located in Section [IV.3.a](#).
- 2) Inspection
 - a. Arrive onsite and confirm correct outfall is located for inspection
 - b. Determine safe access to outfall and position for inspection
 - c. Complete outfall inspection form on mobile application (Section [V.1.a](#))
 - d. Gather and analyze water quality samples as needed (section [V.1.b.i](#))
 - e. Assess illicit discharge potential
- 3) Post-Inspection
 - a. If no illicit discharge is present
 - i. Submit inspections, move to next inspection
 - ii. Add inspection report to appropriate folder (Section [VI.3.c.i](#))
 - b. If illicit discharge is unknown
 - i. Commence Trackdown (Section [VI.1.a](#))
 - ii. Identify source of flow
 - iii. Create folder for discharge in appropriate folder
 - iv. Create trackdown report (Section [VI.1.a](#))
 - v. Assess illicit discharge potential and see (a) or (c) depending on status
 - c. If illicit discharge is present
 - i. Commence trackdown (Section [VI.1.a](#))
 - ii. Identify source of flow
 - iii. Identify responsible party
 - iv. Issue Notice of Violation (Section [VI.3.b](#))
 - v. Create folder for violation in appropriate folder
 - vi. Create NOV packet ([Appendix C](#))
 1. NOV
 2. Trackdown Report
 3. Inspection Report
 4. Other information
 - vii. Create EnerGov Code Case for Violation (Section [VI.3.c.ii](#))
 - viii. Consult County Attorney or other County Agency for enforcement

IV. Pre-Inspection

Pre-inspection procedures encompass all activities necessary before field inspection begins. This includes the methods for selecting and assigning outfalls to inspect, field equipment preparation, and other desktop analysis.

1. Hotspot analysis

Pre-inspection procedures begin by selecting areas within the County are most likely to produce illicit discharge activity. This is accomplished through a probability based hotspot analysis. This analysis takes into account various metrics to produce a risk analysis based assessment of where discharges are likely occur in Prince William County. Probabilities of discharge are applied to the County's ADC grid for the purpose of scheduling inspections in an efficient method. This allows inspectors to focus on larger areas where discharges may occur rather than individual outfalls that may be scattered throughout different parts of the County.

Introduction

As a requirement for meeting guidelines mandated by the USEPA (Part 1.B.2.I)1) of Permit No VA0088595), Prince William County must identify and inventory "areas of concern" or areas predisposed to illicit discharges within its Municipal Separate Storm Sewer system (MS4). These "areas of concern" include: areas such as car washes, car dealerships, pet kennels, and restaurants; sites with previously occurring illicit discharges; areas of older development; areas representing the general land use of the county; sites with a history of citizen complaint; and areas located near environmentally sensitive features. Previously the County identified areas for dry weather monitoring by using a schedule of grids and a subjective assessment of areas of interest. In an attempt to generate a more quantitative assessment of illicit discharge "hot spots" around the County, a GIS based risk assessment was developed.

Variables

GIS layers

- County Municipal boundaries and ADC Index
- Land Use
- Residential Development
- County MS-4 service area and regulated outfalls
- VPDES Permitted Facilities
- High Risk Land Use Facilities
- Sanitary Sewer Cross Points
- Impervious Area
- County Outfall locations (outfalls >15in)

- County Streams
- Raster based County imagery

Data

- Previous discharges according to land use
- History of citizen complaint according to land use

Procedures

Data Collection

Data layers were collected from the County GIS system via database linkage within version 10.3 of ArcGIS, with the exception of the 303(d) listed impaired streams data, which was acquired through the DEQ website.

Initial Layer Synthesis and Input

In order to complete the hotspot analysis, data layers must be modified to yield the information needed. First, use codes were assessed for various land uses of interest and used to select a subset of parcels which could be determined as “high risk” land uses. A “use probability” was applied to each land use, which characterizes a land use’s probability for a discharge to occur, and potential severity of that discharge should it occur. This “use probability” is initially applied subjectively, but will be further defined as more data from the IDDE program is gathered and can be re-input into the model. Figure 1 displays the location of various land uses of interest of Prince William County.

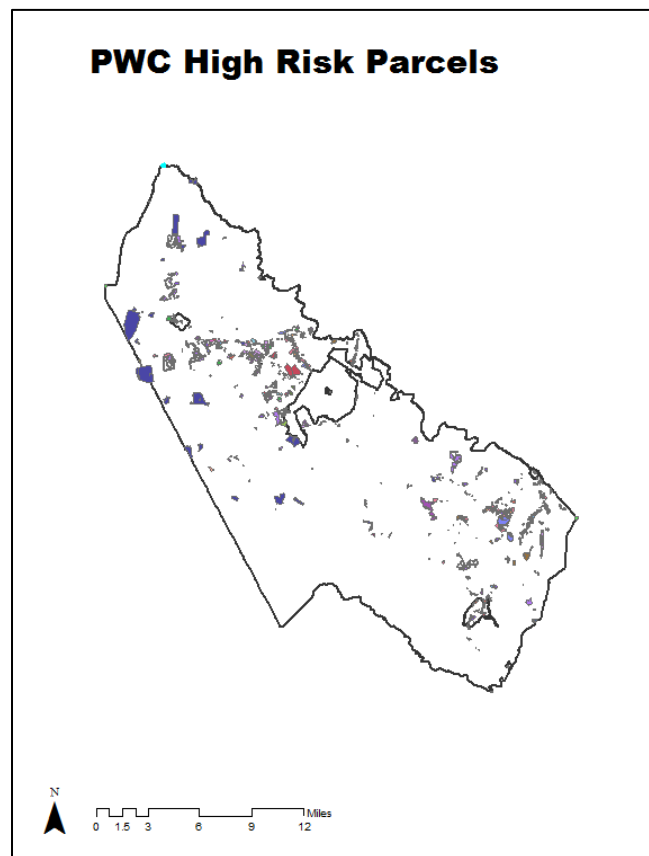


Figure 1: High Risk Parcels hotspot identification map

The impact value is a number from 1 to 5 characterizing each land use according to the potential of illicit discharge occurrence (determined from historical discharge data, low probability denotes low risk) and potential discharge severity (an assumption of the possible damage that may occur from a discharge). A list of land uses, use codes, and the initial scores given to the land uses can be seen below in Table 1.

Table 1: Impact values for Land Use hotspot identification

Use code	Use description	Use Probability
191	Technology Services	1
229	Other Utilities	1
349	Food Stores	1
140	Research and Testing	2
156	Wholesale Warehousing (Condo)	2
224	Sewage	2
343	Convenience Store	2
831	Golf Course	2
832	Golf Course	2
112	Industrial Conglomeration	3
151	Mini Warehousing	3
216	Auto Parking	3
311	Small Shopping Center	3
312	Shopping Center	3
313	Shopping Center	3
314	Large Mall	3
315	Large Mall	3
317	Shopping Center	3
318	Shopping Center	3
320	Building Materials	3
351	Restaurant	3
352	Restaurant	3
353	Restaurant	3
354	Restaurant	3
361	Motor Vehicle Sales	3
520	Barber/laundry/cleaners/etc	3
590	Barber/laundry/cleaners/etc	3
841	Swimming Pool	3
851	Marina	3
910	Agricultural Resources	3
911	Agricultural Resources	3
930	Agricultural Resources	3
121	Durable Manufacturing	4
126	Durable Manufacturing (Condo)	4

131	NonDurable Manufacturing	4
150	Wholesale Warehousing	4
160	Industrial Service Garage	4
190	Other Industrial	4
211	Railroad	4
212	Rail Rapid Transit	4
213	Bus	4
214	Motor Freight Transportation	4
219	Other Transportation	4
225	Solid Waste Disposal	4
344	Convienience Store with Gas	4
362	Gas and Service Station	4
363	Gas Station	4
369	Other Automotive	4
540	Other Repair	4
973	Storage Yard	4
366	Service Station	5
530	Motor Vehicle Repair	5

The same process was used for VPDES general stormwater discharge permit holders within the County. VPDES permitted facilities were identified using data obtained from DEQ. A determination on which VPDES permittees discharged into the County’s MS-4 system was made, and a score (discharge probability) was assigned to each facility according to its assumed probability to discharge pollutants.

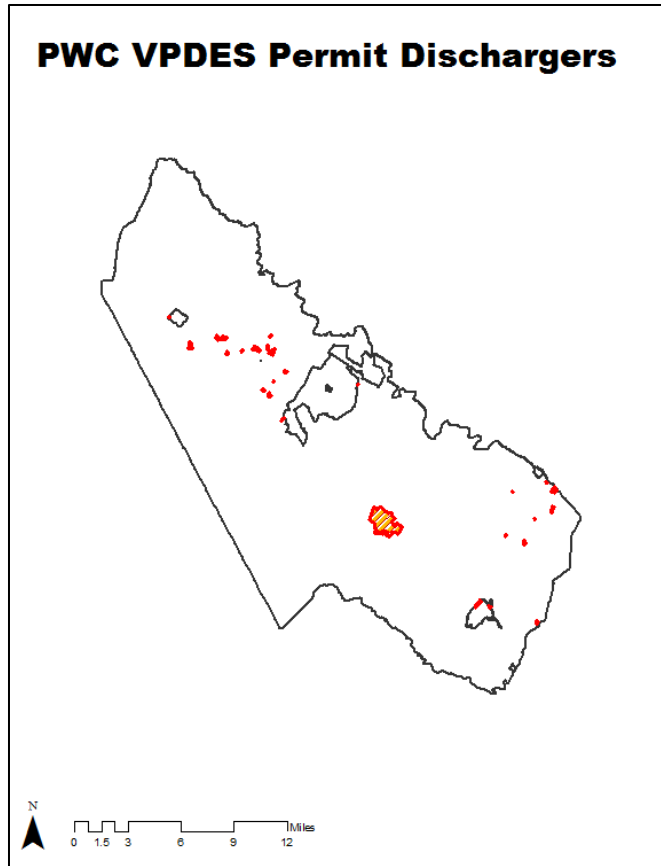


Figure 22: VPDES permitted facilities hotspot identification map

Table 2: Impact values for VPDES hotspot identification

NAME	Permit_No	Score
PWCBOCS	VAR051078	0
CHASE DAVID D	VAG830458	1
GENERAL DYNAMICS LAND SYSTEMS INC	VAR051293	1
OVERNITE TRANSPORTATION CO	VAR051030	1
US FOODSERVICE INC	VAR051117	1
OLD DOMINION FREIGHT LINE INC	VAR051476	1
REMODELERS CREDIT CORP	VAR051996	2
PWC	VAR051477	2
FURR FLOYD H AND BARBARA J	VAG750237	2
SUPPORT TERMINALS OPERATING PTNSHP	VAR051039	2
7905 LC	VAR052008	2
W M TINDER INC	VAR052074	2
EVERED INC	VAR052190	3
POTOMAC & RAPPAHANNOCK TRANSPORTATION E	VAR051886	3
LAND VENTURE ONE L C	VAR051295	3
DALRYMPLE REALTY CORPORATION	VAG110100	3

THIRD GENERATION L P	VAR051085	3
KRAUSS RICHARD L TR	VAR050983	3
NEWBILL HOLDINGS LLC	VAR051639	3
ARCHIE HENRY E SR & ANNIE WILLIAMS	VAR052115	3
BURBAGE J E JR E M BURBAGE	VAR051939	3
VENABLE JEAN S	VAR052243	3
HOFFMASTERS MARINA INC	VAR051183	3
SLURRY PAVERS INC	VAR051911	3
DAVIS TEDDY R JR HELEN M ETAL	VAR052014	3
ENNSTONE INC	VAG110111	4
COSNER MEDFORD R	VAR051009	4
VIRGINIA CONCRETE CO INC	VAG110083	4
DALRYMPLE REALTY CORP	VAR051949	4
JULIUS BRANSCOME INC	VAR050908	4
JONES SAMUEL M ESTATE	VAR051298	4
CONCRETE PIPE AND PRODUCTS CO INC OF	VAG110313	4
ARBAN CAROSI INC	VAG110068	4
HARD ROCK CONCRETE LLC	VAG110067	4
SUPERIOR PROPERTIES INC	VAR051992	4
SUPERIOR PAVING CORP	VAR050901	4
POTOMAC LANDFILL INC	VAR051073	5

Since the point of discharge is the ultimate target of the analysis, outfalls greater than 15 inches were identified through Prince William County. Applicable outfalls were identified and isolated using the feature selection tool and processed into an individual layer. The greater the density of outfalls within an area the larger the chance of a discharge occurring. Outfalls associated with VPDES and High Risk facilities were also determined by creating a buffer around VPDES and High Risk parcels, and capturing all outfalls within the buffer. Outfalls were given a uniform impact value and factor in during the overall hotspot analysis (Standard outfall = 10, VPDES outfall = 30, High Risk Outfall = 30). Figure 3 displays the location of outfalls within the county.

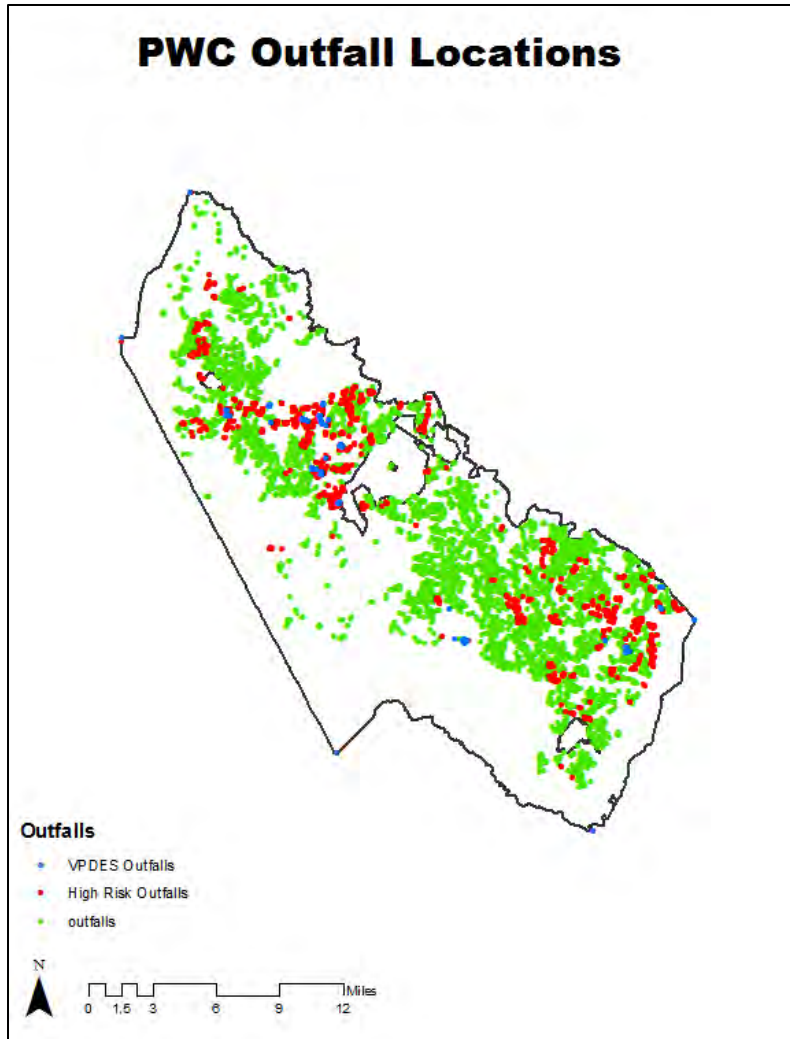


Figure 3: Location of outfalls within Prince William County

To address the potential impact of illicit discharge on environmentally sensitive areas, a streams and water body layer was included in the analysis (Figure 3). Major streams and rivers were isolated from man-made ditches and conveyances within the layer. These streams were given a uniform impact value. The area of stream within a region influences the potential discharge probability score by quantifying the amount of environmentally sensitive features in an area. Streams listed on the EPA 303(d) list of impaired water bodies have a greater potential of impact from illicit discharges and are therefore given an additional weight in model outputs.

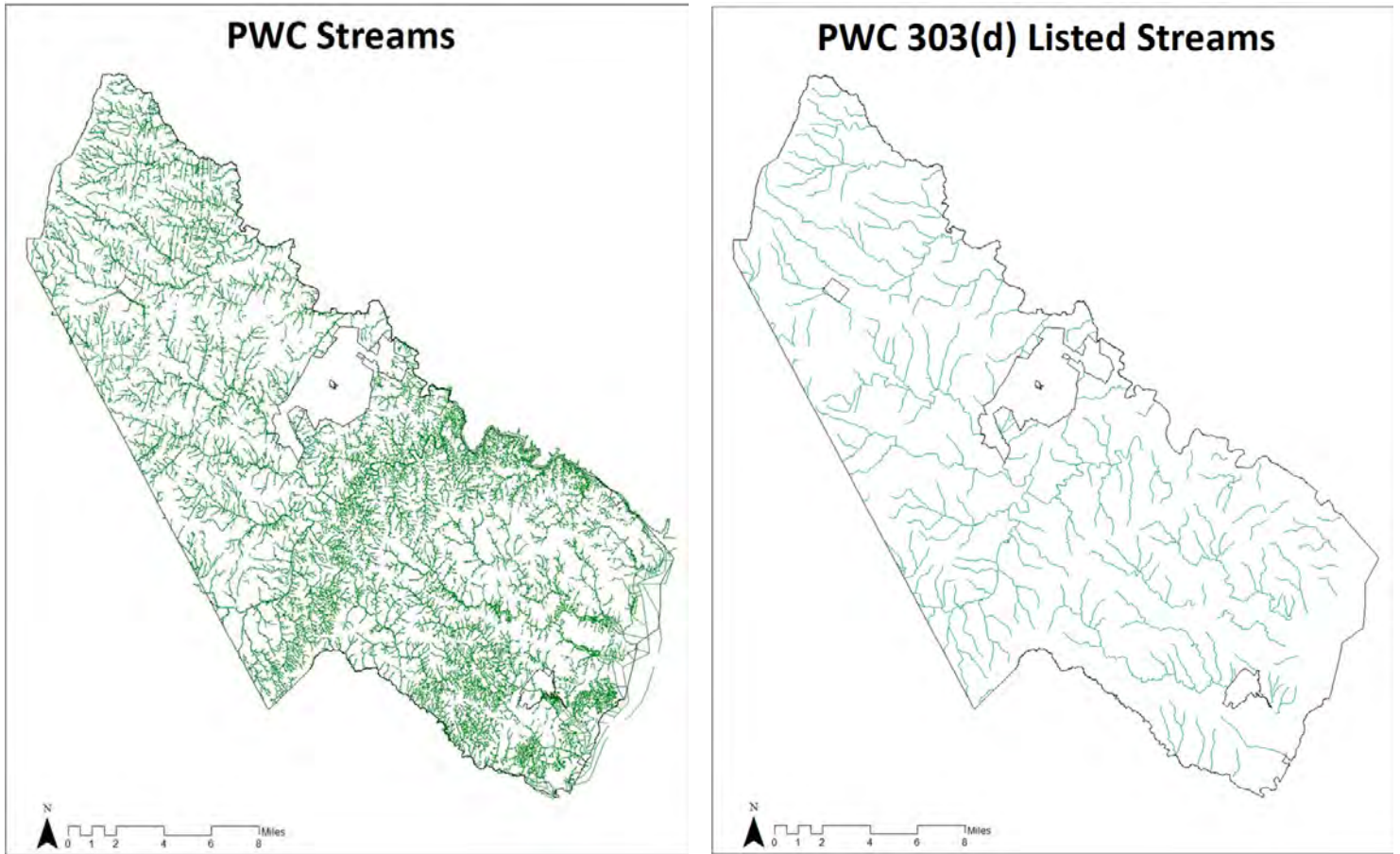


Figure 4: Streams and impaired streams within Prince William County's jurisdictional area

Next an assessment of potential areas for cross connections between the storm sewer and sanitary sewer system was performed. Areas where the storm and sanitary sewer system overlap create potential for cross contamination due to leaking sanitary sewer infrastructure. This analysis was accomplished by overlaying the storm and sanitary sewer layers using GIS, and isolating the locations where they overlap. These locations were turned into point features and assigned a uniform potential discharge probability score (20). This analysis is displayed below in Figure 5.

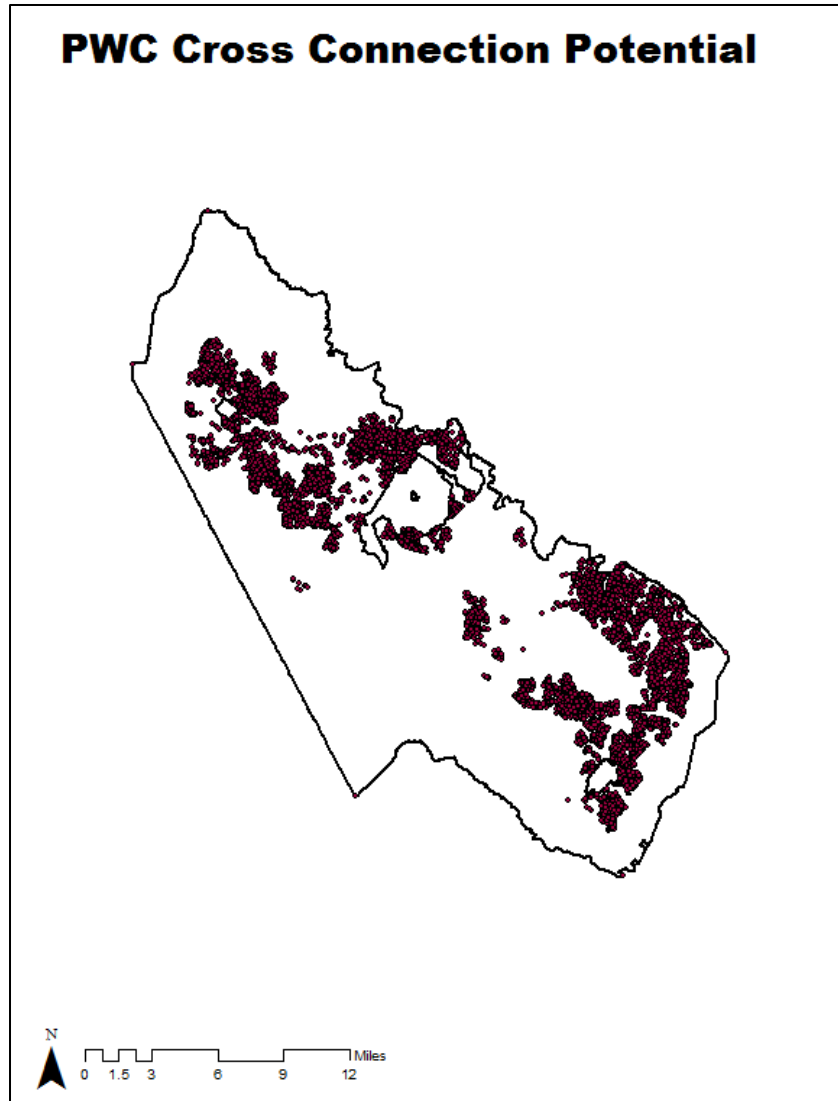


Figure 5: Location of potential cross connection sites within Prince William County

Often, areas with a higher percentage of impervious surfaces tend to contribute greater to pollutant loads. To account for this, a layer depicting impervious surface within the County was incorporated in the model. Impervious surface area is assigned a discharge score of 1. A low score was selected because the large areas covered by impervious surface can cause large impacts to model outputs. A score which balances the impact of impervious surface on pollutant output without weighing too much into model outcomes was desired. Figure 6 below shows impervious area within the County.

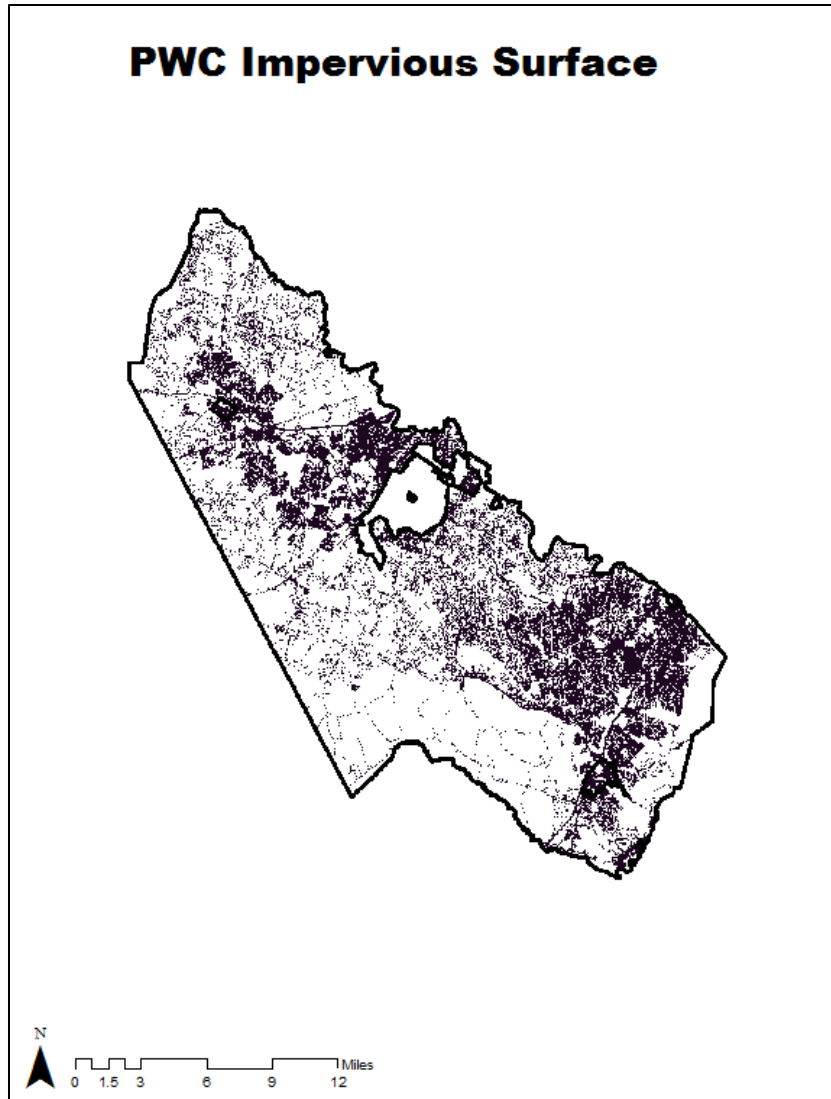


Figure 6: Impervious surface in Prince William County

Lastly, discharges from residential areas had to be accounted for. Although commercial and industrial areas were well represented in the hotspot analysis, residential areas within the County were lacking sufficient input into the model. Using a layer depicting the residential development in the County, these areas were isolated and assigned a discharge score of 1. This gives residential areas a proportioned impact on hotspot scores.

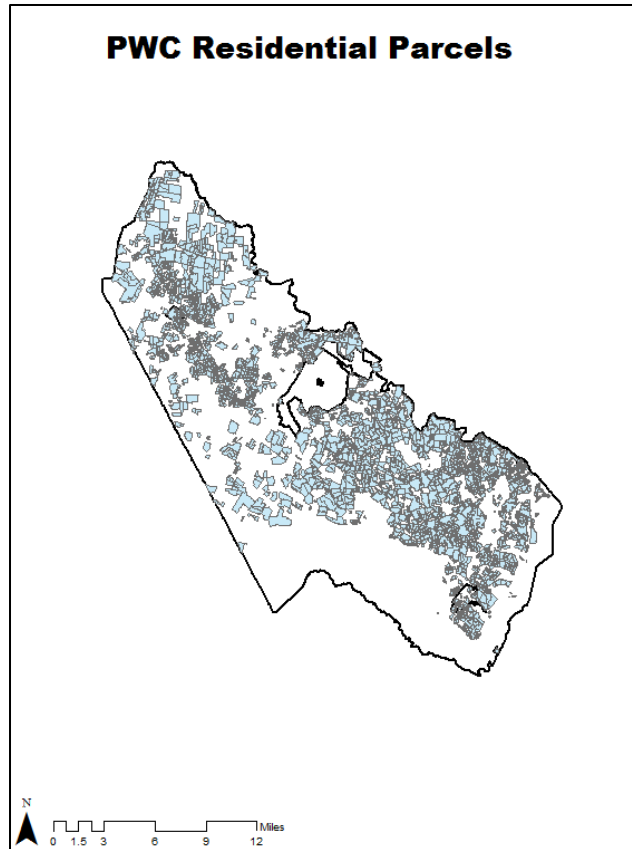


Figure 7: Impervious surface in Prince William County

Hotspot Analysis

Once the layers were manipulated to yield the desired data they had to be combined to produce the final hotspot analysis. Layers were converted from a polygon, line, or point to a raster format to allow for easier compatibility of the various data layers. The Raster format represents data in small cells, allowing for a point by point analysis of each location on the map. It facilitates the ability for data with different layer types (i.e. polygon, line, point) to be combined simply, since they are not compatible otherwise due to differences in shape, size, and location. Areas within a layer where empty space exists cause discontinuity when trying to combine them into the overall analysis. To remedy this, the Reclassify Raster tool was used. This tool removes the “Nodata” classification automatically applied to empty spots in the layer during the raster conversion, allowing a numerical value to be assigned in its place (0). Without this step, only the overlapping areas of data in each layer would be included in the analysis and an incomplete assessment of discharge probability would result.

Each layer was combined for hotspot analysis using the Raster Calculator tool. This tool performs simple mathematical operations at the cellular level, to combine the data into an overall assessment of County hotspots. The tool essentially adds together each included layer combining the discharge probability scores from each cell. Figure 8 below shows a simple representation of this process.

Data is then transposed to the ADC index and watershed maps of the County through simple Spatial Statistics tool. The Spatial Statistics tool performs a basic statistical analysis on raster cells within a specified polygon. For the purpose of this study

the mean and sum of probabilities within both the ADC index areas and sub-watersheds of the County were assessed.

Analysis using Mean vs. Area (Average) Score

There are various ways to interoperate the data output from the model. A score had to be generated for each ADC Index number and watershed in order to effectively assess and utilize model outputs; however, this presented a problem as to what mathematical method of assessment should be used. The ArcGIS model is generated to output values for the mean, median, minimum, maximum, and sum of each individual ADC index area and watershed. As stated before, for the purpose of this analysis, only the sum and mean probability of discharge are of interest. The sum is the result of all cells within the identified area added together, while the mean is the average cell value within the area. For a watershed scale analysis, the mean probability of discharge must be used. This is because the area of each watershed differs, leaving the sum of the probabilities of each watershed highly dependent on its size. Larger watersheds will accommodate more cells leading to a larger overall probability of discharge. The ADC index, on the other hand has a uniform area removing the effect of size on the output. This allows for the sum of probabilities to be used, which gives a better overall assessment of the characteristics within that area.

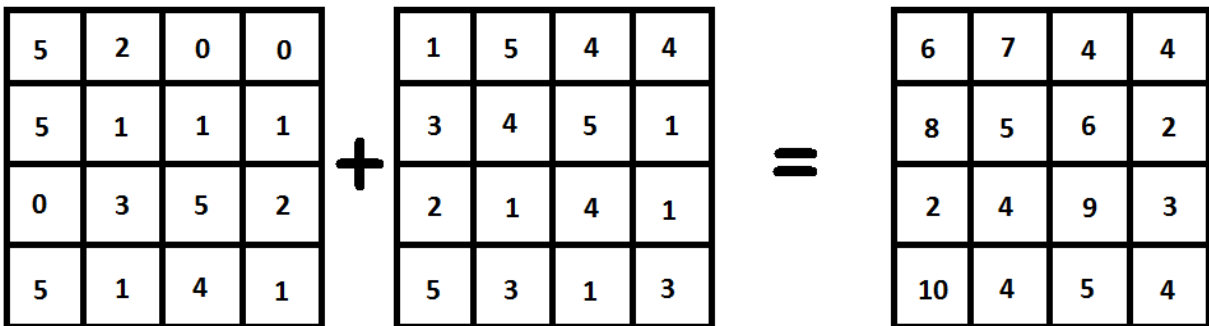


Figure 8: Raster Calculator Example

Isolation of Hotspots and Identification of Outfalls of interest

The first step in using hotspot analysis to identify outfalls for field inspection is to select the ADC index number with the highest probability of discharge is selected from the generated list. The ADC index was chosen as a basis for field analysis for a few reasons: it is easy to navigate to, being the basis for street map navigation; it encompasses a relatively small area, typically containing 8-10 outfalls per Index which is a good size for a day’s field assessment; and, it can be combined easily to into a larger area allowing for an broader perspective on illicit discharge trends. Assessing discharges on a watershed scale would incorporate too large of an area and would not be suitable for a quality comparison between areas of the County. Once an index number is selected, then an index area map is generated showing all outfalls, storm sewer system, roads, and land uses of interest. Each map is created using ArcGIS tools to zoom to the applicable map

location (ADC Index number), and to highlight all applicable features. From this map, a list of all outfalls and their size can be created. This map, with outfall information, can then be used as a field guide for the outfall monitoring.

Model Calibration

Model calibration is an important step in model development. Model outputs must be adjusted to more closely portray actual conditions. Since the raster layers used to sum severities in the model skew the data by giving more weight to larger polygons, point-sized items like outfalls must be given a larger value to compensate and allow ADC areas to more closely reflect the desired weight proportion between inputs. The value given to outfalls was adjusted so that their impact on model outputs was more representative of actual conditions.

Originally, some areas of the map contained a high probability of discharge, despite being located in more rural areas. This was found to be due to an increased proportion of streams meandering throughout the grid. In order to correct this, a balance was struck between the impact value given to streams, and their actual impact on real-world conditions. Similarly, rural areas were triggering high probabilities of discharge due to the age of parcel development despite not having substantial storm sewer systems. To remedy this, the residential and commercial layers were given a larger score to better reflect in-situ conditions.

The model will continue to be adjusted as more data becomes available pertaining to discharges within the County. Data will be used to validate and or adjust assumptions made in this version of the model.

Results and Conclusions

The results of the analysis showed areas with the greatest probability of discharge within Prince William County were consistent with previous field observations and expectations. The Route 1 corridor, Bull Run commercial area, and Potomac Mills Mall all generated high probabilities of discharge. Residential areas had a fairly constant probability of discharge. The highest probability of discharge was located around the specified land uses of interest including shopping centers and auto-related industrial areas. Rural areas with little to no storm sewer system recorded the lowest probability of discharge, as would be expected. A detailed map displaying parcel-based discharge probability was created using the methods described below (see figure 9). The land uses of interest are distinctly represented in red describing the highest discharge potential. Residential areas shown primarily in yellow present a moderate discharge potential. Rural areas are mostly indicated in blue, describing a low discharge potential which are most likely out of the scope for dry weather discharge monitoring. Outfall locations and numbers are not factored in this analysis.

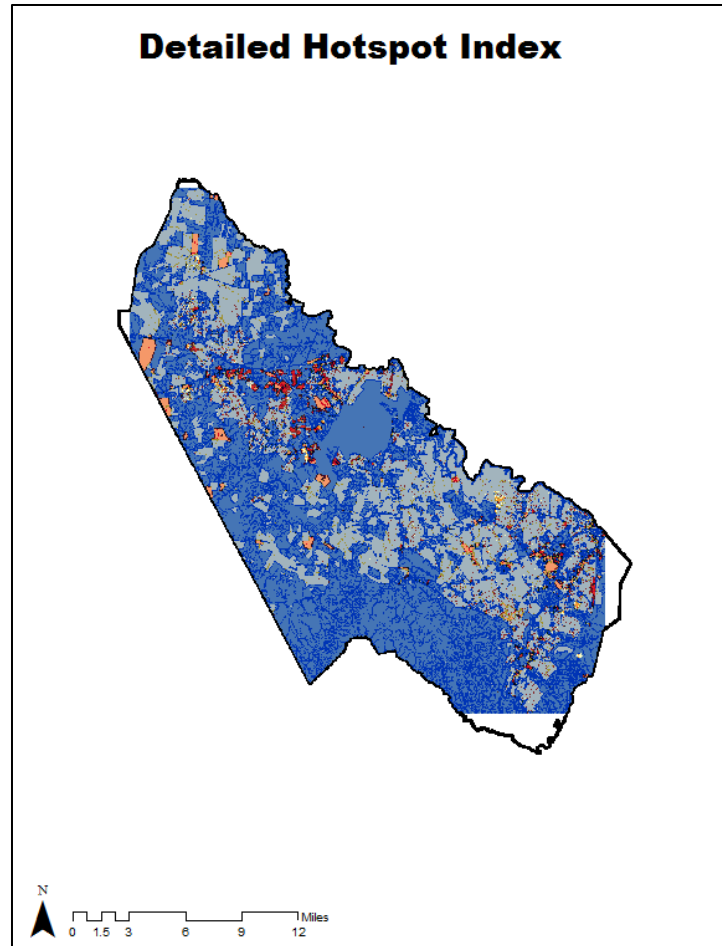


Figure 9: Detailed Discharge Probability

Previously a hotspot analysis was performed on a watershed scale. However, a watershed approach to discharge monitoring tends to skew the data, since discharge probabilities are averaged over the entire watershed making smaller pockets with high discharge; therefore, the ADC index method was determined to be the best.

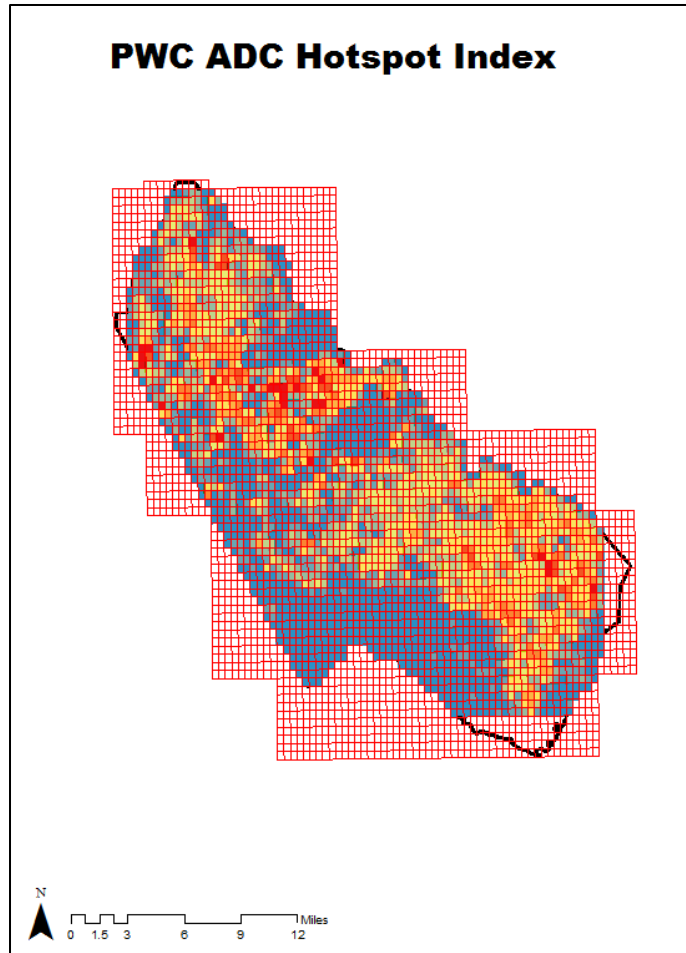


Figure 10: ADC index probability of discharge

The ADC index hotspot map, shown above (figure 10), is used for the inspection scheduling and field analysis of outfalls. As indicated in the parcel and watershed level assessments, County hotspots exist along the Route 1 corridor, Bull Run commercial area, and Town of Haymarket. Unlike the parcel and watershed level assessments, the ADC hotspot map provides a more thorough analysis of where the most probable locations for illicit discharge might actually be present. Table 3, shown below, displays the 50 ADC index areas with the highest probability of discharge. Sorted from highest to lowest, the table serves as the basis for the scheduling of dry weather outfall monitoring in the County.

Table2: Sample Sum and mean probability of discharge scores by ADC index number

ADC_ID	MEAN	SUM
5992-C8	34916	56459172
5990-K5	34175	54919225
5756-G7	31523	51130306
5756-H7	30976	50243072
5991-A6	28771	46896730
5756-G3	27086	43879320
5992-C7	25886	42427154

5992-D7	24576	39641088
6110-G2	24456	39349704
5756-J7	24228	39322044
5757-A2	24170	39227910
5992-A6	23838	39189672
5991-A7	23096	37461712
5992-B6	22846	36782060
5991-A5	22637	36694577
5756-H4	22435	36322265
5992-G9	21579	35605350
5992-H8	21376	35270400
5756-K7	20886	33918864
5874-H7	20478	33542964
5638-G10	20215	33132385
5756-H5	20055	32609430
5756-K6	19838	32097884
5755-C4	19460	31914400
5872-C1	18951	30814326
5992-D8	18811	30624308
5874-J7	18896	30592624
5992-H7	18536	29842960
5756-H8	18295	29839145
5991-G7	18524	29675448
5756-J5	18332	29624512
5992-K10	17877	29211018
5990-C9	17834	29087254
5991-F7	17543	29033665
5992-E10	17820	28921860
5872-H10	17359	28746504
5756-G10	17724	28624260
5756-J6	17357	28222482
5991-B7	17339	28193214
5754-F5	17186	28167854
5756-C10	17250	28031250
5638-H10	17069	27839539
5756-G8	17085	27677700
5992-K6	16869	27597684
5755-E4	16728	27233184
5872-D1	16318	26777838
6110-E3	16210	26762710
5757-H6	16567	26623169
5991-K1	16215	26527740

Future Development of Model

The model will be updated as more detailed discharge information is gathered through the county monitoring program. In addition, updated data layers pertaining to the storm sewer system, outfalls, impaired stream listings, age of development, county land use, and parcel location will continually be introduced to the model. If more specific data on the age of storm sewer infrastructure becomes available, this will also be included in the model. Also, when the extent of the County's MS4 system is identified, model data will be adjusted accordingly. Finally, methods to incorporate the history of complaints and poorly maintained commercial areas will be evaluated and incorporated, if possible, into the assessment. All steps to increase the accuracy of the hotspot analysis will be evaluated for the model on an annual basis, and the model outputs will be re-assessed. An evaluation of the accuracy of the hotspot analysis, as well as verification of model outputs will be conducted on an annual basis.

2. Outfall Inspection Scheduling and Assignment

Outfalls are scheduled and assigned according to the probability a discharge may occur and the probability that discharge may cause harm to the environment. Outfalls can also be assigned through a citizen complaint/report. The Hotspot identification model arranges the areas within the County most likely responsible for Illicit Discharges by ADC index Grid. This prioritized list of ADC grids is updated yearly with an update of the Hotspot ID model, and is re-set to include the entire County at the beginning of every permit cycle.

a. Scheduling Dry Weather Outfall Inspections

Outfall inspections are scheduled according to a prioritized list of ADC grid zones. The grid zone list is exported from the GIS Hotspot model to an excel spreadsheet. This list is kept in the Dry Weather Monitoring folder located on the W: drive in the appropriately named folder for the current fiscal year (W:\Environmental Services\Watershed Management\PWC IDDE\FY 20XX\DWM). The spreadsheet will be set up according to the following template:

Table 1: ADC Zone Prioritized List Template

ADC Grid	Score (Sum)	Status	Date Completed
5992-C8	5638	Complete	4/9/2015
5990-K5	5635	Scheduled	-

The ADC grid column indicates the ADC grid area; the score column is derived from the hotspot model (the sum of the discharge probabilities) and is how the ADC grid areas are prioritized; the status is the current condition of the outfall inspections within that grid, and is assigned as follows:

- Complete – All outfall inspections completed within ADC grid
- In Progress – Outfalls still being inspected within Grid

Scheduled – Outfalls assigned to Inspector but have not yet been completed
 N/A – No outfalls or PWC urban storm sewer system is located within ADC grid

The date the ADC grid outfalls have been inspected is indicated in the Date Completed Column. This list is to be updated daily when outfall inspections occur, or after completing required inspections within an ADC zone.

b. Scheduling High Risk VPDES Permitted Facility Outfall Inspections

The County maintains a list of VPDES outfalls. This list is updated quarterly according to additions/subtractions in permits issued by DEQ within Prince William County’s MS-4 service area. Similar to the ADC zone inspection schedule for Dry Weather Monitoring, this list is maintained on the County’s W: drive (W:\Environmental Services\Watershed Management\PWC IDDE\FY 20XX\Industrial and High Risk). The format for this list is as follows:

ID	Outfall size	Drainage area	Address	Type	City	Zip	Permit Number	Facility	GPIN	ADC Zone
46178	15	0	DAWSON BEACH	RD	WOODBIDGE	22191	VAG110068	Arban and Carosi Incorporated	8492-03-8636	5992-H7
46176	15	0	DAWSON BEACH	RD	WOODBIDGE	22191	VAG110068	Arban and Carosi Incorporated	8492-03-8636	5992-H7
46172	15	0	DAWSON BEACH	RD	WOODBIDGE	22191	VAG110068	Arban and Carosi Incorporated	8492-03-8636	5992-H7

Outfalls are scheduled to be monitored at a higher frequency, once per year, then those without VPDES permits. Outfalls with higher probability of discharge will be prioritized in monitoring efforts. Similarly, the County maintains a list of high risk dischargers. Outfalls of high risk facilities are to be monitored at least once during the permit cycle, this is due to the much greater volume of high risk outfalls then VPDES permitted facilities.

c. Inspections Due to Reported Discharges

Often complaints of discharges are received by phone or email by citizens or County staff, or through staff window screening exercises (random inspections of the County from daily transport activities). These discharges should be assigned to inspectors as quickly as possible in order to catch potential discharge sources. Reported discharges should be documented in an excel database located in the W:\Environmental Services\Watershed Management\PWC IDDE\FY 20XX\Discharges. An inspection report shall be created for each reported discharge, and kept in a folder designated for each report. This folder should document inspection and follow-up activities including any NOV’s Issued. Folders will be named for the location of the discharge.

d. Assigning Outfalls to Inspectors (Web applications)

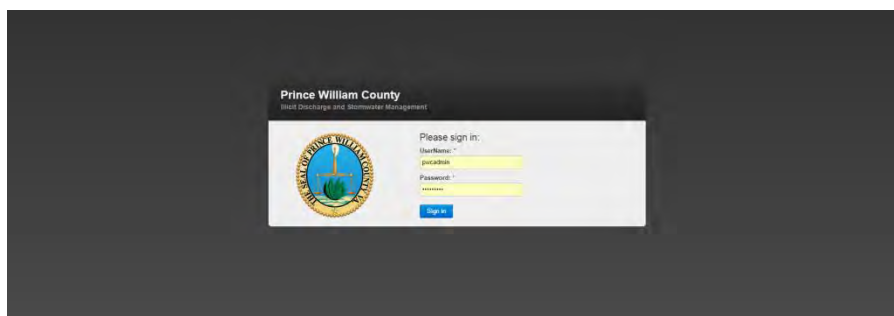
Prince William County manages its IDDE program through a mobile and web based application. This application is designed to provide consistency and streamline the Dry Weather Monitoring program. The Mobile IDDE Application allows the assignment of inspections to field staff from a desktop based website. The site also allows for adding and removing inspectors, reviewing inspections made in the field in real time, and printing/exporting Dry Weather Monitoring reports.

i. Adding inspectors

In order to assign inspectors outfalls for inspection, the user (inspector) must be added to the system. This is accomplished through the web based portion of the application. The ability to manage inspectors within the program is limited to Admin Users. The following steps detail the process for adding and removing inspectors:

Adding Inspectors:

- 1) Log into the PWC IDDE Website at <https://pwcstormwaterapp.timmons.com>.



- 2) Locate the far right dropdown menu item labeled **Admin** and select **Add a User** from the dropdown menu.



- 3) Enter the new user's information in the provided form and select **Add User**.

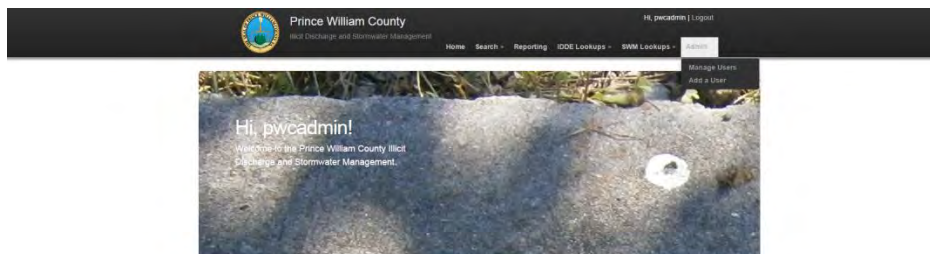
User names should be established as the users PWC ID (format abc#####a) with (abc) consisting of the user’s initials, and (#####) consisting of the last four digits of the user’s phone number. The password will be set by the administrator to the request of the new user being added. Changes to passwords can only be administered by system admins. Admin roles will only be applied to program supervisors and Public Works management staff.

Removing & Editing Inspector Information:

- 1) Log into the PWC IDDE Website at <https://pwcstormwaterapp.timmons.com>.

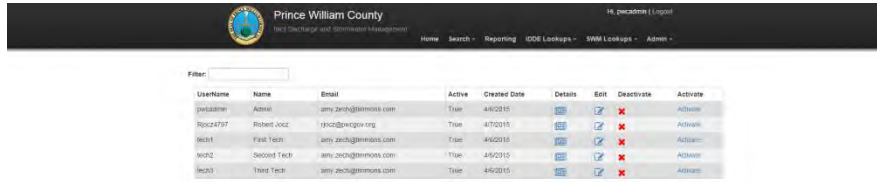


- 2) Locate the far right dropdown menu item labeled **Admin** and select **Manage Users** from the dropdown menu.

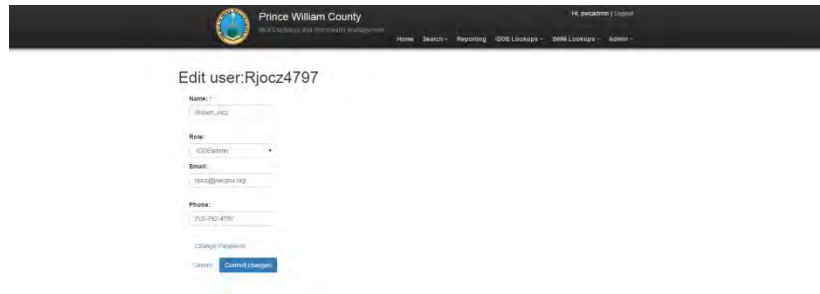


- 3) This brings up a list of registered users; from here you can edit existing users or deactivate users no longer needed to be in the system. Only users performing inspections and relevant program managers and administrators should be listed as

active. To deactivate an account, simply click the red **X** in the row containing the user to be deactivated.



- 4) To edit a user’s information, such as instances where a user’s email, admin status, name, phone number, or password needs to be changed, click the edit icon in the column containing the user to be edited. This brings up the Edit User Screen



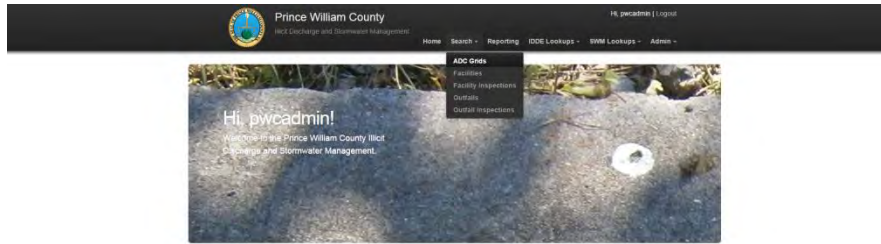
From this screen, any needed changes can be made. Once edits are completed, select the **Commit Changes** icon. Edits are then saved and the app returns to the Manage Users page. If a password change is desired, select the **Change Password** icon and enter new password information. Select the **Commit Changes** icon to save the new password information to return to the Manage Users page.

ii. Assigning Inspections

Outfall inspections are assigned according to ADC grids prioritized by the hotspot analysis described in section IV.1. The IDDE application allows for the assignment of a single outfall, or a set of outfalls within a selected ADC grid. Routine inspections are assigned by grid, while individual complaints, follow-up inspections, and special inquiries are assigned by individual outfall. The following steps detail the process for assigning inspections:

Assigning Outfalls by ADC Grid:

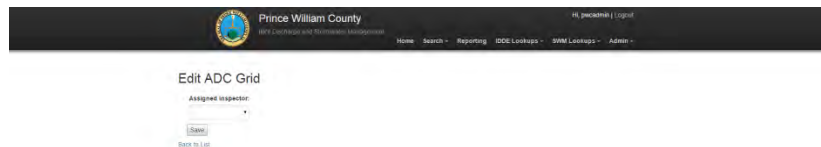
- 1) Log into the PWC IDDE Website at <https://pwcstormwaterapp.timmons.com>.
- 2) On the home screen locate the **Search** icon and select **ADC Grids** from the dropdown menu.



- 3) The ADC Grids page displays all the grid numbers from within the County. The Search Menu on the right of the ADC grids page allows the user to search for the ADC grid map page number, and to search for what grids have been assigned to which inspectors. To assign a grid to an inspector, first identify the next grid to be inspected according to the spreadsheet described in section IV.2.a (W:\Environmental Services\Watershed Management\PWC IDDE\FY 20XX\DWM). Use the **Search** bar on the left of the page to search for the appropriate ADC grid map page and identify the correct grid. To add an inspector to the grid select the edit icon located in the column of the targeted ADC grid number.

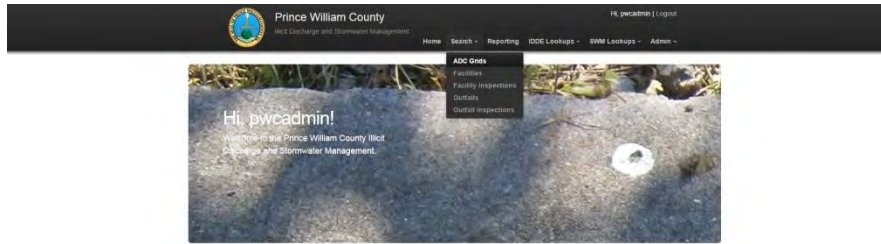
ADC Grid	Map Page Number	Block	Column	Row	Assigned Inspector	Edit	Details
5306-A10	5306	A10	A	10			
5306-B10	5306	B10	B	10			
5306-C10	5306	C10	C	10			
5306-D10	5306	D10	D	10			
5306-E10	5306	E10	E	10			
5306-F10	5306	F10	F	10			
5306-G10	5306	G10	G	10			
5306-H10	5306	H10	H	10			
5306-J10	5306	J10	J	10			
5306-K10	5306	K10	K	10			
5517-F1	5517	F1	F	1			
5517-F2	5517	F2	F	2			

- 4) Select the desired inspector in the **Assigned Inspector** dropdown menu to assign all of the outfalls within that grid to a specific inspector. Once an inspector is selected, select the **Save** icon to complete the assignment.

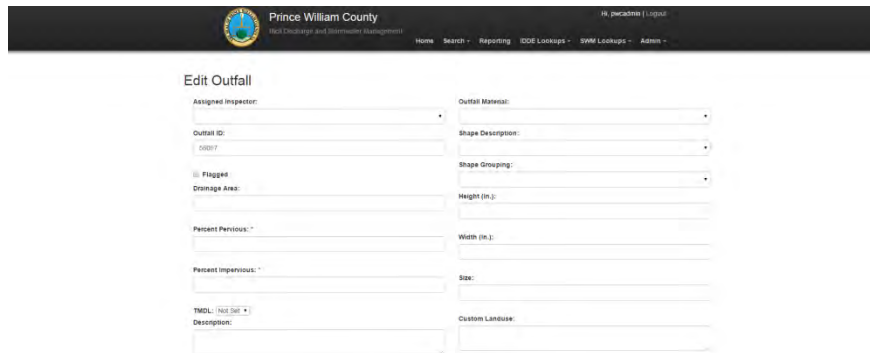


Assigning Individual Outfalls:

- 1) Log into the PWC IDDE Website at <https://pwcstormwaterapp.timmons.com>.
- 2) On the home screen locate the **Search** icon and select **Outfalls** from the dropdown menu.



- 3) The Outfalls page allows the user to search for specific outfalls by ADC grid, Assigned inspector, Outfall ID, or for outfalls that have been flagged for notice. To assign an outfall to an inspector, search for the desired outfall by its Outfall ID. Once the outfall has been located, select the **Edit** icon in the column of the desired outfall.



The **Edit** Outfall page shows all information pertaining to a particular outfall. These items can be edited by admin staff if needed. To assign an outfall to an inspector, select the appropriate inspector from the dropdown menu in the **Assigned Inspector** tab. When completed, select the **Save** icon at the bottom of the page to save the information, and then the **Return to List** icon to return to the Outfalls page.

3. IDDE Equipment

The condition and type of equipment used in field inspections is crucial for maintaining consistent and accurate results. Proper calibration, storage, and upkeep, are also important aspects of ensuring field measurements hold up to standards required for enforcement of County stormwater regulation.

a. List of Equipment

The following is a list and basic description of equipment used for IDDE monitoring. Equipment falls into two types, field equipment and lab analysis equipment. Field equipment is used during field inspections, and should be taken out for all field inspections. Lab analysis equipment is used for water quality analysis, and can be used either in the field or in the office.

Field Equipment:



-Field Bag: Transports field equipment



-YSI Professional plus Multimeter: Measures in field water quality parameters
Temperature, pH, Conductivity, and DO



-Scoop: Allows for the capture of low flows



-Measuring tape: Allows for measurement of flow depth and Outfall diameter



-Flashlight: Used for viewing flow conditions in low light areas (inside the storm sewers)



-Manhole Hook: Aids in opening manholes for inspection



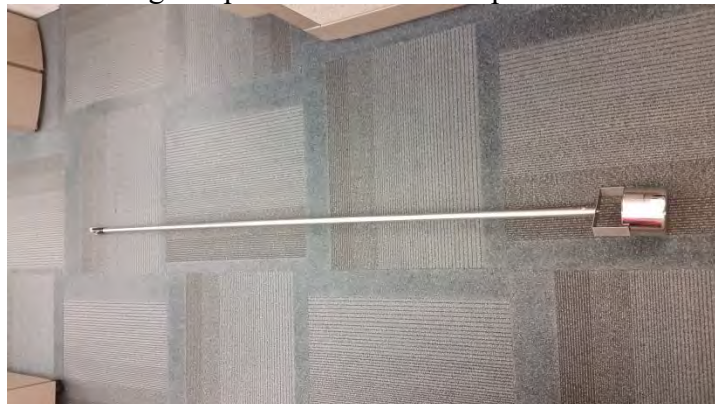
-IPad: Runs the IDDE Mobile Application, guides field and follow up inspections



-250mL Sample Bottles: Used for collecting and storing field samples



-Pole Scoop: Used for taking samples in hard to reach places



-Cooler: To hold samples until analysis can be done on the sample



Lab Analysis Equipment:

-YSI 9500 Photometer kit: Performs basic water quality tests for exceedance of water quality parameters.



-Chemtronics Detergents Test Kit: Tests for concentration of detergents in stormwater



-PWCSA Water Quality Analysis Kit: Used for more extensive water quality tests through the PWCSA.



b. Equipment Calibration

Proper calibration of equipment is crucial to validation of field results. The frequency of calibration is dependent on the equipment being used. The equipment requiring calibrations are the YSI Multimeter, YSI 9500 Photometer, and Chemtronics Detergent test kit. Below are the calibration timelines for each instrument:

YSI Multimeter: Once per week

YSI 9500 Photometer: Per use

Chemtronics Detergent test: Per Use

Instructions for calibration of each instrument are included in the equipment manuals located in [Appendix A](#) of this document. Calibration forms are to be filled out with each calibration of the YSI Multimeter and are to be kept after the calibration instructions in [Appendix A](#) of the Main Program Manual to be kept at the desk of the IDDE Program Chief Inspector. No calibration forms are needed for the calibration of the YSI Photometer and Chemtronics Detergent test as calibration performed as part of the testing process.

Instruments and fluids used in the calibration of field equipment are to be kept in the locked drawer of the IDDE Program Managers office at 5 County Complex Court suite 170, Woodbridge VA, 22192. Instructions for ordering new supplies are described in section IV.3.d. of this document.

c. Equipment Maintenance, purchasing, and Storage

The proper maintenance and storage of equipment is important to maintain its lifespan and accuracy. Proper storage also reduces the possibility of theft and damage. All

equipment will be stored in the locked drawers of either the IDDE Program Manager, or Chief Inspectors office at 5 County Complex Court suite 170, Woodbridge VA, 22192. Maintenance activities are to be performed as instructed in the instrument manuals located in [Appendix A](#) of this document.

The ordering of new equipment or supplies is authorized through the IDDE Program Manager. Purchasing should be consistent with all department procedures and guidelines.

An inventory of all IDDE equipment, calibration, and testing materials is updated quarterly and maintained in an excel spreadsheet located in the IDDE W: drive folder (W:\Environmental Services\Watershed Management\PWC IDDE)

d. Databases

All files and inspections should be stored in appropriate databases. There are two databases associated with the IDDE program. The DWM database stores all inspection data created using the DWM IDDE mobile application and is accessible using the DWM IDDE website. This server is hosted by a County Consultant, and is maintained through a service fee. The second database is the IDDE folder on the W: drive located on Prince William County's server (W:\Environmental Services\Watershed Management\PWC IDDE). This database is to include all documents/forms/reports as outlined in this document. The folder is organized by fiscal year and by type of IDDE activity (DWM, industrial, and General Discharges): DWM, includes all activities under the Dry Weather Monitoring program, Industrial, which includes all activities involved in inspecting Industrial Stormwater VPDES permitted and High Risk facilities, and General Discharges, includes all discharges reported to or observed by IDDE staff not through Dry weather monitoring. Discharges will also include reports from the Fire Marshall's office.

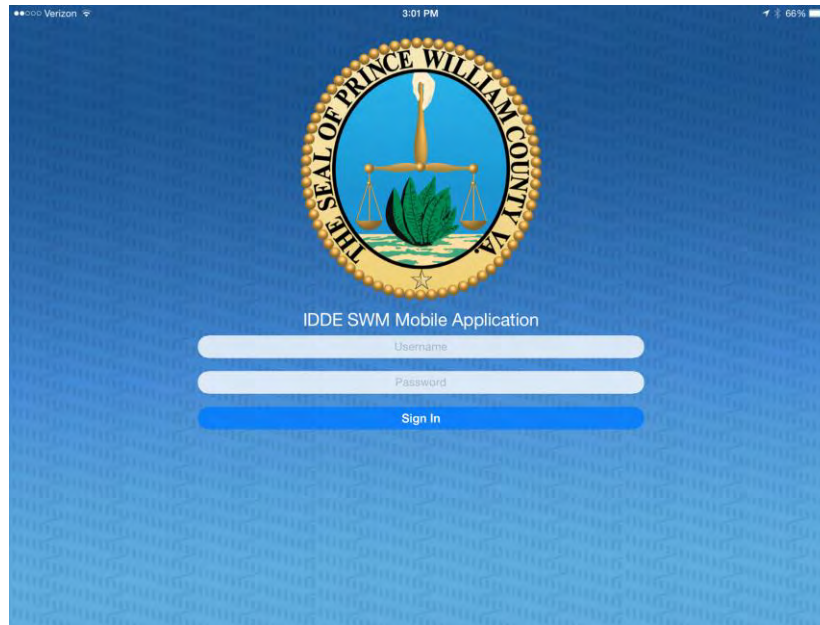
V. Inspection

1. DWM Field Inspection Procedures

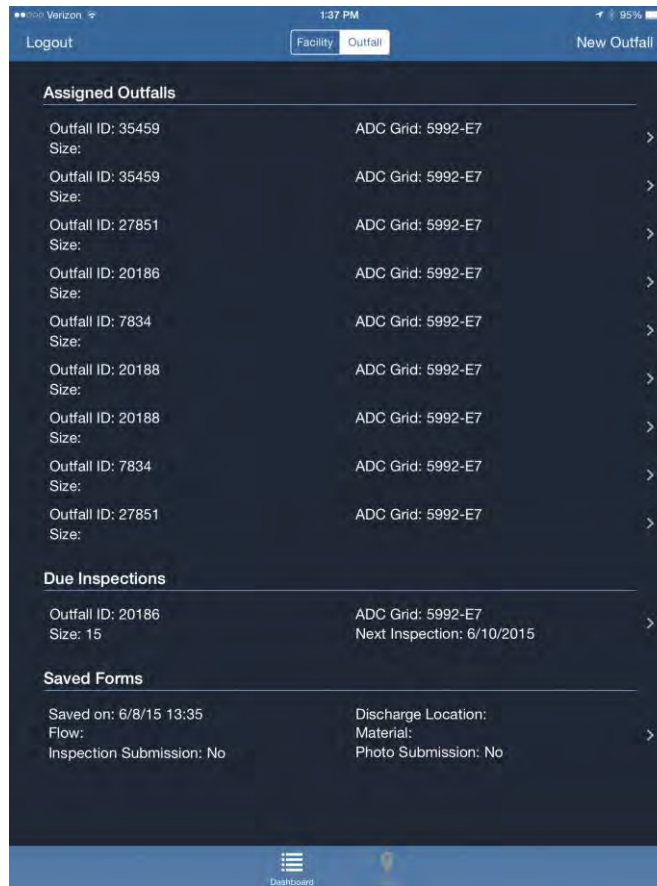
Following the completion of pre-inspection procedures and arriving at a site for inspection, the subsequent procedures are to be followed for Dry Weather Monitoring Inspections. Inspection procedures are important for consistency and accuracy of inspections. Field procedures are to be followed for every Dry Weather Monitoring inspection. Inconsistencies during inspections from standard procedures established in this document should be documented as part of the inspection. Instances where standardized procedures are not followed should only occur in extenuating circumstances. Field inspections are guided by the IDDE Ipad Application and are described in the following paragraphs:

a. Basic Inspection Procedures – IPAD Application

The outfall inspection schedule is determined through the hotspot analysis procedures defined in section IV.1 of this manual. The first step when performing an inspection is to sign on to the Mobile IDDE Inspection Application. This is completed by using the ID and password assigned to the inspector as described in the *Assigning Outfall Inspections* ([section IV.2.c.ii](#)) above. Inspectors sign into the application using the sign in page shown below:



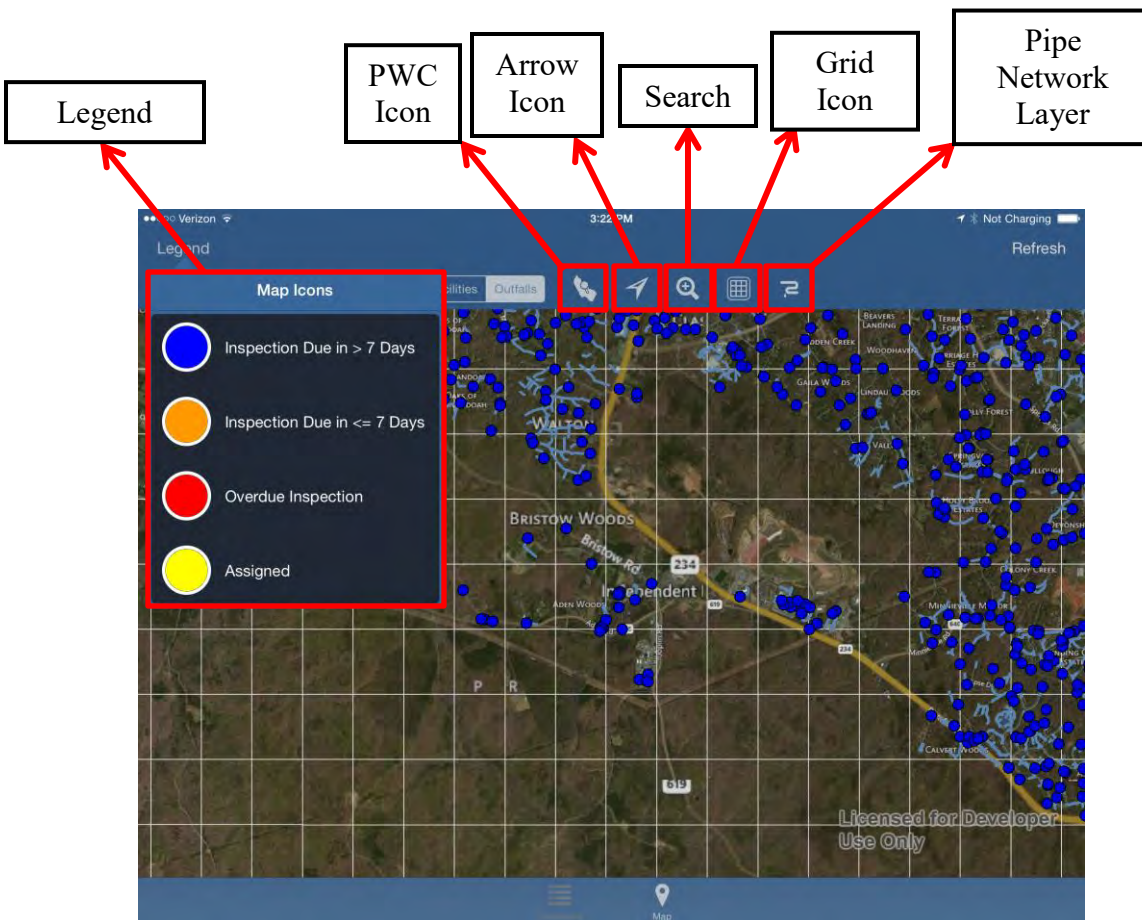
Once signed in, the application lists an inspectors assigned inspections, followed by inspections that have previously occurred that are due for re-inspection, and finally inspections that have forms that could not be submitted and have been saved to the application for later submission, this is typically due to lack of internet connection.



Shown above is the main inspection screen. Items in this window are detailed as follows:

- **Logout** – Logs the user out of the application, returns to sign in screen
- **New Outfall** – Allows user to add an outfall not currently in the inventory (See Section ____)
- **Facility** – Displays assigned BMP facility inspections
- **Outfall** – Displays assigned outfall inspections
- **Assigned Inspections** – Inspections assigned to be completed by user
- **Due Inspections** – inspections due for re-inspection by user
- **Saved Forms** – Saved inspection forms, to be submitted when connection to server is returned
- **Dashboard** – lists inspections due by user
- **Map** – displays map of outfall and BMP features nearby user’s location, allows for inspections to be completed by manually selecting features (See Section ____)

An inspector can initiate an inspection two ways. By selecting an outfall from the list of assigned, due, or saved inspections by pressing on the desired outfall for inspection from the main inspection screen, or by selecting an outfall from the map screen as described below.

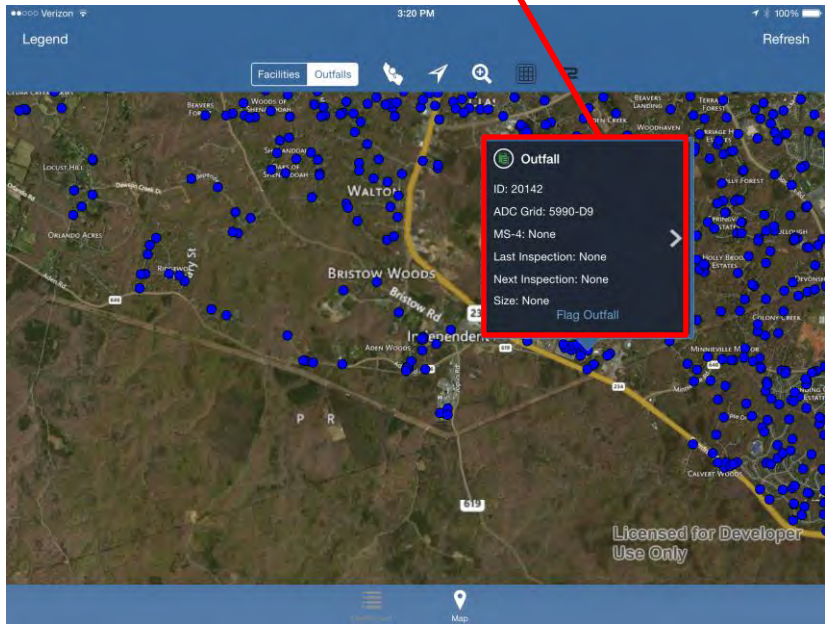


Outfalls are color coordinated in accordance to their inspection status. As the legend in the figure above explains, outfalls with inspection due in greater than 7 days, or do not have inspections assigned are blue; inspections that are due within 7 days are orange; inspections that are overdue are in red; and outfalls that have inspections assigned to an inspector are yellow. The map page also contains a unique set of icons. These are described below

- **Legend** – Displays a description of map icons
- **Outfalls** – filters map to show only assigned facilities for inspection
- **Facilities** – Filters map to show only assigned facilities for inspection
- **Refresh** – Updates map to include most recent inspection status
- **PWC Icon**– Zooms map out to county level
- **Arrow Icon** – Zooms map into current location
- **Grid Icon** – Displays ADC grid lines
- **Search** – Zoom map to specific outfall/feature
- **Pipe Network layer** – Toggles map to display stormsewer pipe network

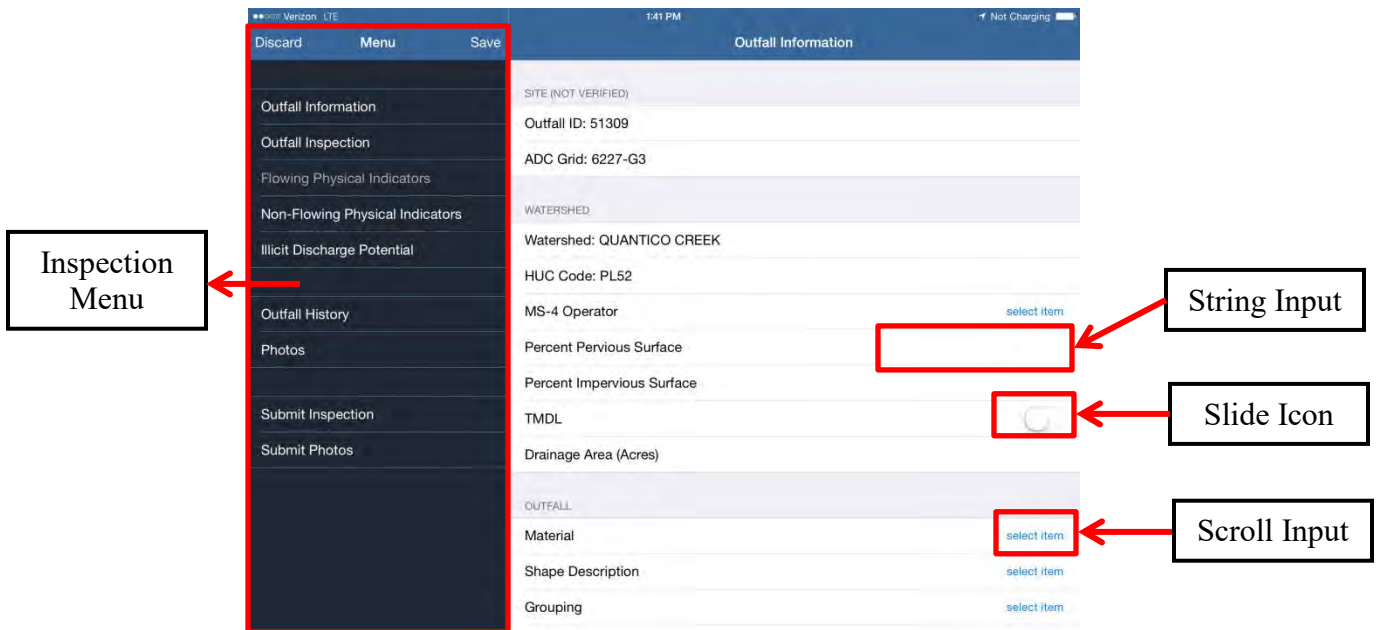
Selecting an outfall by pressing on the outfall icon prompts the display of a new window. This window provides quick information on the outfall such as; outfall ID, ADC grid number, MS-4 operator, Last inspection date, next inspection date (if assigned), and the size of the outfall. This helps inspectors identify the correct outfall for inspection in the field. An inspection can then be initiated by clicking on the arrow on the left hand side of the outfall information box.

Outfall Quick View Menu



The first step when starting an inspection is verifying the correct outfall is being inspected. This can be done by comparing the inspector's location and the location of the outfall as designated on the map. Using the arrow key on the map page zooms into the inspector's current location. Once selecting the outfall from the map page, the outfalls size can be used to identify the correct outfall for inspection. Further verification can occur once the inspection has been started.

To initiate an inspection click on either the desired outfall name in the dashboard screen, or select the arrow from the outfall information box for the appropriate outfall in the map page.

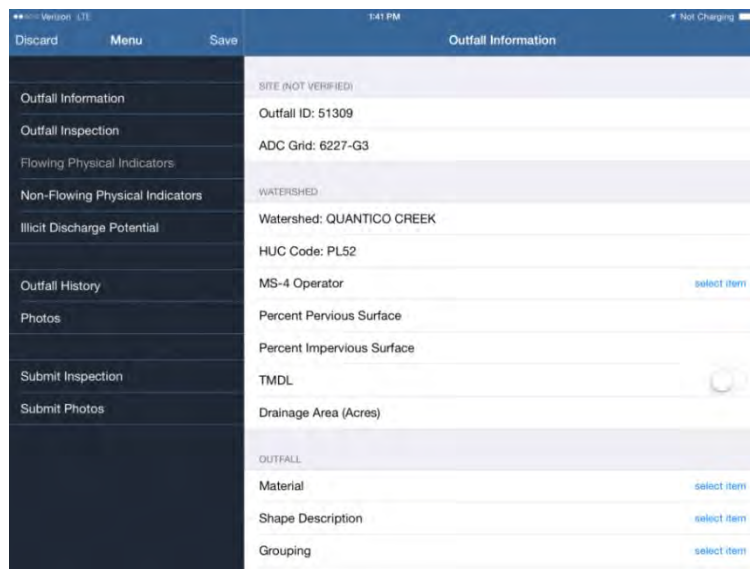


The figure above displays the basic inspection form. On the left side of the page in the dark blue box is the inspection menu. This guides how the inspection is to take place, allows the submission of the inspection, and facilitates navigation through the inspection. On the top of the inspection menu are the “Discard” and “Save” icons. “Discard” exits the inspection without saving information, “Save” causes the app to save the form as is, for later submission. Selecting both these options returns the user to the dashboard screen. There are three distinct input methods for data used in the app:

- **Scroll Input** - activated by clicking on “select item” icon, scrolling through the options with the inspectors finger, highlighting the desired item, then clicking on the field description to enter;
- **Slide Icons** - simple yes/no inputs, and are activated by clicking on the radial icon. Sliding the icon left indicates NO, and to the right indicates YES;
- **String Inputs** – blank spaces where words or numbers are entered. Clicking on the space prompts the IPADs keyboard to appear and allows the user to enter the applicable inspection information. Selecting “enter” on the keyboard enters the information into the form.

The inspection has 7 major pages associated with it, each with its own unique purpose. The inspection form is guided by the application and is based off of the EPA recommended Outfall reconnaissance Inventory (ORI) form. The inspection pages are as follows:

- **Outfall information** – Displays basic outfall information. Important for verification of outfall inspections. This information is confirmed during the first inspection of the outfall, and is locked so that only admin staff can change information after initial inspection.



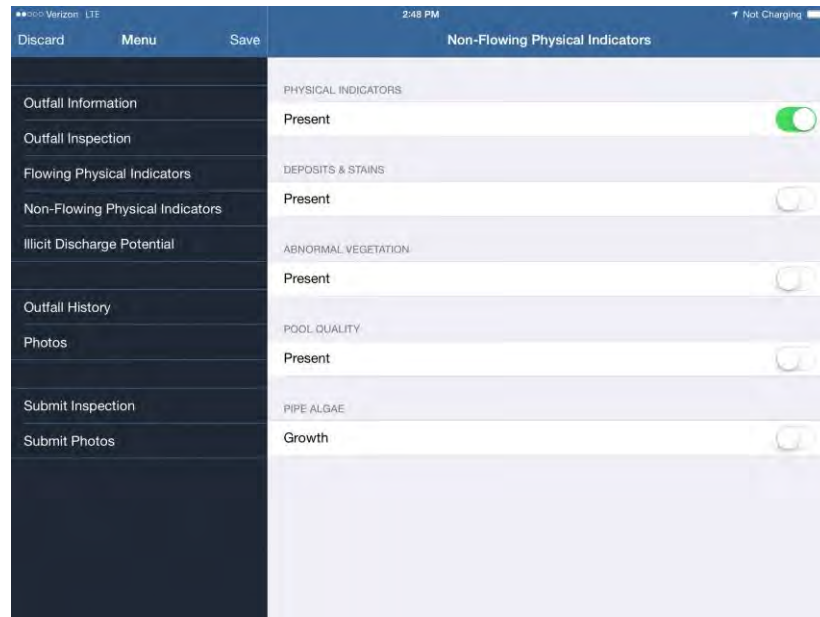
- Outfall Inspection** – Displays basic inspection to inspection outfall information. This includes weather information, outfall conditions and structure, land use, high risk designation, and dry weather flow conditions. This page determines how the outfall inspection is to proceed. Depending on whether flow is found, the app may or may not allow access to other sections of the inspection form.

Navigation Item	Form Field	Value / Action
Outfall Information	Date & Time	6/15/15 14:31
Outfall Inspection	Completed By	pwcadmin
Flowing Physical Indicators	Retest of Outfall	<input type="checkbox"/>
Non-Flowing Physical Indicators	RAINFALL	
Illicit Discharge Potential	Rain in the Last 24 Hours	select item
	Rain in the Last 48 Hours	select item
Outfall History	OUTFALL CONDITIONS	
Photos	Discharge Location	select item
Submit Inspection	Discharge Condition	select item
Submit Photos	Headwall Condition	select item
	Maintenance Required	<input type="checkbox"/>
	Flow Present	select item

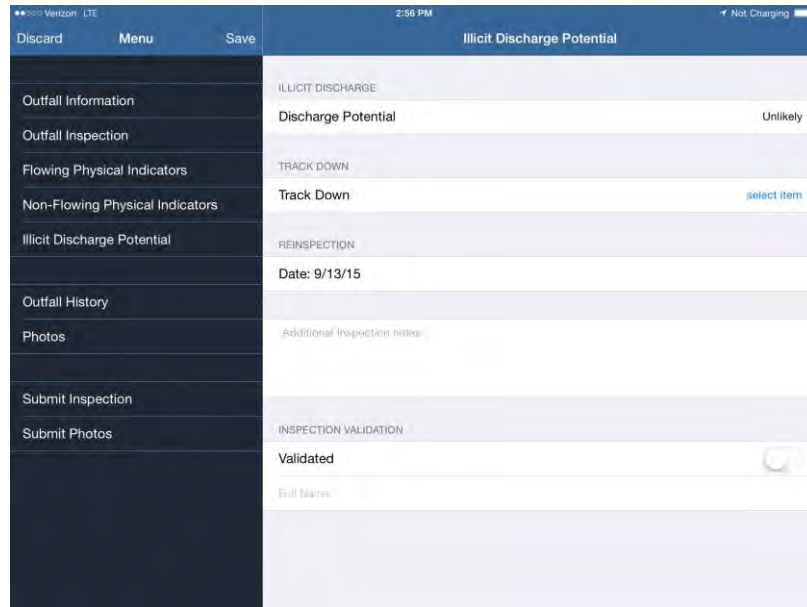
- Flowing Physical Indicators** – Displays inspection information of flowing outfalls. This page is only active when flow is found discharging from an outfall. Basic water quality parameters taken in the field by the YSI Multimeter can be entered here, as well as the sample number for samples taken for further water quality analysis (Section V.1.b.ii). Descriptions of flowing indicators are entered here as well, such as odor, color, turbidity, and floatables.

Navigation Item	Form Field	Value / Action
Outfall Information	FLOW	
Outfall Inspection	Depth (inches)	
Flowing Physical Indicators	QUANTITATIVE CHARACTERISTICS	
Non-Flowing Physical Indicators	pH (pH units)	
Illicit Discharge Potential	Specific Conductivity (µS/cm)	
	Water Temperature (F)	
Outfall History	Sample Number	
Photos	ODOR	<input type="checkbox"/>
Submit Inspection	Present	<input type="checkbox"/>
Submit Photos	COLOR	<input type="checkbox"/>
	Present	<input type="checkbox"/>
	TURBIDITY	<input type="checkbox"/>
	Present	<input type="checkbox"/>
	FLOABLES	

- **Non-Flowing Physical indicators** – Provides information on the status of the indicators related to the outfall pipe itself. Information can be provided for both flowing and non-flowing outfalls. Information is entered here about deposits or stains, plunge pool vegetation, plunge pool quality, and the presence of algae.



- **Illicit Discharge Potential** – This page displays information pertaining to the overall status of the inspection including illicit discharge potential, trackdown status, and re-inspection date. Also in this section, inspectors verify that all information provided in the inspection form is correct. Notes specific to the inspection can be entered here as well. The discharge potential and date of re-inspection are automatically calculated according to information filled out within the inspection. Although the discharge potential is automatically filled by the app, it can still be edited by the inspector to indicate the best possible judgement. Validation is accomplished by entering the full name of the inspector, and sliding the validation confirmation field.



- **Outfall History** – Displays information from previous inspections of the outfall currently being inspected.
- **Photos** – Allows the attachment of photos to the inspection. Photos are taken by first selecting the Photos menu item, selecting the (+) in the upper right hand corner of the screen, pointing the lens at the object the photo is being taken of and pushing the icon to take the photo. A user can then choose to retake or use the photo by selecting the desired action at the bottom of the screen. Using the photo brings up a prompt to add comments to the photo. Once adding comments select done. This adds the photo to the inspection. Users can then return to the menu screen to complete the inspection. Up to 4 photos can be taken. These should be used to select an overall photo of the outfall, and any damage/maintenance issues with the outfall.

Once all applicable information is entered into the form the inspection must be submitted. Due to the potentially large amount of data necessary to upload photos, this is completed in two steps. To submit an inspection a connection to the internet is needed. This is accomplished either through a WIFI connection, or through the IPADs mobile network connection. If access to the web is not available, the inspection form should be saved using the “Save” icon in the upper right of the inspection menu. This saves a copy of the form and displays it on the main inspection page under “Saved Forms”. Once an internet connection is re-established, the form can be selected from the main screen by clicking on the inspection, and submitted as described above. Forms should be submitted ASAP upon the re-establishment of an internet connection.

In addition, sometimes the inspection assignment process identifies objects that aren’t outfalls. These include features like culverts or pond outlets. Culverts and pond outlets should be noted in the inspection form. Inspection forms should be filled out to the minimum possible extent (size, shape, type, operator, land use, discharge potential

(unlikely), trackdown (complete), and validate inspection). These outfalls will then be removed from the system by deactivating them using the desktop application. This workaround is planned to be remedied in the future through more definitive outfall analysis and the update of the outfall layer.

Descriptions of inspection form components including descriptions of user inputs can be seen in the glossary of terms (Appendix B) of this document.

b. Sampling Procedures

The following procedures are to be followed when taking a sample for further analysis. Sampling procedures and tips are based off of the EPA's NPDES Storm Water Sampling Guidance Document. Samples are obtained using a simple Grab sample method. A grab sample is a discrete, individual sample. Analysis of grab samples character the quality of a discharge at the given time of the discharge and is well suited for determining contents of a Dry Weather Discharge.

i. Capturing Sample

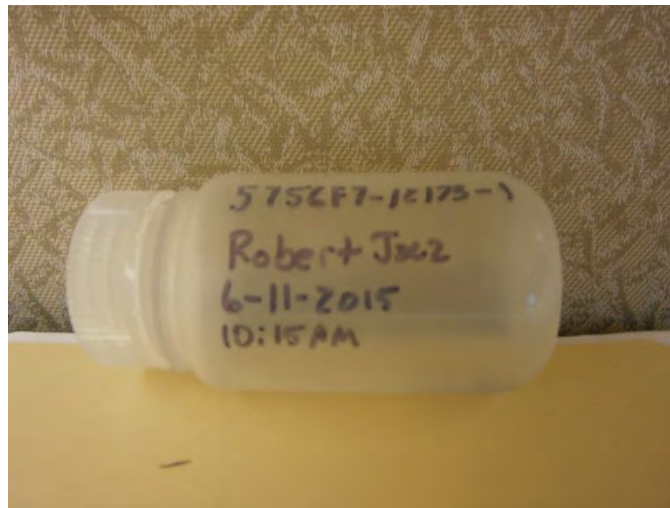
- Grab samples with the stormwater entering directly into bottles rather than by transferring the samples from a container that may not be clean. Again, transferring the sample from another container is not an option for samples under any circumstances.
- When holding the sample bottle, keep your hands away from the opening in order to prevent contaminating the sample.
- Always hold the bottle with its opening facing upstream (into the flow of water) so that the water enters directly into the bottle and does not first flow over the bottle or your hands.
- Sample where the water has a moderate flow and, if possible, some turbulence, so that the stormwater discharge will be well-mixed and the sample will be representative. Sampling in still water should be avoided.
- Sample from a central portion of the stormwater flow, avoiding touching the bottom of channels or pipes so as not to stir up solid particles.
- Do not rinse or overfill the bottles. Fill the bottle to about ½ inch of the top (not quite full).
- As soon as the sample is collected, cap the bottle and label it. It is important that the bottles are labeled correctly (labeling and documentation procedures are described in the following section). Place the samples in a picnic cooler partially filled with ice. Plan to maintain ice in the picnic cooler until they are ready for testing.

ii. Documentation

Samples are to be labeled and documented according to the following convention. This is to ensure the proper chain of command is followed and samples are properly associated with their outfall inspection. As described in [Section V.1.a](#) when encountering a flowing outfall for which a sample must be taken for further analysis, make sure to enter the sample number in the application. Sample numbers are determined as follows:

ADCmappage-Outfallnumber-samplenumber

For example, if a sample is taken at map location 5756-F6, at outfall 12173, and it is the first sample taken from this outfall, the sample number is 5756F7-12173-1. This number should be identical to that noted in the inspection form completed in the mobile application. Below this the date and time the sample is taken, and the inspector who took the sample should also be noted. See the image below for an example of how samples should be noted.



Samples should be labeled in black permanent marker. Samples to be sent to an outside laboratory should be labeled according to the laboratory's instructions, and all appropriate transfer of custody forms should be completed. Instructions for labeling samples for lab analysis are included in the lab kit.

iii. Field Sample Analysis

Using the County's YSI Professional Plus Multimeter dry weather discharges can be analyzed for a few basic water quality parameters quickly in the field. These parameters are temperature, PH, and conductivity. Measurements are to be taken when flow is found from an outfall under dry weather conditions and are entered into the inspection form on the IDDE mobile application (see section [V.1.a](#)). Methods for capturing samples using the YSI Multimeter should be consistent with grab sample tips in section [V.1.b.i](#). Procedures for measurement of samples and equipment operation can be viewed in the YSI Multimeter manual located in Appendix A of this document.

iv. Additional Analysis

Basic analyte analysis can be performed by Prince William County using its YSI 9500 photometer sampling equipment. Samples should be transported to the Environmental Services office in accordance with sampling procedures in order to perform additional analysis on samples using the YSI photometer. If it is necessary to perform a more complex/accurate analysis of a sample an outside laboratory can be used. More information on sample testing and analysis can be seen in section [VI.2](#).

c. Special Circumstances

Often the capturing of a sample presents a unique set of circumstances. These circumstances may include areas which are hard to reach, areas which are submerged with standing water, or areas with low flow.

- **Submerged Outfall** – Submerged outfalls are often found during inspections. The preferred option for sampling submerged outfalls is moving up system to the closest un-submerged manhole and capturing the flow sample from there. If this option is not available, a sample should be taken from the pool closest to the outfall invert as possible. In either case, the sample location should be properly documented in the inspection notes on the Illicit Discharge Potential page of the IDDE Inspection Mobile Application, and a photo of the sample location should be included in the inspection.
- **Difficult to reach** – In circumstances where an outfall may be difficult to reach, either due to excessive vegetation, odd angle, steep slope, etc., *the primary consideration should be the inspector's safety*. To aid in sampling hard to reach outfalls a number of strategies can be implemented; a pole scoop can be used to reach outfall discharges from a safe location; a sampling cup can be attached to string to gather samples from above outfalls; or, like in the case of submerged flow a sample point within the upstream storm sewer network should be used.
- **Low Flow** – In low flow conditions, inspectors should use the scoop tool. Lay the scoop tool upstream to flow and allow discharge to fill scoop, transferring captured sample to an appropriate sample bottle. Make sure to avoid the capture of sediment and other particles.

In addition, sometimes the inspection assignment process identifies objects that aren't outfalls. These include features like culverts or pond outlets. Culverts and pond outlets should be noted in the inspection form. Inspection forms should be filled out to the minimum possible extent (size, shape, type, operator, land use, discharge potential (unlikely), trackdown (complete), and validate inspection). These outfalls will then be removed from the system by deactivating them using the desktop application. This workaround is planned to be remedied in the future through more definitive outfall analysis and the update of the outfall layer.

2. Inspecting VPDES Permitted and High Risk facility Outfalls

Outfalls of Virginia Pollutant Discharge Elimination System (VPDES) permitted facilities within the County are required to be monitored to ensure these facilities are conforming to requirements of their VPDES General Stormwater Discharge Permit.

Outfalls of VPDES permitted and high risk facilities are included in the hotspot analysis, and have a special focus in Dry Weather Monitoring procedures. VPDES permitted outfalls are to be inspected semi-annually and High Risk outfalls are to be inspected on a yearly basis. High Risk outfalls are identified in the IDDE mobile application by selecting the “High Risk” radial icon in the outfall inspection page. These outfall inspections can be isolated during dry weather monitoring data analysis through the desktop application. A list of VPDES and High Risk outfalls can be seen on the W: drive (W:\Environmental Services\Watershed Management\PWC IDDE\FY 2016\DWM). Letters are to be mailed by certified mail to both the DEQ Northern Virginia Regional office and the high risk/industrial facility. A folder should be created in the PWC industrial VPDES folder on the W: drive (W:\Environmental Services\Watershed Management\PWC IDDE\FY 2016\Industrial VPDES\Site Investigation Reports) compiling any evidence dealing with the referral to DEQ. Evidence of 3 consecutive significant discharges (discharges classified as Illicit under the Dry Weather Monitoring program), 2 consecutive instances of non-reported DMR’s, or facilities determined by the program administrator to pose a significant environmental risk to the County’s storm sewer or regulated waters are to be reported to DEQ for compliance review.

In the event a high risk outfall or other Dry Weather Monitoring activity leads to a determination that a facility should require a VPDES permit or a facility where a VPDES permit is currently held is not performing to standards set by their permit, the facility is to be referred to DEQ for compliance review. This is accomplished by sending a letter to the appropriate DEQ Northern Virginia Regional office staff member. The letter for compliance review for both current and potential VPDES permit holders is included below.



Thomas Bruun
Director

COUNTY OF PRINCE WILLIAM

5 County Complex Court, Suite 170
Prince William, Virginia 22192-5308
(703) 792-7070 Metro 631-1703 FAX: (703) 792-6297

DEPARTMENT OF
PUBLIC WORKS

Environmental
Services Division

[Click here to enter a date.](#)

Ms. Susan Mackert
Regional Industrial Stormwater Coordinator
Virginia Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193

Reference: Facility Name
Facility Address

Dear Ms. Mackert:

In accordance with Part I. B. h. 5. of Prince William County's Municipal Separate Storm Sewer System (MS4) permit (No: VA0088595), "the permittee shall refer the following facilities to the Department of Environmental Quality, Northern Regional Office, for DEQ compliance review under the Virginia Water Control Law:

- a. Facilities and operations having non-stormwater discharges that do not have coverage under an existing VPDES permit.
- b. Facilities and operations identified under 40 CFR §122.26(b)(14) with manufacturing, processing, or raw materials storage outside that do not have coverage under an existing VPDES industrial stormwater permit.
- c. Any VPDES-permitted facility where there is evidence of substantial pollutant loadings to the MS4 as determined by continued or regular exceedence of effluent limitations or benchmarks.
- d. Facilities that do not submit signed copies of DMRs to the permittee as required under a VPDES-issued permit. "

The above referenced facility appears to require a compliance review by DEQ in accordance with part(s) (x) from the above list. (Explain the findings of the inspection and why it requires referral to DEQ).

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Please report any findings or conclusions regarding this facility to the following address:

Robert Jocz, Environmental Engineer
Prince William County Department of Public Works, Watershed Management Branch
Environmental Services Division
5 County Complex Court, Suite 170
Prince William, VA 22035-0052

We appreciate your cooperation in this matter. Please contact Robert Jocz at 703-792-4797 or Rjocz@pwcegov.org with any questions or concerns you may have regarding the above request.

Sincerely,

Madan Mohan
Watershed Management Branch Chief

cc: Robert Jocz, Environmental Engineer, Watershed Management Branch, Environmental Services Division

An Equal Opportunity Employer

3. Inspecting General Discharges

Discharges are often reported to Prince William County by citizens and County Employees. Because reported discharges are not discovered at the site of an outfall, they do not include typical information included in a Dry Weather Monitoring inspection and are thus not tracked by the IDDE mobile application (at this time). A separate database is used to collect data on these discharges, and organize follow-up actions.

When discharges are reported to the County, they are entered into an excel spreadsheet located on the W: Drive (W:\Environmental Services\Watershed Management\PWC IDDE\FY 2016\Discharges). The format for the spreadsheet is as follows:

Location/Description	Report Name/Company	Address	Description of Discharge	Reporter	Contact Info	County Employee (Y/N)	Date initially Reported	Status/Outage	Disposition
Residential Neighborhood	NA	14421 Chantrelly Circle	White paint found on storm drain inlet, painting company seen washing brush and SD	Debrae Pail	dpail@343@outlook.net	N	7/2/2015	Paint was found on storm drain. Report was written and Best reported company responsible called to remove. Citizen was educated on IDDE and report is closed on page 1 of discharge statement to occur.	Case Closed
Residential Neighborhood	NA	NA Dominion Valley	Seemingly pool discharge onto property by adjacent homeowner.	Mr. Lewis	703 877 1390	N	NA/NA/NA	Mr. Lewis expressed that his neighbor was dumping chlorinated water into his property. It was determined that the water was not coming from the storm drain system and therefore was not an illegal discharge issue. Mr. Lewis was directed towards Neighborhood Services for assistance and was referred to call the neighbor that pool discharge entering a storm sewer in the future. City assistance is available to any existing future reports received address water seeping from area was a non-current occurrence. No MS4 implications due to lack of storm sewer system. Mr. Thomas Peterson was called to regularly provide existing video monitoring neighborhood services for further assistance.	Case Closed
Commerce Store	NA	18468 Moore Dr	Oil/water in ditches	Misty and Thomas Pearson	703-783-7764	N	8/29/2015	Substance coming from nearby business, possibly grease cooking refuse washing/being dumped into stream. No MS4 implications due to lack of storm sewer system.	Case Closed
Stream	NA	14811 Fern Creek Drive	White substance in stream, white sediment white substance found at nearby dumpster	Valerie Hartman	vhartman@pwc.org	Y	8/29/2015	Large amount of debris in stream, largely related. No MS4 implications due to lack of storm sewer system.	Case Closed
Stream	NA	13038 Jefferson Davis Highway	Black debris and materials dumped into stream, concrete and bricks	Valerie Hartman	vhartman@pwc.org	Y	8/29/2015	sewer system influence	Case Closed

Each reported discharge should have a folder; this folder includes a discharge report, any possible NOV's issued, and any other information pertaining to the discharge (water quality results, photos, maps). The discharge report should follow the format displayed later in the document in section VI.a. The trackdown report format is included in the general discharges folder. Follow-up inspections will occur according to a set schedule outlined within the trackdown report, and according to County Ordinance.

VI. Post Inspection

Post inspection procedures outline the identification, documentation, and follow-up of field inspections, including potential enforcement options. Post inspection procedures are based on inspection results and can follow several different workflow paths. Documentation of trackdown and enforcement efforts is crucial to maintaining a consistent and effective program.

1. Trackdown and Follow-up Inspections

This section details methods for tracking down and documenting potential illicit discharges, and the scheduling of follow-up inspections.

a. Trackdown

Every instance where flow is found exiting at an outfall a trackdown must take place. Trackdown is the process taken to determine the source of discharges from MS-4 outfalls. There are many methods that can be used to perform an outfall trackdown, these include: Manhole node analysis – following the storm sewer system, manhole by manhole, isolating the flow pathway until the source is found; Dye testing – Using EPA approved dye to determine un-authorized connections to the storm sewer system; CCT – the use of camera robots to TV the storm sewer pipe to determine un-authorized connections; Water Quality Testing – as described previously, the use of in-house or contracted laboratories

to isolate pollutants within the discharge to help narrow down potential sources. Trackdown methods can be used in combination with each other in order to determine the source of the discharge. Trackdowns are to start at the outfall or discharge point and follow the storm sewer network to the source of the discharge. If the pollutant is identified at the point of entrance to the storm sewer system (such as a drop inlet), no trackdown is necessary and the discharge should be documented appropriately according to the situation.

Every trackdown should be documented using the standard trackdown report. This report describes the procedures used during the trackdown, the circumstances which triggered the trackdown, and the follow-up actions associated with the trackdown. The trackdown report guides the inspector through the trackdown process and is included below:

Trackdown Report

Name of inspector
Outfall of Discharge (if applicable)
Address of Discharge (Street)
Address of Discharge (City, State, Zip)

(if a reported discharge)
Name of Complainant
Address of Complainant
Email or phone number

[Click here to enter a date.](#)

Introduction-
Where is the discharge coming from? (Outfall, Ditch, leaking vehicle, etc.)
Why was trackdown initiated? (Dry weather monitoring? Citizen Complaint?)
What is the nature of the discharge? (Describe the flow conditions)
Include picture of discharge below:

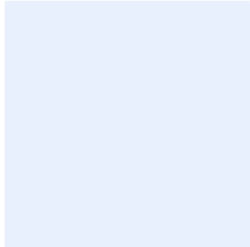


Figure 1: Photo of Discharge.

Trackdown -
Describe procedures used in trackdown (Identified by discharge source, Manhole node analysis, etc.)
Include map of trackdown path, and photos of trackdown below:

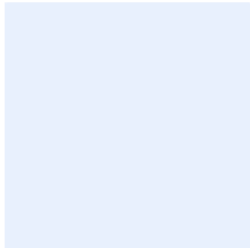


Figure 2: Map of Trackdown Path

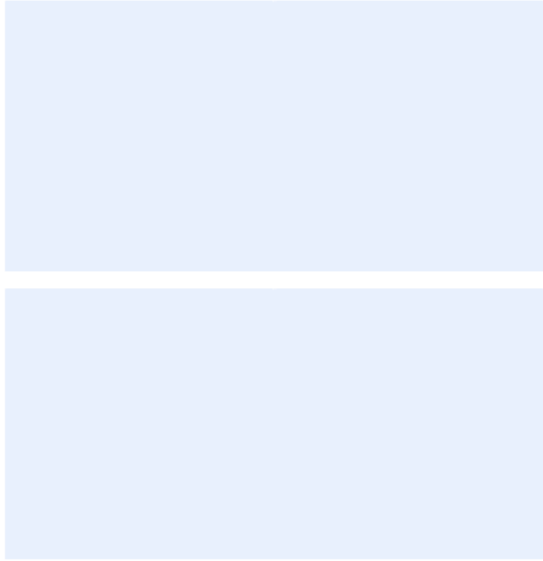


Figure 3: Trackdown Photos

Conclusions and Follow-up-

What are the conclusions of the trackdown? (Groundwater flow? Illicit discharge?)

What follow-up procedures were taken? (Other agencies contacted (DEQ, NS, FMO?, warning issued?)

Was responsible party identified? (Include information (name, GPIN, Business name, address, Etc.)

Was NOV issued? (If yes....include NOV number, EnerGov Case Number)

if responsible party was identified:

What is the mitigation plan and follow-up procedures/schedule?

Include: Inspection Report (if initiated by Dry Weather Monitoring)

Any additional lab testing results

NOV if issued

Trackdown reports are to be stored in a designated folder located on the :W Drive (W:\Environmental Services\Watershed Management\PWC IDDE\FY 2016\DWM\Trackdown Reports). This folder should include the trackdown report, inspection report, any NOVs, communications with stakeholders (if applicable: to include responsible parties, County Attorneys, other County agencies, or state/federal agencies), and any follow-up inspection reports related to the discharge. An example trackdown report can be seen in Appendix C.

b. Follow-up Inspections

Follow-up inspections are managed by the IDDE mobile application. The date of a follow-up inspection is determined by the inputs to the inspection form, and is automatically assigned to the inspector who performed the initial inspection. Follow-up inspections can also be assigned independently by an application admin. The mobile application uses a set of algorithms dependent on parameters entered into the inspection form to determine outfall re-inspections.

Follow-up inspections for reported discharges are determined according to the County Ordinance, and are documented in the discharge report. All follow-up inspections should be documented in the General Discharges Excel spreadsheet.

2. Water Quality Testing

Often, if the source of a discharge is unclear or composition of a discharge is unknown, water quality analysis may take place to determine the nature of the discharge. Water quality analysis should occur in the following scenarios:

- 1) If the source of a discharge is unknown and needs to be located or isolated. Water quality analysis can help identify the source of a discharge by characterizing its pollutant contents. This can help aid inspectors in identifying discharge sources.
- 2) Upon identifying the source of a discharge, but it is unclear of its pollution contents. Water quality analysis should be used to determine if a discharge is to be considered “Illicit”. If water quality parameters exceed pollutant limits (table below), then it is designated as illicit and enforcement procedures should be initiated.

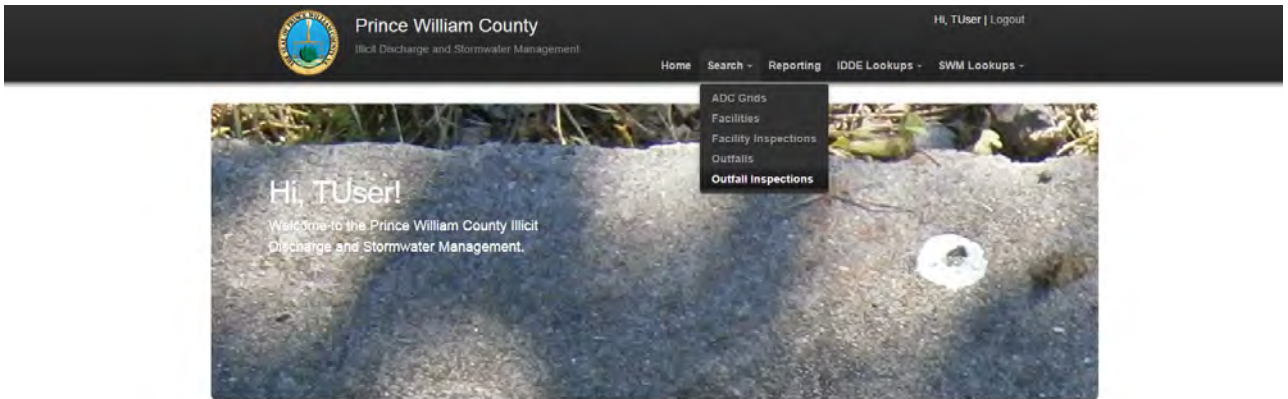
A discharge is determined to be potentially illicit in nature if it violates one or more of the following water quality parameters.

Parameter	Exceedance Limit
Temperature	N/A
pH	<6 or >9
Conductivity	> 1000 μ S/cm
Detergents	> 0.25 mg/L
Chlorine	> 0.04 mg/L
Copper	> 2.5 μ g/L
Phenol	> 0.4 mg/L
Fluoride	> 0.2 mg/L
Potassium	> 20 mg/L
Ammonia	> 20 mg/L
Nitrite	NO ₂ =>1 mg/L, N > 0.68 mg/L
Nitrate	NO ₃ =>10 mg/L, N > 0.68 mg/L

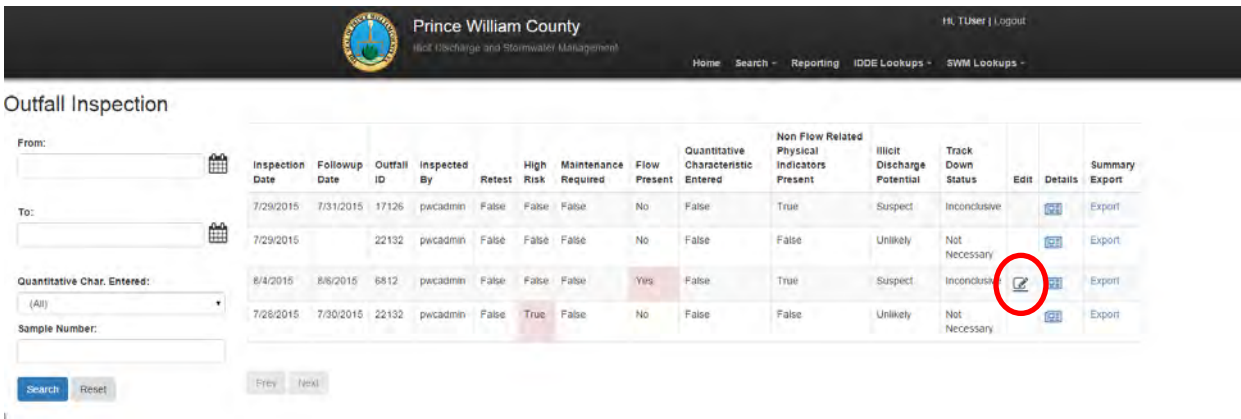
Credit: Prem Poudel

To document WQ parameters, information on testing can be entered into the inspection form using the desktop version of the IDDE application. Inspectors have limited access to edit inspection data but can enter water quality parameters measured in the field or office. This extends to only outfalls they have inspected. This allows for water quality information to be entered after tests are performed in the lab or office, while protecting the integrity of the inspection performed in the field. This process is described below.

- 1) After logging in, select **Outfall Inspections** from the **Search** dropdown menu.



- 2) Select the Edit Icon on the outfall inspection where water quality parameters need to be entered.



- 3) Values for water quality parameters can be entered in this page. It is not required to enter all water quality parameters displayed on this page, only the parameters that were completed during water quality testing.

Edit Outfall Inspection


Quantitative Characteristic Entered


Sample Number: *


Water Temperature (F): *

pH (pH units): *

Specific Conductivity (uS/cm): *

Detergents (mg/L): 

Chlorine (mg/L): 

Copper (mg/L): 

4) When finished, scroll to the bottom of the page and select the **Save** icon.

Eventually, the County will develop a library of base concentrations of pollutants in groundwater. This study will occur for different watersheds throughout Prince William County, and will give the program a more specific and specialized set of parameters to base limits of exceedance from. Current exceedance limits were determined through literary research (credit: Prem Poudel).

3. Enforcement

This section outlines the methods and documentation for enforcement of the County’s stormwater regulations. There are many methods to prevent and mitigate illicit discharges to the County’s MS-4 system. Using the correct pathway to enforcement and mitigation is important to ensure the health of Prince William County’s waterbodies.

a. County Stormwater Ordinance

Sec. 23.2-4.1. - Unlawful discharge to the stormwater system and waters of the County

- (a) It shall be a violation of this article for any person to discharge:
- (1) Any wastes, trash, garbage, or any matter causing or aiding pollution on any property in the County in any manner so as to allow such to be washed into any stormwater system by storm or floodwater.
 - (2) Any grass clippings, mulch, or yard waste, animal carcasses and other wastes into the stormwater system, or do any injury to the stormwater system or in any manner pollute the stormwater system.
 - (3) Any discharge of gasoline, oil waste, antifreeze, or other automotive, motor or equipment fluids into the stormwater system.

- (4) Any commercial, industrial, or manufacturing entity to discharge process water, wash water, or unpermitted discharge into any stormwater system.
 - (5) Any person to throw, place, or deposit, or cause to be thrown, placed or deposited, in any gutter, ditch, storm drain or other drainage area in the County, anything that impedes or interferes with the free flow of stormwater therein.
 - (6) Chlorinated swimming pool water without dissipating chlorine.
- (b) Subject to the provisions of subsection (c) below, the following activities shall not be unlawful discharges:
- (1) Discharges pursuant to a VPDES or NPDES permit;
 - (2) Discharges resulting from firefighting activities;
 - (3) Water line flushing;
 - (4) Landscape irrigation;
 - (5) Diverted stream flows or rising groundwater;
 - (6) Infiltration of uncontaminated groundwater;
 - (7) Pumping of uncontaminated groundwater;
 - (8) Discharges from potable water sources, foundation drains, irrigation water, springs, water from crawl spaces or footing drains;
 - (9) Air conditioning condensation;
 - (10) Lawn watering;
 - (11) Residential car washing;
 - (12) De-chlorinated swimming pool discharges; and
 - (13) Public street washing.

(Ord. 03-87, 9-16-03)

Sec. 23.2-4.2. - Inspecting and monitoring stormwater discharge.

The director shall have the authority to inspect and monitor discharges and sources of potential discharge to the storm sewer system to ensure compliance with this article, including the authority to enter upon private property to inspect or monitor such discharges or sources of potential discharge. The director shall also have the authority to initiate enforcement actions in accordance with section 23.2-4.3.

(Ord. 03-87, 9-16-03)

Sec. 23.2-4.3. - Notice to correct violations.

If any activity listed in subsection 23.2-4.1(b) of this chapter is found by the director to be a source of pollutants to waters of the United States, the director shall serve a written notice on the party responsible for the activity which orders that the activity be ceased or conducted in a manner that will avoid the discharge of pollutants to the

stormwater system. The notice shall state the date by which the activity shall cease or be conducted without pollution. Failure to comply with any such order within the time stated in the notice shall constitute a violation.

For any violations of this chapter, the owner must comply with the director's orders within the time specified in the notice. Failure to comply with such order shall constitute a violation of this chapter. In addition to any penalty imposed for each violation, a judge hearing the case may direct the person responsible to remediate or correct, and each day's default in such remediation or correction shall constitute a violation of and a separate offense under this section.

(Ord. 03-87, 9-16-03)

Sec. 23.2-4.4. - Penalties for violations of article.

- (a) Any person who knowingly violates any provision of this article shall be guilty of a Class 1 misdemeanor. Each day that such violation is committed, and each day that such violation is permitted to remain uncorrected shall constitute a separate offense.
- (b) Any person who otherwise violates any provision of this article shall be subject to civil penalty between \$250.00 and \$1,000.00 for each day that the violation continues. The court assessing such civil penalty may order the penalty to be paid into the treasury of the county and designated for the purpose of minimizing, preventing, managing or mitigating pollution of the waters of the county.
- (c) Any person who violates any provision of this article shall be responsible for testing, containing cleaning up, abating, removing and disposing of any substance unlawfully discharged into the storm sewer system or into waters of the county, or, if the director determines that correction of the violation can best be accomplished by the county, shall be liable to the county for all costs of testing, containment, cleanup, abatement, removal and disposal of any substance unlawfully discharged into the storm sewer system or into waters of the county.

(Ord. 03-87, 9-16-03)

b. Issuing Notice of Violation

Notices of Violation are issued when an offender violates County Ordinance 23.2-4.1. The Notice of Violation (NOV) form displayed below, describes to the violator the violation that occurred, any mitigation plan determined by Prince William County, and the timeframe that mitigation must occur. The NOV form also notes the business or person who violated the County Stormwater Ordinance, as well as their mailing address, date and time the violation was discovered, and the violators email and phone address. NOV's are numbered according to the fiscal year, and the number of violation issued for that year. For example, if the violation was the 4th NOV issued in Fiscal Year 2015, then the violation number would be 4-2015.



Thomas Bruun
Director

COUNTY OF PRINCE WILLIAM
5 County Complex Court, Suite 170
Prince William, Virginia 22192-5308
(703) 792-7070 Metro 631-1703
FAX: (703) 792-6297

NOV# _____

**DEPARTMENT OF
PUBLIC WORKS**

Environmental
Services Division

VIOLATION NOTICE

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

NAME OR BUSINESS: _____ PHONE: _____

ADDRESS: _____ EMAIL: _____

DATE OF INSPECTION: _____ TIME: _____

ADDITIONAL INFO:

Inspection of the above mentioned site has been made and an illicit discharge was identified. If the identified violations are not voluntarily corrected by the allotted date, this office will issue a summons to appear before the General District Court. You have the right to appeal this violation.

Code Section	Deficiency

CORRECTIVE ACTION PLAN:

These deficiencies must be corrected within _____ days from the receipt of this notice.

Violation Notice and Discharge Report Mailed on _____

Violation Notice and Discharge Report Hand Delivered on _____

Watershed Compliance Inspector Signature

NOV's are to be reviewed by the County Attorney's Office when applicable. An NOV should be issued for each instance of discharge. Notice of Violations are mailed by certified mail, or handed to the responsible party along with a copy of the discharge report, a copy of the County ordinance (if not already issued), any inspection reports (if

applicable), and a spill cleanup recommendation fact sheet (if applicable). An example NOV packet can be viewed in Appendix C.

c. Documentation

Documentation is important ensure validity for reporting when enforcing violations and during audits of the IDDE program. Documents should be maintained according to the following sections.

i. Online document storage

Documents related to the IDDE program are to be stored in two locations. On the County's shared server, the W: Drive, and on the Timmons Group Server hosted for Prince William County to hold the IDDE mobile inspection data. Data is located on the W: Drive is as follows:

W:\Environmental Services\Watershed Management\PWC IDDE

-All Data and documents associated with IDDE Program. This folder should be separated by fiscal year.

W:\Environmental Services\Watershed Management\PWC IDDE\FY 20XX

-All data collected under the fiscal year for the IDDE program should be stored in this folder.

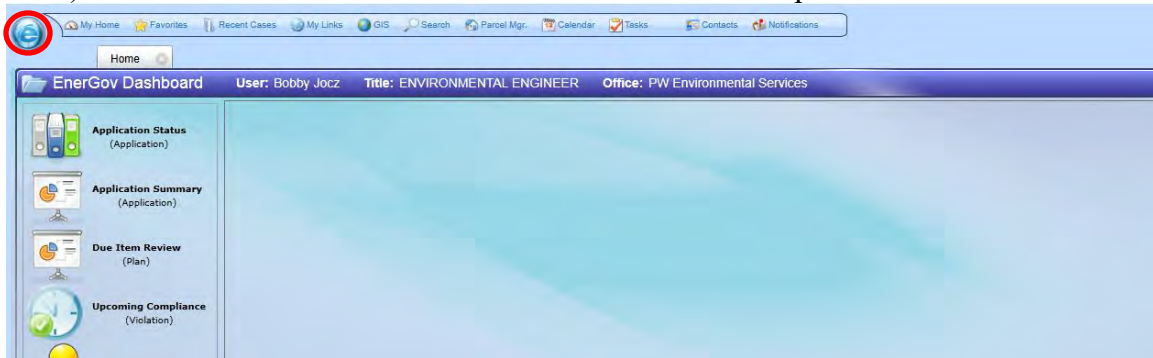
-Within this folder is the General Discharge, DWM, Industrial, and IDDE documents folder.

ii. County Enterprise system – EnerGov

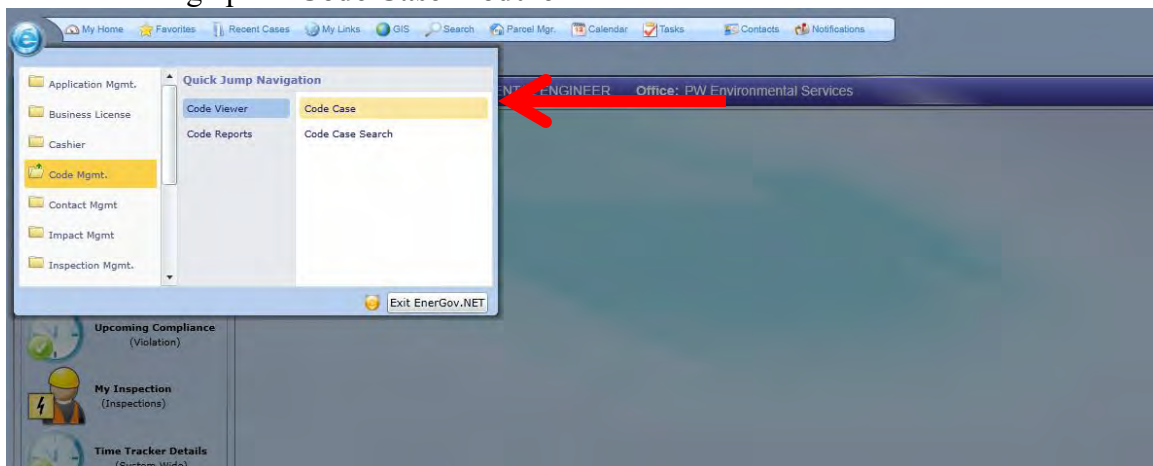
EnerGov, Prince William County's enterprise management system, is used as an official record of County business. For most processes in the IDDE program, use of EnerGov is replaced by the IDDE Mobile Application and associated databases. This is due to the fact the EnerGov system was not designed to handle data in the way that it is necessary for IDDE monitoring; however, some information must be included in the EnerGov system for record keeping. This is only the case when a NOV is issued. The issuance of an NOV must trigger the creation of a Code Case in the EnerGov system. This tracks the implementation of the NOV in the County's official record. When a Code Case is created, it is linked to the IDDE mobile application by inputting the Code Case number in the applicable inspection. Inspection forms, trackdown reports, NOVs, and other applicable documentation are included in the Code Case by adding the documents to the code case in the appropriate location. Code Cases are handled in the EnerGov system as follows:

- 1) Sign into the EnerGov System with your assigned login and password.

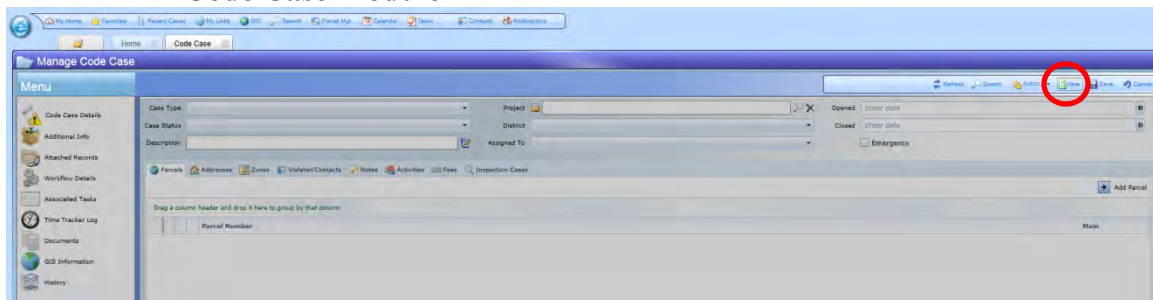
2) From the main screen select the EnerGov “e” in the top left of the screen.



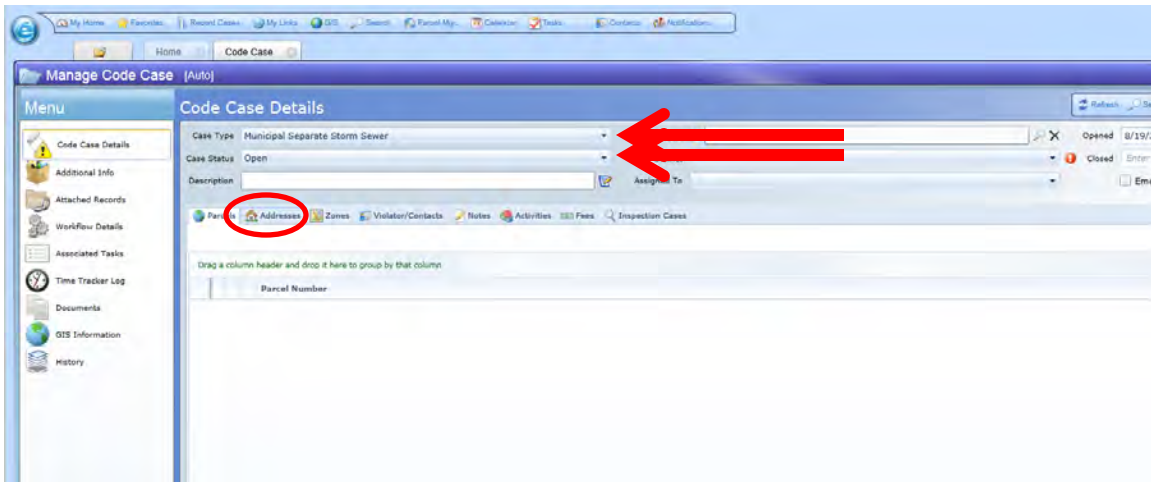
3) In the drop down menu, select **Code Mgmt.**, then **Code Viewer**, then **Code Case** to bring up the **Code Case Module** in EnerGov.



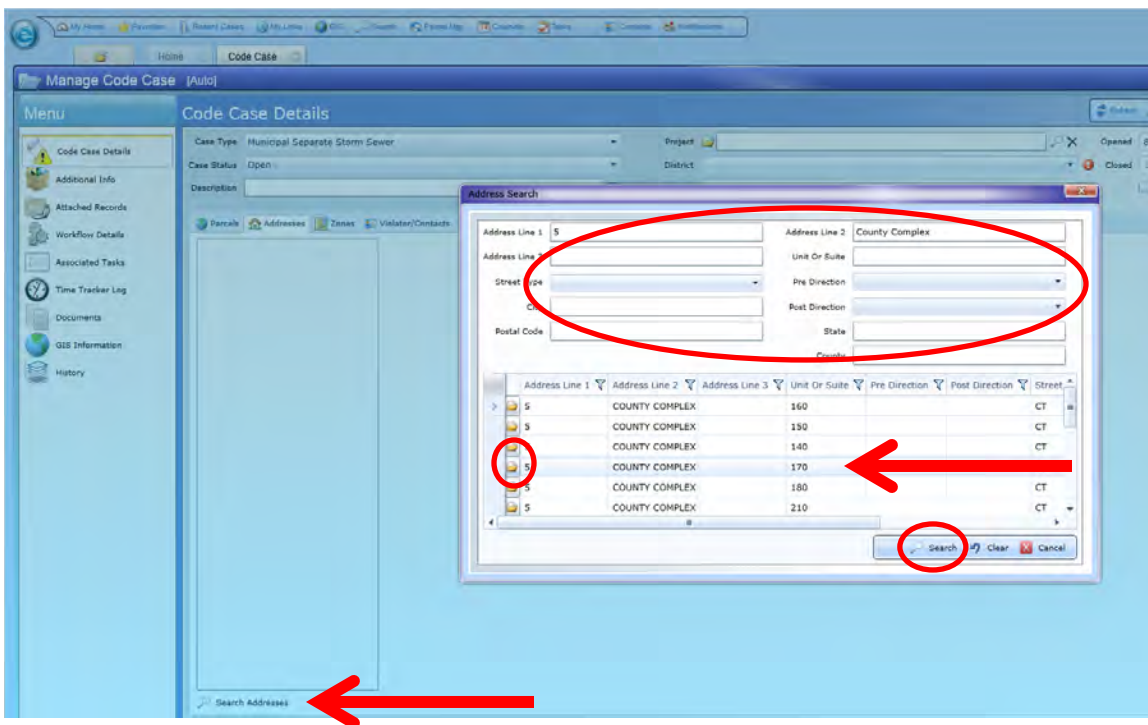
4) Since a new Code Case is being created. Select new in the upper right hand corner of the **Code Case Module** screen.



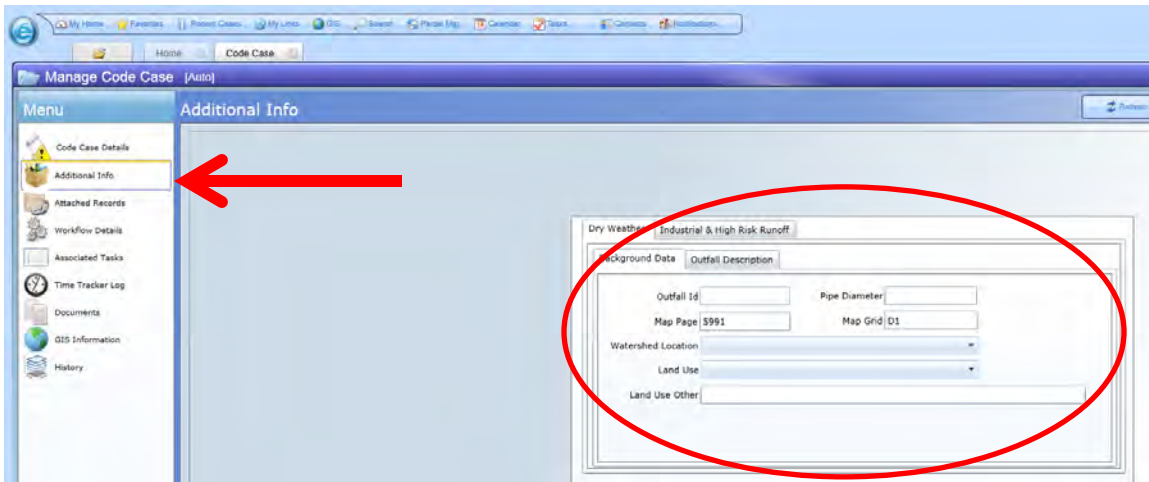
5) Enter information for the **Code Case Type** (Municipal Separate Storm Sewer) and **Case Status** (open, or closed with description of why). Then click on the **Addresses** tab.



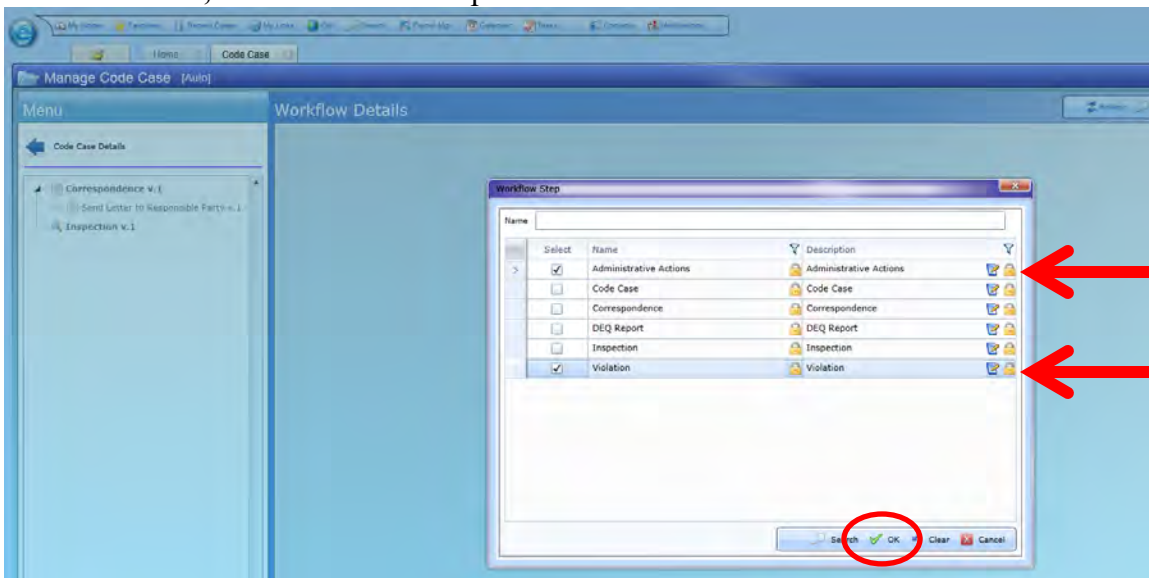
- 6) In the lower left hand corner select search addresses, and enter the appropriate address information for the person/business the NOV was issued to. Select search and apply the address to the **Code Case** by selecting the folder icon next to the address.



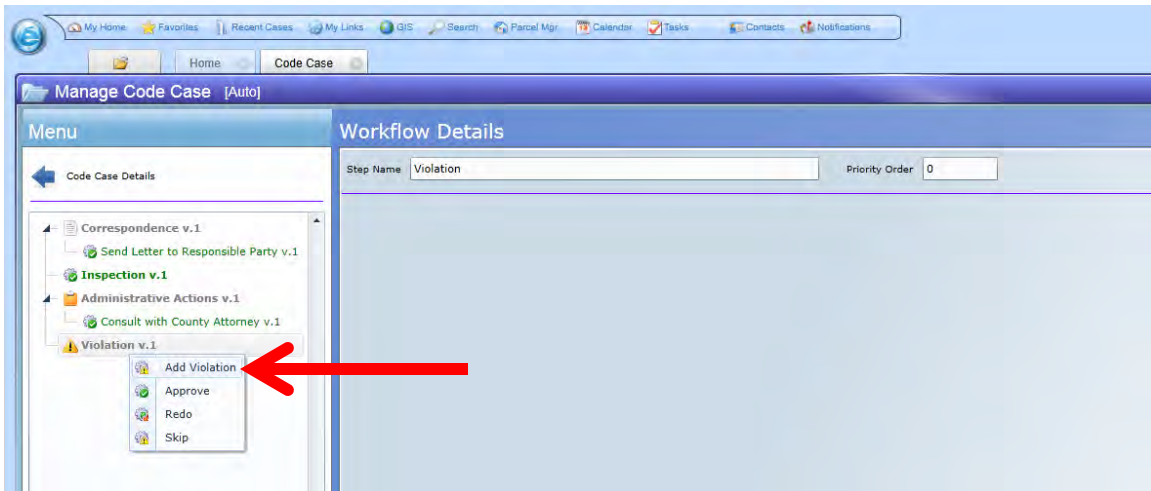
- 7) Fix any errors indicated by the system, and then save the code case by selecting **Save** in the upper left hand corner. Select the **Additional Info** tab on the left hand menu and fill out all information on the outfall where the discharge was identified. If Dry Weather Monitoring was not used to determine the discharge, leave this section blank.



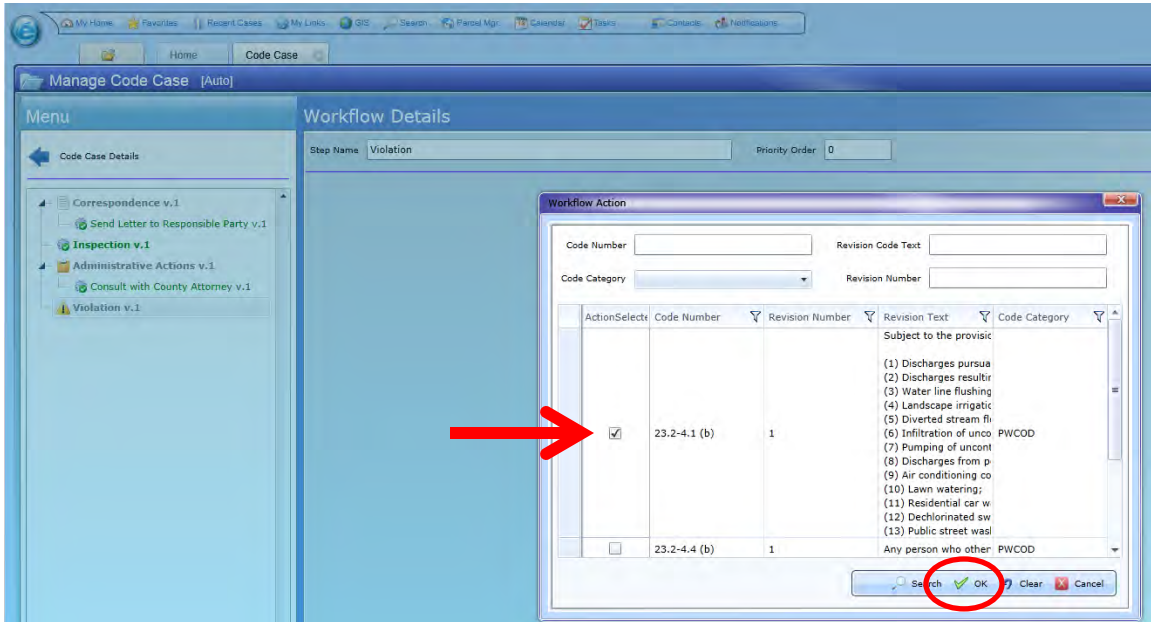
- 8) Next click on the **Workflow Details** tab in the left hand menu. Select **Add Step**, click search at the bottom of the window and add both the **Administrative Actions**, and the **Violation** options. Click **Ok** to advance.



- 9) Since the initial inspection should have already taken place, and the County Attorney and the letter packet sent to the violator should have been completed. To display this in EnerGov, select the appropriate tasks, right click on them, and select to approve them. Once approved they should turn green. If these actions have not been completed, complete the steps and approve them once completed. Right click on the **Violation** task and select **add Violation**.

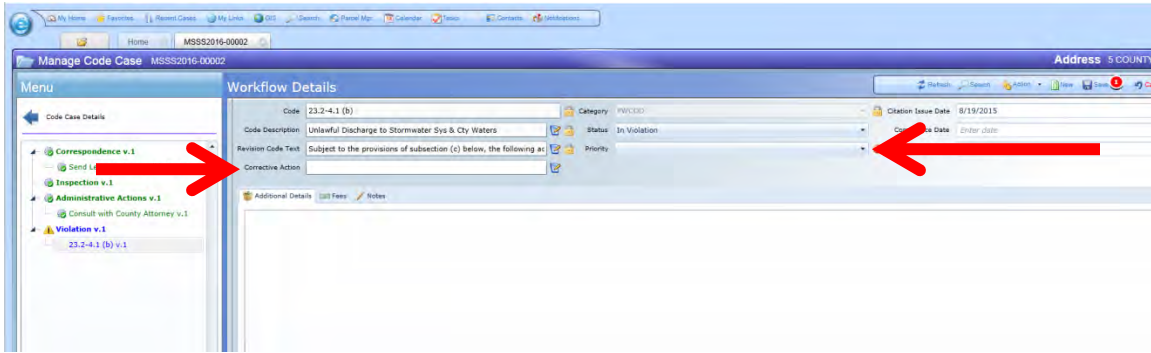


10) Select **Search** in the bottom of the window and select the top option, **23.2-4.1**. Then select **OK**.

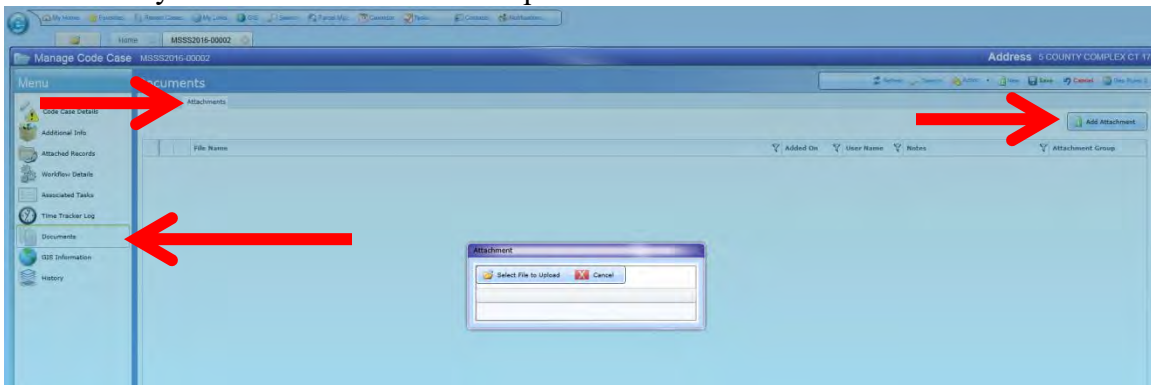


11) Right Click on the violation just created in the left hand menu and assign a corrective action plan and priority. Save the violation and return to the original left hand menu by selecting the left arrow at the top of the left hand menu.

When corrective action plan is met return to this screen, right click on the violation and choose **Resolved**.






- 12) Select the **Documents** tab on the left hand menu, from there select the **Attachments** tab on the main screen, and the **Add Attachments** icon on the top right of the main screen. Upload the Violation Report packet that is included in every Code Case Violation and upload it to EnerGov. Save the Code Case.



- 13) Once the violation corrective action is completed, close the code case with the descriptor that most accurately represents the conditions of the case. Update any documents, inspections, and violations that take place in satisfying the violation as described in this section. For instance, if another inspection and violation are issued, repeat the steps described above to add additional inspections and violations consistent with actions taken on the code case.

- 14) On the Web Application include the code case number on the DWM inspections related to the illicit discharge. This page is available by editing the inspection in the same manner as to add the water quality parameters as described in Section ____. The code case number is seen on the top of the code case module.

Edit Outfall Inspection

<p>Followup Date:</p> <input type="text"/> 	<p>Flow Present:</p> <input type="text" value="No"/> 
<p>Notes:</p> <input type="text" value="Test inspection"/>	<p><input type="checkbox"/> Quantitative Characteristic Entered</p> <p>Sample Number: *</p> <input type="text"/>
<p>Energov Number:</p> <input type="text"/>	<p>Depth (In.): *</p> <input type="text"/> 
<p><input type="checkbox"/> High Risk</p> <p><input type="checkbox"/> Retest</p> <p><input type="checkbox"/> Maintenance Required</p> <p>Headwall Condition:</p> <input type="text" value="No Headwall"/>	<p>Water Temperature (F): *</p> <input type="text"/>
	<p>pH (pH units): *</p> <input type="text"/>

d. Coordination with other Agencies

For the IDDE program to work effectively, it must work with other County, state, and federal agencies. This is especially true in instances when assistance is needed in enforcing County ordinance and environmental regulation when it is difficult/not possible for PWC watershed management to do so. These agencies include the Fire Marshalls office, for the handling and reporting for larger spills and hazmat incidents; Neighborhood Services, for details concerning litter pickup, and enforcement of other County code, when the stormwater ordinance is not applicable; Risk Management, for data concerning training of staff and certifications and issues related to County Owned Facilities; Drainage Crew, for information on the inspection and maintenance of pipe systems, and alternative inspection methods (TV cameras); DEQ, for matters in which the state agency should be involved, including VPDES permitted facilities; and PWCSA, for information pertaining to the sanitary sewer system. It is important to maintain open and effective communication with these agencies in order to meet the County’s MS-4 reporting requirements.

V. Reporting and Program Maintenance

1. Reporting

Reporting is important for internal tracking and data management, as well as providing state and federal agencies information they need on the County’s IDDE program. Reports are generated on both a yearly (MS-4 annual reporting), and monthly (Internal performance measures) basis. Reports also allow for communication between Prince William County agencies for the purpose of conducting maintenance and trash/litter issues.

a. Monthly Reporting

Each month a report including inspections performed, flowing outfalls, outfalls needing maintenance, and illicit discharges should be created. This is performed by Admin staff using the IDDE web application. These reports should be stored in the same excel sheet with the month and the year as the name of the file. These files should be stored on the W: Drive under the Reporting folder (PWC IDDE\FY 2016\DWM\Reporting). Maintenance reports should be distributed to the drainage crew supervisor.

b. Yearly Reporting

Yearly reporting is used to track program activities that occurred during the fiscal year. These reports are used in annual reporting to DEQ as part of the County's MS-4 permit. Yearly reporting is also used to inform supervisors and important staff of the performance of the IDDE program. Data from yearly reporting is incorporated into the following year's assessment of IDDE trends throughout Prince William County, and helps the program focus on problem areas. Yearly reports should be stored on the W: Drive under the Reporting folder (PWC IDDE\FY 2016\DWM\Reporting).

c. Litter, and Maintenance Issues

The IDDE mobile application can output a list of inspected outfalls which are determined to need maintenance or have significant litter issues. These outfalls are indicated for maintenance during the field inspection. The report shows the outfall ID number, latitude and longitude of the outfall, and the last inspection date. This list can then be shared with drainage crew, neighborhood services, and maintenance staff for repair.

2. Program Maintenance

In order for the IDDE program to remain up to date it must be continually maintained. Maintenance activities include; enhancements to the Mobile Application by adding new features to increase reliability, accuracy, and integrity of inspections and follow-up activities; updating of GIS data to include the most recent layers; and incorporating feedback from the program to make sure it runs as efficiently as possible both in the field and in the office.

a. GIS Update

GIS layers from inspections are shared between the mobile app and ArcGIS on a bi-annual basis. This includes the transfer of updates to GIS data layers for outfalls and the stormsewer network. This data will be provided from the County consultant and County GIS staff when needed.

In addition, the Hotspot Analysis Model (see Section IV.1) is updated on an annual basis. This program incorporates changes/additions in GIS layers to update and more accurately represent hotspots throughout PWC. Although this model is updated on a yearly basis, the ADC zones inspected are not re-set until the end of the permit cycle, unless all practical ADC zones have been inspected. This means that an ADC zone is inspected

only once during the 5 year permit cycle. If all ADC zones are inspected (or all ADC zones that include a reasonable MS-4 service area), then the IDDE program will begin again at the top of the ADC zone list.

b. Mobile Application updates

Enhancements to the Mobile application are important to keep the IDDE program relevant, consistent, and efficient. Enhancements will be evaluated by watershed management staff on an as needed basis. Additions such as the incorporation of trackdown reports, addition of data layers, and the ability to send reported discharges to field inspectors will be added in future iterations of the application.

Appendix A: Equipment Manuals



YSI 9300 and 9500 Photometers

User Manual

YSI 9300 and 9500 Direct-Read Photometers User Manual

YSI, Inc.

1725 Brannum Lane Yellow Springs, OH 45387

Tel: 800-667-4151 (+1 937-767-7241) Fax: +1 937-767-1028 E-Mail: environmental@ysi.com

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1. INTRODUCTION

The YSI 9300 and 9500 direct-read photometers are designed to give long and trouble-free operation. To ensure the best results, please read this manual carefully and follow the procedures recommended. This manual covers both the 9300 and 9500 photometers. Therefore, some of the information only pertains to the 9500 as is noted in the appropriate sections.

The Photometers feature digital electronics and built-in filters. It is lightweight and portable for field or laboratory use. The instruments are rugged, durable and IP-67 rated. Additionally, the photometers are direct-reading, have automatic blank setting, automatic wavelength selection, and automatic power out-off.

The following pages describe the use of the photometers, and give instructions for the wide range of water tests which can be performed using these instruments.

Keep the photometer clean and in good working order by adhering to the following recommendations:

- Do not pour out samples or prepare the tests directly over the instrument.
- Always cap the test tubes before inserting into the instrument for readings.
- Wipe test tubes with a clean tissue to remove drips or condensation before placing in the photometer.
- Do not leave tubes standing in the photometer test chamber. Remove the tubes immediately after each test.
- Immediately wipe up any drips or spills on the instrument or in the test chamber with a clean tissue.
- Keep the instrument clean. Clean the test chamber regularly using a moistened tissue or cotton ball.
- Keep the instrument away from all chemicals and cleaning materials.
- Keep the instrument in a clean, dry place when it is not in use. Keep it on a clean, dry bench away from chemicals, place it in a storage cupboard or keep it in a carrying case.
- Keep the carrying case in a clean, dry condition. Make sure that the carrying case is dry before the case is closed up and the instrument is put away.



Professional Plus



USER MANUAL

Send 2 CDROM
Drawing 1 CDROM
Manual PDF
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The YSI logo and Customizer Software are registered trademarks of YSI Incorporated.
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Table with 2 columns: Page Number and Page Title. Includes sections like Foreword, Introduction, Getting Started, Troubleshooting, and Appendix.

Table with 2 columns: Page Number and Page Title. Includes sections like Technical Support, Troubleshooting, and Appendix.

Table with 2 columns: Page Number and Page Title. Includes sections like Troubleshooting, Appendix, and Index.

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WARRANTY

The YSI Professional Plus Instrument (The "Unit") is warranted for three (3) years from date of purchase... THIS WARRANTY IS LIMITED TO THE DEFECTS IN MATERIALS AND WORKMANSHIP... THE WARRANTY IS VOID WHERE PROHIBITED BY LAW.

YSI Professional Plus Calibration Sheet

Date of Calibration: _____ Technician: _____
 Instrument Serial Number: _____ Software Revision: _____ Cable Model Number: _____
 Temperature Reading _____ Temperature Accurate: Y N
 DO Sensor in use: Polarographic Galvanic Sensor notated in Sensor menu? Y N
 DO membrane changed? Y N Color of Membrane _____ Color notated in Sensor menu? Y N

Record the following calibration values:

	Pre Cal	After Cal	
Conductivity	_____	_____	
ORP	_____	_____	
DO	_____	_____	True Barometric Pressure at time of calibration _____

	Pre Cal		
pH 7	_____	pH mV value _____	Range 0 mV ± 50 mV
pH 4	_____	pH mV value _____	Range +165 to +180 from 7 buffer mV value
pH 10	_____	pH mV value _____	Range -165 to -180 from 7 buffer mV value

NOTE: See pH Cal tips section for additional information. Span between pH 4 and 7 and 7 and 10 mV values should be ≈ 165 to 177 mV. 177 is the ideal distance or 59 mV per pH unit.

Ammonium
 1st point (1 mg/L) _____ NH4 mV value _____ Range: 0 mV +/- 20 mV (new sensor only)
 2nd point (100 mg/L) _____ NH4 mV value _____ Range: 90 to 130 mV > 1 mg/L mV value

Nitrate
 1st point (1 mg/L) _____ NO3 mV value _____ Range: 200 mV +/- 20 mV (new sensor only)
 2nd point (100 mg/L) _____ NO3 mV value _____ Range: 90 to 130 mV < 1 mg/L mV value

Chloride
 1st point (10 mg/L) _____ Cl mV value _____ Range: 225 mV +/- 20 mV (new sensor only)
 2nd point (1000mg/L) _____ Cl mV value _____ Range: 80 to 130 < 10 mg/L mV value

Record the following diagnostic numbers **after** calibration, by viewing the .glp file and reading the values for the day's calibration

Conductivity Cal Cell Constant _____ Range 5.0 +/- 1.0 acceptable
 DO Sensor Value (uA) _____ (Membrane dependent, see DO Cal Tips)
 pH Slope _____ (≈ 55 to 60 mV/pH, 59 ideal)
 pH Slope % of ideal _____

Appendix B: Mobile Application Definitions

This section describes and further details the terms used in inspection forms for the IDDE Mobile Application. This should allow inspectors to keep consistency from inspection to inspection.

Outfall Information

- Outfall ID – Unique identifier applied to each outfall
- ADC Grid – Equal area grid system that divides County into sections
- Watershed – Major area of drainage within County
- HUC Code – Hydraulic unit code
- MS-4 Operator – MS-4 system the outfall belongs to
- Percent Pervious and Impervious Surface – amount of Imp. and Perv. Surface draining to outfall
- TMDL – Does the outfall discharge to waterway with local TMDL?
- Drainage Area – Area draining to outfall
- Material – Type of material outfall is constructed of
 - o CMP – Corrugated Metal Piping
 - o HDPE – High density polyethylene, plastic piping, thicker than PVC
 - o Other
 - o PVC – Plastic piping, most commonly found as foundation drains
 - o RCP - Reinforced Concrete Pipe
 - o Steel - Metal
 - o Terracotta – Clay pot type material, also used for roofing
- Shape Description – Shape of outfall pipe
- Groping – Number of exit points at the outfall structure
- High Risk – Does outfall drain from high risk type landuse?
- Land Use – Main type of land use contributing to outfall drainage
- Additional land use – other land use types draining to outfall

Outfall Inspection

- Retest of outfall – Has this outfall been inspected previously?
- Rain in the last 24/48 hours – Approximate amount of rain in the past 24/48 hours
- Discharge Location – Description of location outfall discharges to
- Discharge Condition – Condition of the discharge location
- Headwall Condition – Condition of the outfall headwall, if applicable
- Maintenance Required – Is maintenance required on the outfall structure
- Flow Present – Is there flow coming from the outfall
 - o Intermittent – Flow is inconsistent, it flows and stops.
 - o No – No flow is observed at outfall
 - o Stagnant – Water sits at outfall discharge point, may or may not be flowing, outfall may be submerged
 - o Yes – Flow is exiting outfall

Flowing Physical Indicators

- Depth – Depth of flow (inches)
- pH – pH of water sample (if taken) using field instruments
- Specific Conductivity – SC of water sample
- Temperature – Water temperature of sample
- Sample number – Identifier of sample taken (See Section V.b.ii)
- Odor – Is there a smell to the discharge sample?
- Color – Is color visible in the sample?
- Turbidity – Are there suspended debris in the sample?
- Floatables – Are there items floating on top of the sample?

Non-Flowing Physical Indicators

- Deposits/stains – Is staining visible on the outfall pipe?
- Abnormal Vegetation – Is vegetation around outfall pipe affected by discharges?
- Pool Quality – Is the water at the invert of the pipe in poor condition?
- Pipe Algae – is excessive algae present in or around the outfall pipe?

Illicit Discharge Potential

- Discharge Potential – What is the potential the discharge is illicit?
 - o Obvious – Very Clear Illicit Discharge Present
 - o Suspect – Possible illicit discharge, more testing/inspections needed
 - o Unlikely – No illicit discharge present
- Trackdown – Status of flow trackdown
 - o Inconclusive –
 - o Not Necessary –
 - o Successfully Completed –
- Re-inspection – Date scheduled for re-inspection
(automatically assigned)
- Inspection Validation -

Appendix C: Example NOV Packet



COUNTY OF PRINCE WILLIAM
5 County Complex Court, Suite 170
Prince William, Virginia 22192-5308
(703) 792-7070 Metro 631-1703
FAX: (703) 792-6297

DEPARTMENT OF
PUBLIC WORKS

Environmental
Services Division

Thomas Bruun
Director

6/30/2015

RE: County Code Violation –
Unlawful Discharge to the Stormwater System and Waters of the County

To Mr. [REDACTED]

This letter serves as notice of violation for Unlawful Discharge to the Stormwater System and Waters of the County according to the Prince William County Code of Ordinances Chapter 23.2 "Stormwater Management" Article II "Stormwater Pollution" Section 23.2-4.1 "Unlawful discharge to the stormwater system and waters of the county". A Violation Report is attached.

On June 29th 2015, your employees were observed washing sediments and other pollutants from company vehicles into a nearby stormsewer system. In addition, remnants of pollutants such as hydrocarbons and salts were visible as stains from previous discharge events. This letter serves as your notice to immediately cease the washing of vehicles, and pollutants associated with commercial vehicle washing into the County's stormdrain system, and mitigate any effects to the system from washing activities. Failure to comply immediately with this violation will result in a Class 1 misdemeanor that is subject to penalties between \$250 and \$1,000 per day. Continued violations will incur additional responsibilities that may include testing, cleaning, abating, removing, and disposing of any substance unlawfully discharged into the storm sewer system or waters of the County.

The storm drain system flows into Broad Run. There is little to no treatment of this water before it enters our streams, rivers, and eventually the Chesapeake Bay.

If you have any questions, please contact Robert Jocz of the Watershed Management Branch at (703) 792-4797 or by email at rjocz@pwcgov.org.

Sincerely,

Marc Aveni, Division Chief
Environmental Services

Attachment: Notice of Violation, Trackdown report, remediation letter, County Ordinance.
cc: County Attorney's Office

Trackdown Report

Robert Jocz



Tuesday, June 30, 2015

On June 29th, 2015 a complaint was received by Prince William County staff detailing issues with the discharge of pollutants into the stormsewer system at a property on [REDACTED]. Upon arriving on site and meeting with the complainant, it was explained that this issue was ongoing. Video and photos from security cameras was provided to the County displaying previous discharge incidents. Once arriving at the suspected discharge location, an employee was observed washing sediment off of a company vehicle into the curb and gutter, and subsequently a storm drain inlet (See photos). The employee was asked to stop and informed of a violation of County Ordinance. A supervisor was not present and no supervisor information was provided by the employee.



Figure 1: Photo of Discharge.

Trackdown of the discharge was not necessary as the discharge was discovered at its source. The stormsewer travels alongside a commercial/industrial complex before discharging into a sedimentation basin/BMP which is currently on bond.



Figure 2: Map of Trackdown/Discharge Path



Figure 3: Trackdown Photos

According to Vehicle markings, employee observation, and discharge location, [REDACTED] was identified as the responsible party for the discharge. A NOV (#2015-01) was issued (included in this packet). [REDACTED] is responsible to immediately stop the discharging of pollutants to the storm sewer

system, and mitigate any effects from such discharges according to County Ordinance 23.2-41 Unlawful discharge to the stormsewer system. Prince William County holds the right to investigate storm sewer system using closed circuit television in order to assess damages at the discharger's expense. Mitigation should occur within 30 days of receipt of NOV as identified by receipt of Certified mail. Periodic re-inspections of the site will be conducted to confirm compliance.

Mitigation efforts are to include:

Removal of salt and hydrocarbon stains from asphalt and parking area adjacent to building.

Sediment accumulation within stormsewer pipes from washing of sediment laden vehicles.

Included:

NOV and NOV letter

County Ordinance

Mitigation Information

NOV# 2015-01



COUNTY OF PRINCE WILLIAM
5 County Complex Court, Suite 170
Prince William, Virginia 22192-5308
(703) 792-7070 Metro 631-1703
FAX: (703) 792-6297

DEPARTMENT OF
PUBLIC WORKS

Environmental
Services Division

Thomas Bruun
Director

VIOLATION NOTICE

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

NAME OR BUSINESS: [REDACTED] PHONE: [REDACTED]
ADDRESS: [REDACTED] EMAIL: -
DATE OF INSPECTION: 6/29/2015 TIME: 2:30

ADDITIONAL INFO:
Reports of Pollutants discharge, upon arriving employee was spotted washing sediment into stormsewer.

Inspection of the above mentioned site has been made and an illicit discharge was identified. If the identified violations are not voluntarily corrected by the allotted date, this office will issue a summons to appear before the General District Court. You have the right to appeal this violation.

Code Section	Deficiency
23.2-41	Discharge of sediment / Pollutants to stormsewer

CORRECTIVE ACTION PLAN:
Stop discharge to stormsewer, Mitigate effects to storm pipe network, Remove hydrocarbon residue from front of business

These deficiencies must be corrected within 30 days from the receipt of this notice.

I have read, understood and agree to correct all of the above listed deficiencies within the specified time.

SIGNED: _____
Responsible Party

Robert Jozz Radtke
Watershed Compliance Inspector Signature

Refused to Sign/Accept
 Responsible Party not present

Date Mailed to Responsible party

Prince William County Illicit Discharge Mitigation and Cleanup Information

A situation has occurred in which a pollutant has been discharged to the Prince William County MS-4 System, and you have been determined to be a responsible party for the said release/discharge. As the responsible party you will be required to perform or cause to be performed such actions as may be required to correct any damage caused by the discharge/release. You will be advised regarding your responsibilities and informed of the steps to be taken to remediate the effects of the discharge/release of hazardous materials. The objectives for remediation will be to minimize any adverse impacts on personnel, environment, and property. The responsible party is solely responsible to facilitate cleanup and remediation of the site. The information provided in this document is intended to assist you in fulfilling your obligations under County Ordinance as a result of the discharge/release. For additional information you should contact the respective Stormwater Management Engineer/Program Administrator.



A discharge of pollutants has occurred from a product or material in your charge. The information contained in this document is being provided to assist you in following the appropriate reporting and cleanup procedures.

Selecting and engaging a cleanup company is required of the responsible party (You or your organization/company). If you do not have an existing arrangement with a cleanup company a list of local cleanup contractors is contained within the document and is intended to assist you with taking the required steps to properly handle and dispose of the hazardous material(s). The County of Prince William nor any representative of any of the departments or agencies who provides you with this document does not endorse or recommend any of the contractors, vendors, or organizations listed, it is being provided only as a matter of courtesy. You are at your will to select any cleanup contractor or company that has the capability to provide the proper methods for cleanup. The names of additional firms may be found through regular advertising sources. It is recommended that you contact several companies before you enter into a contract.

Atlas Environmental Services
Lorton VA. 703/339-9770*

Hepaco, LLC
Fredericksburg VA. 800/888-7689*

Apex Companies LLC 703/396-6730
Manassas, VA After hours 301/721-3626

ECC
Chantilly, VA 800/322-3477

ENSAT
Culpeper, VA 800/753-6728

A&A Environmental Svcs
Stafford, VA 540/288-1176

The jurisdiction in which the discharge has occurred will take whatever actions are necessary to protect the public safety and the environment. If you have any questions please contact Mr. Robert Jocz, Prince William County Environmental Engineer at (703) 792-4797 or by email at Rjocz@pwcgov.org.

Chapter 23.2 - STORMWATER MANAGEMENT

ARTICLE II. STORMWATER POLLUTION

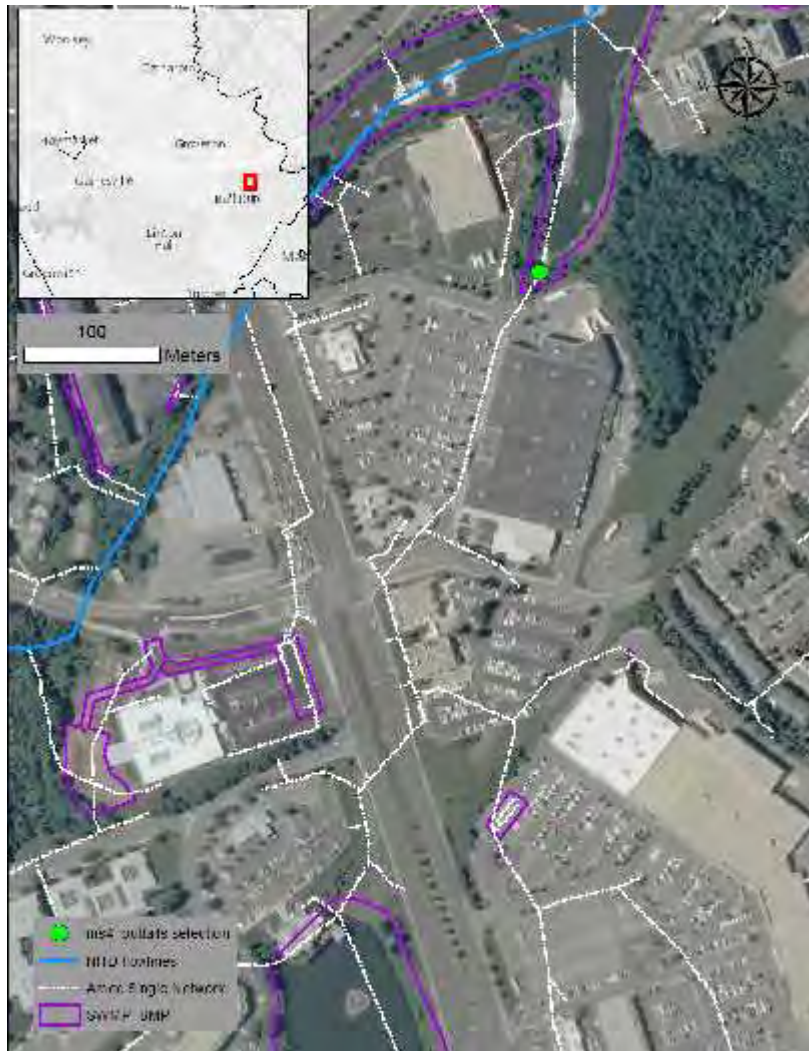
ARTICLE II. STORMWATER POLLUTION

Sec. 23.2-4.1. Unlawful discharge to the stormwater system and waters of the county

- (a) It shall be a violation of this article for any person to discharge:
- (1) Any wastes, trash, garbage, or any matter causing or aiding pollution on any property in the County in any manner so as to allow such to be washed into any stormwater system by storm or floodwater.
 - (2) Any grass clippings, mulch, or yard waste, animal carcasses and other wastes into the stormwater system, or do any injury to the stormwater system or in any manner pollute the stormwater system.
 - (3) Any discharge of gasoline, oil waste, antifreeze, or other automotive, motor or equipment fluids into the stormwater system.
 - (4) Any commercial, industrial, or manufacturing entity to discharge process water, wash water, or unpermitted discharge into any stormwater system.
 - (5) Any person to throw, place, or deposit, or cause to be thrown, placed or deposited, in any gutter, ditch, storm drain or other drainage area in the county, anything that impedes or interferes with the free flow of stormwater therein.
 - (6) Chlorinated swimming pool water without dissipating chlorine.
- (b) Subject to the provisions of subsection (c) below, the following activities shall not be unlawful discharges:
- (1) Discharges pursuant to a VPDES or NPDES permit;
 - (2) Discharges resulting from fire fighting activities;
 - (3) Water line flushing;
 - (4) Landscape irrigation;
 - (5) Diverted stream flows or rising groundwater;
 - (6) Infiltration of uncontaminated groundwater;
 - (7) Pumping of uncontaminated groundwater;
 - (8) Discharges from potable water sources, foundation drains, irrigation water, springs, water from crawl spaces or footing drains;
 - (9) Air conditioning condensation;
 - (10) Lawn watering;
 - (11) Residential car washing;
 - (12) Dechlorinated swimming pool discharges; and
 - (13) Public street washing.

(Ord. 03-87, 9-16-03)

#684: Bull Run, Lowes Parking Lot



- 84" x 54" box culvert
- Contribution from upstream BMP
- ~1" flow during storm (7/18)
- Low visibility, steep slopes



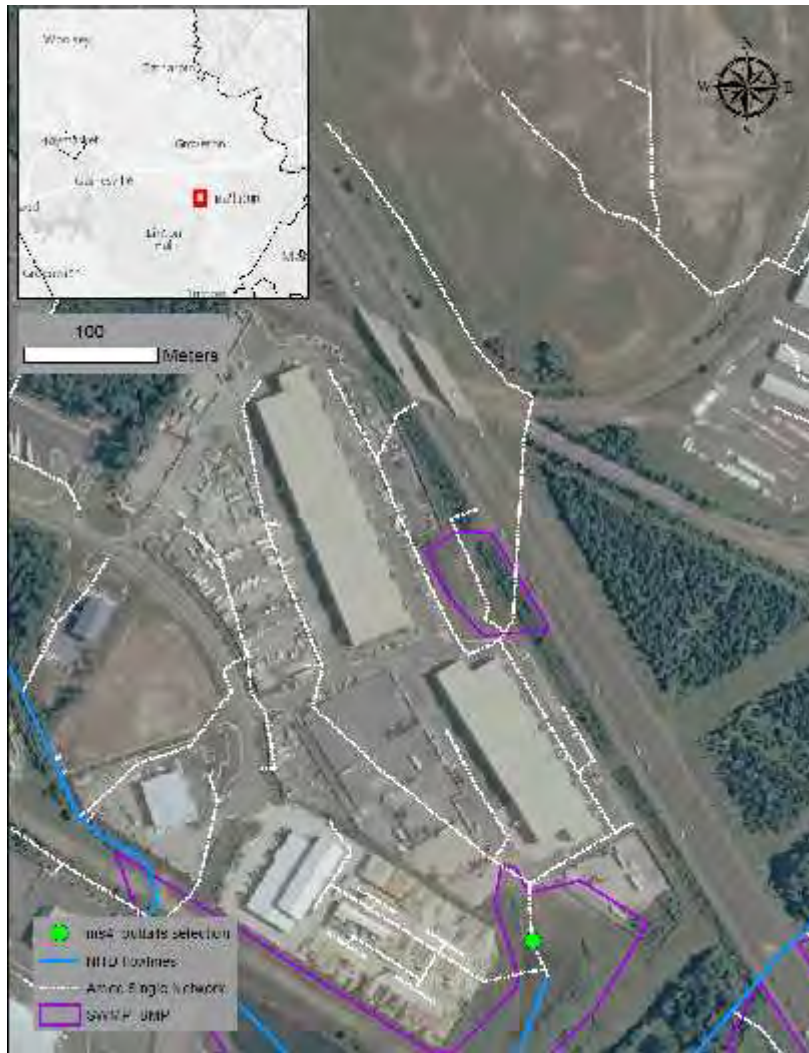




Access: Difficult



#941: Bull Run, Prince Wm. Parkway



- **54" concrete pipe**
- **Signs of recent repair**
- **1/4" water, level with spillway**
- **Debris in spillway**





Access: Easy



#3471: Woodbridge, Potomac Mills



- 84" concrete pipe
- < 1/4" flow
- Signs of human presence, uncertain frequency

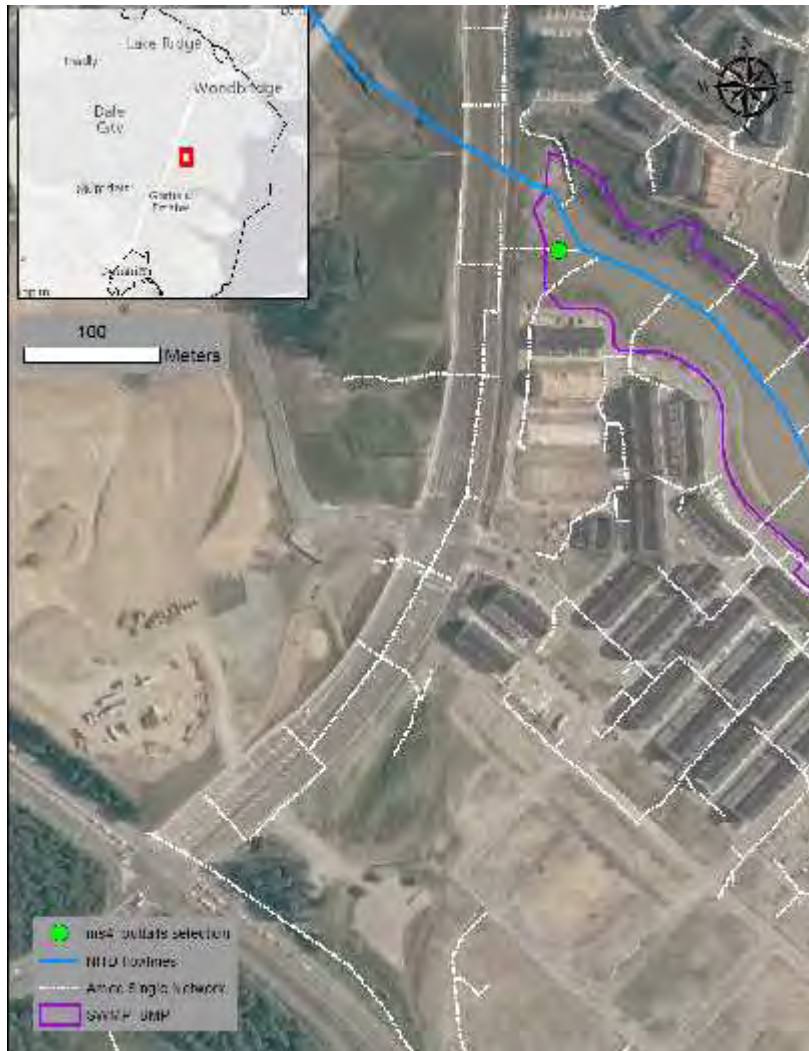




Access: Easy



#4684: Dale City



- **54" concrete pipe**
- **Low flow draining to scour pool**
- **Steep banks surrounding outfall**





Access: Moderate



Additional Slides: Bull Run



Additional Slides: Bull Run



Additional Slides: Pr. Wm. Pkwy



Additional Slides: Pr. Wm. Pkwy



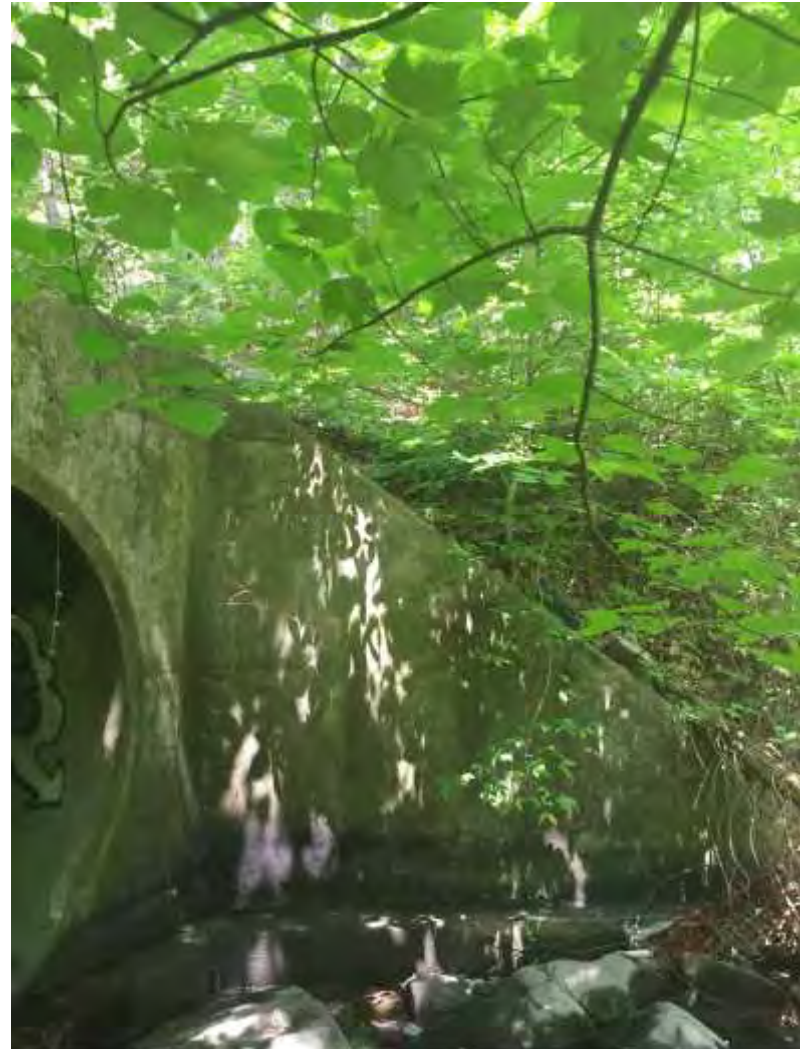
Additional Slides: Pr. Wm. Pkwy



Additional Slides: Potomac Mills



Additional Slides: Potomac Mills



Additional Slides: Potomac Mills



Additional Slides: Dale City



Additional Slides: Dale City



Additional Slides: Dale City



Additional Slides: Dale City



Appendix 15: Biological Monitoring Procedures



Sampling Plan Benthic Macroinvertebrate Population and Water Quality Monitoring

Prepared for:



Prince William County Department of Public Works
Virginia

Prepared by:

Amec Foster Wheeler Environment & Infrastructure, Inc.
1075 Big Shanty Road NW, Suite 100
Kennesaw, Georgia 30144
(770) 421-3400

December 29, 2015

Project No. 151270003.0001

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APPENDICES

Appendix A	Sampling Stations
Appendix B	Field Forms
Appendix C	Laboratory Forms

LIST OF ACRONYMS

Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc.
BI	Biotic Index
cm	Centimeter
COC	Chain of Custody
CWA	Clean Water Act
CFR	Code of Federal Regulations
DO	Dissolved Oxygen
<i>E. coli</i>	<i>Escherichia coli</i>
EPT	Ephemeroptera/Plecoptera/Tricoptera
GPS	Global Positioning System
m	Meter
µm	Micrometer
MS4	Municipal Separate Storm Sewer System
PMA	Percent Model Affinity
RBP	USEPA Rapid Bioassessment Protocol
TKN	Total Kjeldahl Nitrogen
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
VDEQ	Virginia Department of Environmental Quality
VDGIF	Virginia Department of Game and Inland Fisheries
VSCI	Virginia Stream Condition Index
VSMP	Virginia Stormwater Management Program

1.0 INTRODUCTION

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) has prepared this sampling plan for compliance with the requirements of the Virginia Stormwater Management Program (VSMP) Permit, Municipal Separate Storm Sewer System (MS4) Permit Number VA0088595, issued by the Virginia Department of Environmental Quality (VDEQ) to Prince William County, Virginia. Section I.C.1 of the permit requires the continued implementation of a biological stream monitoring program that includes an assessment of the habitat and benthic macroinvertebrate community of select Prince William County streams. This sampling plan provides detailed descriptions of the sampling and analytical activities, as well as a technical approach and methods to scientifically evaluate natural conditions in Prince William County streams.

1.1 BACKGROUND

The United States Environmental Protection Agency (USEPA) delegated the authority to implement Section 402 of the Clean Water Act (CWA) to the Commonwealth of Virginia on March 31, 1975. Subsequently, Section 62.1-44.15:25 of the Virginia Stormwater Management Act authorizes VDEQ to issue, deny, amend, revoke, terminate, and enforce permits for the control of stormwater discharges from MS4s. The VSMP Permit Number VA0088595 authorizes point source discharges of stormwater runoff and certain non-stormwater discharges from the MS4 operated or owned by Prince William County. Part I.C of the VSMP permit outlines the monitoring requirements guided by Section 9VAC25-870-380 C.2.c.(4) of the VSMP regulations.

1.2 PURPOSE AND OBJECTIVES

The purpose of this sampling plan is to outline a plan of study that will be used to comply with the biological stream (Part I.C.1) and in-stream monitoring (Part I.C.2) requirements outlined in Prince William County's permit. The specific objectives are to gather sufficient data to evaluate, and subsequently demonstrate, upstream best management practices effectiveness.

2.0 SITE BACKGROUND AND SETTING

A MS4 is a system of conveyances which may include roads with drainage systems, municipal streets, catch basins, ditches, gutters, curbs, man-made channels, or storm drains. It is designed to collect or convey stormwater. The Prince William County MS4 is composed of numerous sites throughout Prince William County and contains over 11,000 miles of stormwater conveyance structures. The Prince William County MS4 discharges stormwater into 24 6th order hydrologic units within 9 major watersheds of the Potomac River Basin.

Prince William County is 338 square miles in area and is bordered by the Potomac River to the east, Fairfax and Loudoun Counties to the north, Fauquier and Stafford Counties to the south, and Fauquier County to the west. The majority of Prince William County is located in the Piedmont Province with the remainder in the Atlantic Coastal Plain province. The Piedmont Province is an eastward sloping plateau characterized by moderate to very steep slopes. The Atlantic Coastal Plain province has primarily flat terrain with elevations ranging from sea level to about 300 feet. The Fall Line is a transitional area where the softer, less consolidated rocks of the Coastal Plain to the east intersect with harder and more resistant metamorphic rocks of the Piedmont to the west, forming an area of ridges, waterfalls and rapids. Land use surrounding the proposed sampling locations includes residential, undeveloped, commercial and recreational areas.

3.0 SAMPLING, ANALYSIS, AND REPORTING

This section describes the activities for the biological stream monitoring and in-stream monitoring required by Part I.C.1 and I.C.2 of VSMP MS4 Permit VA0088595.

3.1 SAMPLING LOCATIONS

Benthic macroinvertebrate and surface water samples will be collected from five locations in Prince William County (Appendix A).

- Little Bull Run, Catharpin Road, Gainesville, Virginia;
- Dawkins Branch, Wellington Road, Manassas, Virginia;
- Purcell Branch, Purcell Road, Manassas, Virginia;
- Neabsco Creek, Delaney Road, Dale City, Virginia;
- Cow Branch, Mellott Road, Woodbridge, Virginia.

Benthic macroinvertebrate sampling reaches will be 100 meters (m) long, ideally located 100 m upstream from road or bridge crossings, and have no major tributaries discharging to the reach. Sample locations will be verified using a handheld global positioning system (GPS) unit. The limits will be marked in the field using survey stakes, pins, or an appropriate alternative for subsequent sampling events. Sample stations and their limits will be re-verified each sampling event using a handheld GPS and will be re-marked, if necessary.

3.2 SAMPLING AND FIELD DATA COLLECTION ACTIVITIES

Sampling and field data collection activities will include physical and chemical data collection, habitat assessment and benthic macroinvertebrate sampling. Sampling will be conducted following the requirements of VSMP MS4 Permit VA0088595 and procedures outlined in the USEPA Rapid Bioassessment Protocol (RBP) (Barbour et al. 1999).

3.2.1 Physical and Chemical Data Collection

Physical and chemical data collection includes collection of in-situ water quality readings, collection of surface water samples, and documentation of stream characteristics. The equipment needed for collection of these data includes a YSI Model 556 water quality meter (or equivalent), Lamotte 2020 turbidity meter (or equivalent), sample collection bottles, gloves, RBP Physical Characterization and Water Quality Field Data Sheets (Appendix B), a camera, a 100-m tape measure, and a flow meter (such as the Marsh-McBirney Flo-Mate). Field activities, measurements and observations will be recorded in indelible ink in a bound field logbook.

3.2.1.1 Water Quality

Water quality readings and surface water samples will be collected prior to disturbance of the sample reach. In-stream monitoring is required to be conducted at 5 stream sites for the following parameters per VSMP MS4 Permit VA0088595:

- pH,
- dissolved oxygen (DO),
- temperature,
- total suspended solids (TSS),
- ammonia as nitrogen,
- nitrate plus nitrite nitrogen,
- total Kjeldahl nitrogen (TKN),
- total nitrogen (calculation),
- dissolved phosphorus,
- total phosphorus, and
- *Escherichia (E.) coli*.

The RBP Physical Characterization and Water Quality Field Data Sheet (Appendix B) requires the measurement of pH, DO, and temperature as well as the following parameters in addition to those required by VSMP MS4 Permit VA0088595:

- conductivity or specific conductance, and
- turbidity.

In-situ water quality data will be collected using a multiprobe water quality meter (YSI Model 556 or equivalent) and a handheld turbidity meter (Lamotte 2020 or equivalent). The multiprobe will be calibrated daily using standard solutions. A calibration form is included in Appendix B.

Multiprobe readings are taken mid-channel and the unit should be allowed to stabilize before recording readings.

Grab surface water samples to be collected for laboratory analysis of TSS, ammonia, nitrate/nitrite, total Kjeldahl nitrogen (TKN), dissolved phosphorus, total phosphorus, and *E. coli* should be collected at mid-channel at the zero mark of the reach in an area with cross-sectional homogeneity, and well mixed water. The samples will be placed in coolers on ice and shipped overnight under chain-of-custody (COC) procedures to a qualified laboratory licensed in the Commonwealth of Virginia. Custody seals will be employed to check for tampering during shipment. Samples will be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial

Environmental Laboratories. Methods used for sample analysis will be those approved by Title 40 Code of Federal (CFR) Regulations Part 136 or alternative methods approved by USEPA.

3.2.1.2 Stream Characteristics

Upstream and downstream photographs will be taken at each sampling location to document conditions at the time of sampling. Physical characteristics of the streams will be recorded on the Physical Characterization and Water Quality Field Data Sheet of the RBP (Appendix B). This field sheet includes a description of the sample location, weather conditions, stream characterization, watershed features (surrounding land use, non-point source pollution, erosion), riparian vegetation, instream features (high water mark, width, depth, morphology, velocity, canopy cover, channelization, and dams), large woody debris, aquatic vegetation, water quality, and substrate (odors, oils, deposits, components). The high water mark to be recorded on the form is defined as the vertical distance from the bankfull margin of the stream bank to the peak overflow level, as indicated by debris hanging in riparian or floodplain vegetation and deposition of silt or soil.

An estimate of large woody debris in contact with the stream water is recorded on the Physical Characterization and Water Quality Field Data Sheet (Appendix B). Each woody debris formation with a surface area in the plane of the water surface that is greater than 0.25 square m is recorded on the stream reach drawing with the size of the woody debris estimated to the nearest 0.5 m. Only the portion in contact with the water is measured. Woody debris with a length or width less than 0.5 m is not counted. Root wads and logs/limbs in the water margin that are in contact with the water are arbitrarily given a width of 0.5 m. The length and width of each formation are multiplied and the resulting products are summed to give the aquatic habitat area influenced. This area is divided by the water surface area within the reach to obtain the large woody debris density.

3.2.2 Habitat Assessment

Habitat characteristics will be assessed using the Habitat Assessment Field Data Sheet (Appendix B), as specified in the RBP. The habitat assessment is performed along the 100-m reach from which the biological sampling is to be conducted. Care will be taken not to disturb the benthic macroinvertebrate sampling habitat during the habitat assessment.

The Habitat Assessment Field Data Sheet (Appendix B) of the RBP will be completed at each location. There are high gradient stream and low gradient stream versions of this form. The high gradient form is used for streams located in moderate to high gradient landscapes with coarse substrates. The low gradient form is used for streams that are located in low to moderate

gradient landscapes and have fine substrates. The appropriate data form for each sampling location will be determined during the site reconnaissance.

The habitat assessment incorporates features of the entire sampling reach. The form rates ten parameters as optimal, suboptimal, marginal, or poor. The parameters to be rated include epifaunal substrate, embeddedness or pool substrate characterization, velocity/depth regime or pool variability, sediment deposition, channel flow status, channel alteration, riffle frequency or channel sinuosity, bank stability, bank vegetative protection, and riparian zone. The Habitat Assessment Field Data Sheet should be completed by a team of 2 or more qualified personnel that come to a consensus on determination of quality.

3.2.3 Benthic Macroinvertebrate Sample Collection

Biological stream monitoring will be conducted twice per year, spring and fall, at 5 locations (Appendix B). The collection of wildlife for scientific and/or educational purposes in Virginia requires a scientific collection permit. Permit applications are available from the Virginia Department of Game and Inland Fisheries (VDGIF) and should be submitted at least 1 month prior to benthic macroinvertebrate sample collection. The permit requires annual renewal and submittal of annual catch report. VDGIF requests to be notified seven days in advance of each sampling event.

The multiple habitat sampling method will be used to characterize the benthic macroinvertebrate community, as outlined in USEPA RBP Section 7.2. This method is used to collect benthic macroinvertebrates from various substrate types and micro-habitats available within a 100-m sampling reach. Sampling begins at the downstream end of the reach and proceeds upstream. Habitats will be sampled by using a 0.3-m wide, 500-micrometer (μm) mesh, D-frame dip net. A total of 20 jabs or kicks are taken from all major habitat types in the reach. A jab consists of forcefully thrusting the net into a productive habitat for a linear distance of 0.5 m. A kick is accomplished by positioning the net and disturbing the substrate for a distance of 0.5 m upstream of the net.

Different types of habitat are to be sampled in approximate proportion to their representation of surface area of total macroinvertebrate habitat in the reach. The habitats sampled typically consist of loose cobble, fallen logs and tree limbs (snags), vegetated banks or undercut banks with exposed plant root material, sand and silt bottom materials, and submerged macrophytes. Other habitats that may be sampled include bedrock, large rocks, boards and litter; and detrital pockets of twigs and leaves. The RBP Benthic Macroinvertebrate Field Data Sheet (Appendix B) will be completed for each sample. This form includes a summary of the percent of each

habitat type present, the number of jabs or kicks taken in each habitat type, and field observations of aquatic biota.

The jab or kick method varies with habitat type. Shallow areas with coarse substrates are sampled by holding the bottom of the dip net against the substrate and kicking the substrate upstream of the net. Submerged woody debris can be sampled by kicking while placing a net downstream, jabbing directly into medium-sized woody debris or by rinsing the woody debris directly into the sieve bucket. Sample submerged undercut banks by jabbing into the habitat. Bump or jab the net along the bottom of plants in the stream to sample rooted macrophytes. Sand and soft sediment can be sampled by bumping the net along the surface of the substrate.

The 20 jabs and kicks will be composited into a 0.5- μ m mesh sieve bucket to obtain a single homogenous sample. The net will be thoroughly back-washed into the sieve bucket every few jabs to facilitate collection of benthic macroinvertebrates that are not readily visible. Large debris will be rinsed and removed from the sieve bucket. Observable benthic macroinvertebrates will be collected from the net with forceps and placed in a labeled, sample container. Small debris will be transferred from the sieve bucket to the sample container. An index card indicating the sample identification, date, stream name, sample location, and sampler name will be placed inside each sample container. The index card will be printed in pencil to prevent dissolution of the label by preservative which will be added by the analytical laboratory.

Benthic macroinvertebrate samples will be placed on ice in coolers and shipped overnight under COC procedures to an accredited benthic macroinvertebrate laboratory. Custody seals will be employed to check for tampering during shipment.

3.2.4 Field Duplicates

Duplicates are collected in the field for surface water analytical samples and benthic macroinvertebrate samples at a frequency of 1 per ten samples. Since there are five sample locations, duplicates will be collected every other sampling event at one sample location. Surface water duplicates will be collected by filling extra grab sample bottles for each analysis. The benthic macroinvertebrate duplicates will be collected from a sample location with habitat available for 2 sets of 20 jabs within the sample reach.

3.3 BENTHIC MACROINVERTEBRATE SAMPLE SORTING

The laboratory will sort, mount, identify, enumerate, evaluate, and classify benthic macroinvertebrates. In addition to sorting and identification of benthic macroinvertebrates, the laboratory staff will perform appropriate benthic macroinvertebrate index calculations and will perform and interpret statistical analyses of the benthic macroinvertebrate database. The

laboratory staff will also utilize the habitat descriptions and evaluations and the field physical/chemical water data parameters collected by field sampling personnel in the evaluation of benthic macroinvertebrates in the context of their physical/chemical habitats at the sampling location.

Samples should be logged in on a designated form or logbook such as the RBP Benthic Macroinvertebrate Sample Log-In Sheet (Appendix C). The login should contain the information from the sample label and the number of containers. A minimum of 200 ± 20 percent organisms will be sorted from each benthic macroinvertebrate sample, using the Caton subsampler (Caton 1991). This subsampler consists of square metal frame with a gridded mesh bottom (screen), a plastic tray that accommodates the frame, a square metal “cookie cutter” (cutter), and a metal scoop. The sample will be emptied onto the 500- μ m mesh screen and washed to remove fixative and excess detritus. The sample and screen will then be placed into the tray and enough water added to cover the sample contents. The contents will be evenly distributed over the screen, which will then be lifted from the tray of water so the sample contents will settle onto the screen, which is divided into 6 centimeter (cm) by 6 cm portions (grids). After randomly-selecting four grids and locating them using an alphanumeric designation and crosspieces on the top of the screen, the contents of each grid will be removed using a scoop and a brush. A minimum of four grids will be used to obtain the specified number. If the four grids do not contain 200 ± 20 percent organisms, enough grids will be examined to acquire this number. If the four grids contain too many organisms, they will be emptied into a smaller subsampler of similar design, and four grids randomly chosen for sorting.

The contents from each grid will be transferred to a container, and enough water will be added to keep the organisms moist during the sorting process. The selected subsample will then be taken to the sorting station. Small aliquots of sample will be put into a gridded Petri dish, and the organisms removed, counted and placed into patent lip vials containing 70 percent ethanol by major group (e.g., Trichoptera, Ephemeroptera, Bivalvia, etc.). Vials will be labeled with site, date, major group, number of individuals, and size of subsample. The RBP Benthic Macroinvertebrate Laboratory Bench Sheet (Appendix C) should be completed. The sorted and unsorted portions of the sample will be preserved separately using the original fixative.

Organisms will be identified to the generic/specific level, except for groups such as nematodes, and damaged or very small individuals. Organisms, except oligochaetes and chironomid larvae, will be identified using a stereomicroscope. Oligochaetes and chironomid larvae will be mounted on microscope slides using CMC mounting medium prior to identification using a compound microscope.

3.3.1 Quality Assurance/Quality Control Procedures

Subsequent to benthic macroinvertebrate sample sorting, the residue from a minimum of 10 percent of the samples will be rechecked to document that 95 percent of the total number of organisms has been removed. If there is an error of greater than 5 percent, then all of the samples completed by that particular sorter will be re-examined. The results from these checks will be recorded on the laboratory bench sheets (Appendix C) and will be presented with the other data in the report.

A voucher collection for Prince William County dataset, consisting of one to three specimens for each taxon will be prepared in accordance with the RBP. These slides will be labeled, kept separate from the remaining identifications, and noted on the laboratory bench sheets. A taxonomist not responsible from the original identifications should spot check samples according to the identifications on the bench sheet.

Data will be entered into a standardized Excel spreadsheet and double-checked for accuracy.

3.3.2 Benthic Macroinvertebrate Sample Results Evaluation

Metrics are biological attributes that represent elements of the structure and function of the bottom-dwelling macroinvertebrate assemblage. Metrics are specific measures of diversity, composition, and tolerance to pollution, and when combined into a multimetric index can integrate biological community characteristics and measure the overall response of the community to environmental stressors. Biological metrics include:

- **Taxa Richness** – The number of taxa reflects the health of the community through a measurement of the variety of taxa present. This measure generally increases with increasing water quality, habitat diversity, and/or habitat suitability.
- **Abundance** – The number of individual organisms found at each location. This measure can indicate whether an area is supporting a large, and when coupled with taxa richness, diverse community.
- **EPT Index (Ephemeroptera/Plecoptera/Trichoptera [mayflies/stoneflies/caddisflies])** – The EPT Index is the total number of distinct taxa within these three orders. This value summarizes taxa richness within the insect orders that are generally considered to be the most sensitive to pollution.
- **EPT/EPT + Chironomidae (midgeflies) Ratio** – A measure of abundance ratio of these two groupings indicates the balance of the benthic community diversity.

- **Percent Dominant Taxon** – This measure is the percentage occurrence of the most dominant taxon for each location. This measure is based on the assumption that dominance by a single taxon reflects an impaired community.
- **Percent Chironomidae** -- This measure is the ratio of the abundance of Chironomidae to the total number of organisms found in a replicate. The response of this measure is to increase with increased perturbation.
- **Biotic Index (BI)** – The BI assigns tolerance values to individual taxa ranging from 0 to 10, with 0 being intolerant of pollution and 10 being very tolerant of pollution. The tolerance values assigned to the various taxa are taken from a variety of sources that best reflect the area sampled, such as Bode et al. (2002), Klemm et al. (1990), Hilsenhoff (1987), North Carolina Department of Environment, Health, and Natural Resources (2003), and the Tennessee Department of Environment and Conservation (2011). The formula for calculating the BI is:

$$BI = \sum [(tv)_i n_i / N]$$

where:

- (tv)_i = the tolerance value of the ith taxon,
- n_i = the abundance of the ith taxon, and
- N = the total number of individuals in the sample.

- **Percent Model Affinity (PMA)** – The PMA expresses the sample as the percentage composition of seven major organism groups (Chironomidae, Trichoptera, Ephemeroptera, Plecoptera, Coleoptera [beetles], Oligochaeta [aquatic segmented worms], and others) and compares it to an ideal community composition derived from data from unpolluted streams (Bode et al., 2002). The degree of affinity of the sample percentage composition with that of the ideal is used to make a judgment about the water quality of the stream being studied.

Additional biological metrics will be used, if appropriate, such as:

- percentage oligochaetes + chironomids,
- percentage scrapers/scrapers + filterers,
- percentage clingers
- percentage EPT,
- percentage Oligochaeta,
- percentage Hydropsychidae/Trichoptera, and
- number of taxa in each tolerance category.

VDEQ has developed the Virginia Stream Condition Index (VSCI) (TetraTech 2003) that predicts the health of Virginia's non-coastal streams. The VSCI uses biological, physical, and chemical conditions from a least disturbed reference site within the region and has been statistically calibrated by VDEQ data. Eight VSCI metrics are combined in a multimetric approach to identify biological impairment as discussed in the VDEQ 2008 Quality Assurance Project Plan (VDEQ 2008). The eight biological measures used in the VSCI are: total taxa, EPT taxa, percent Ephemeroptera, percent Plecoptera-Trichoptera less Hydropsychidae, percent scrapers, percent Chironomidae, percent top 2 dominant taxa, and biotic index. Prince William County benthic macroinvertebrate samples will be evaluated using the VSCI.

3.3 REPORTING

An annual summary report will be prepared following each year of sampling. This report will summarize the macroinvertebrate and in-stream monitoring results and analyses, and include an interpretation of the data with respect to long-term patterns and trends. Initial or first year results from sampling and analysis will serve as a benchmark at each station for subsequent sampling events, and for comparative analysis performed on a station-by-station basis. Report appendices will include data and documentation from that year of sampling events.

4.0 REFERENCES

- Barbour, M. T., J. Gerritsen, B. D. Snyder, and J. B. Stribling. 1999. Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish. 2nd ed. EPA 841-B-99-002. U.S. Environmental Protection Agency, Office of Water, Washington, DC.
- Bode, R. W., M. A. Novak, L. E. Abele, D. L. Heitzman, and A. J. Smith. 2002. Quality Assurance Work Plan for Biological Stream Monitoring in New York State. NYS Dept. Environ. Conserv., Division of Water Albany. 115 pp.
- Caton, L. W. 1991. Improved Subsampling Methods for the EPA "Rapid Bioassessment" Benthic Protocols. Bull. N. Amer. Benthological Soc. 8: 317-319.
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- Klemm, D. J., P. A. Lewis, F. Fulk, and J. M. Lazorchak, 1990. Macroinvertebrate Field and Laboratory Methods for Evaluating the Biological Integrity of Surface Waters. EPA/600/4-90/030. U.S. Environmental Protection Agency, Cincinnati. 256 pp.
- North Carolina Department of Environment, Health, and Natural Resources. 2003. Standard Operating Procedures for Benthic Invertebrates. NCDENR Biological Assessment Unit.
- Tennessee Department of Environment and Conservation. 2011. Division of Water Pollution Control. Quality System Standard Operating Procedure for Macroinvertebrate Stream Surveys.
- TetraTech, 2003. A Stream Condition Index for Virginia Non-Coastal Streams. Owings Mill, MD. September 2003.
- Virginia Department of Environmental Quality, 2008. Biological Monitoring Program Quality Assurance Project Plan for Wadeable Streams and Rivers. Division of Water Quality, Office of Water Quality Monitoring and Assessment Programs, VA. August 2008.

**APPENDIX A
SAMPLING STATIONS**



Little Bull Run - Catharpin Road



1 in = 200 ft

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Little Bull Run - Catharpin Road



1 in = 400 ft

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

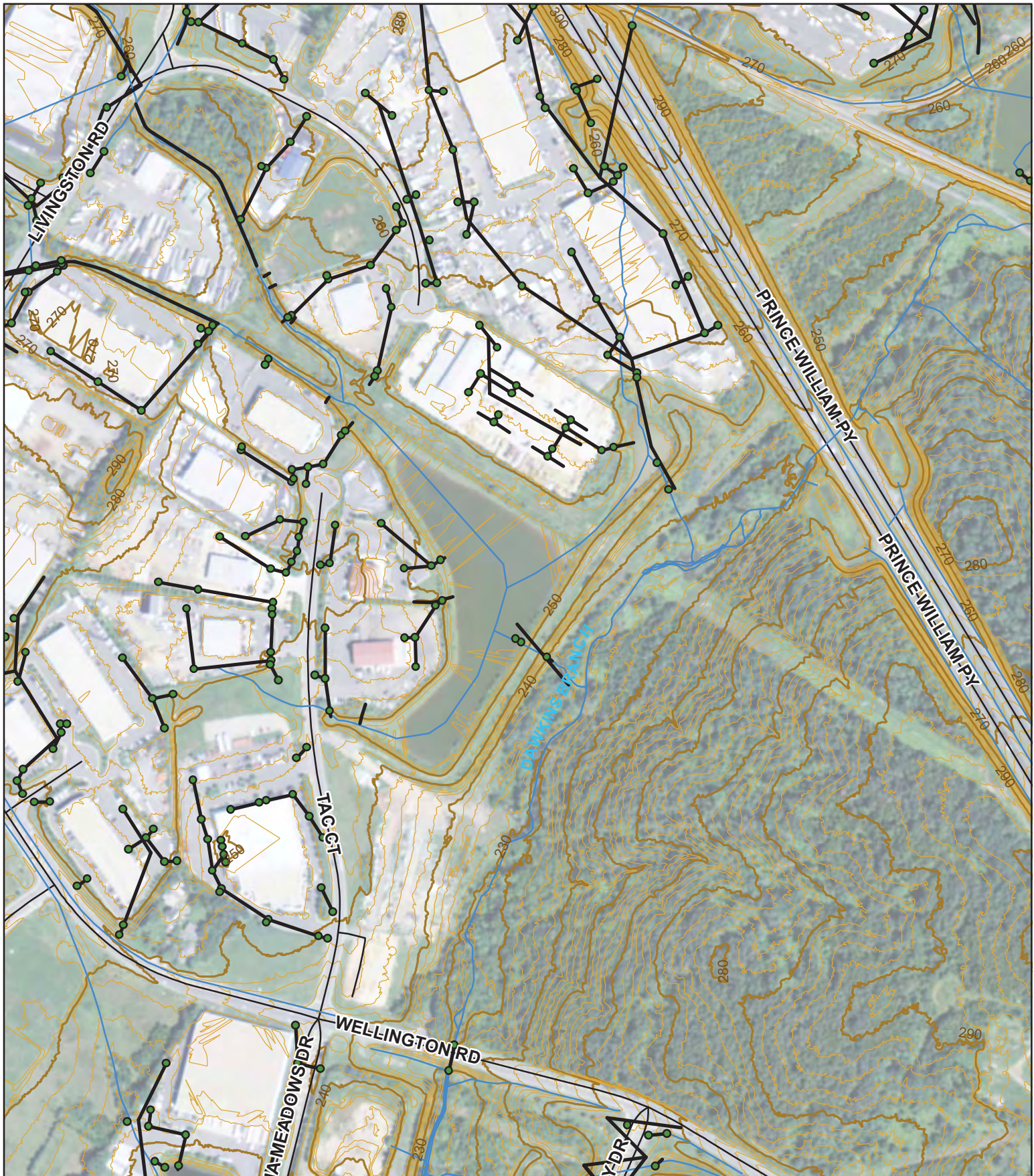


Dawkins Branch - Wellington Road



1 in = 200 ft

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Dawkins Branch - Wellington Road



1 in = 400 ft

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA/USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Purcell Branch - Purcell Road



1 in = 200 ft

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

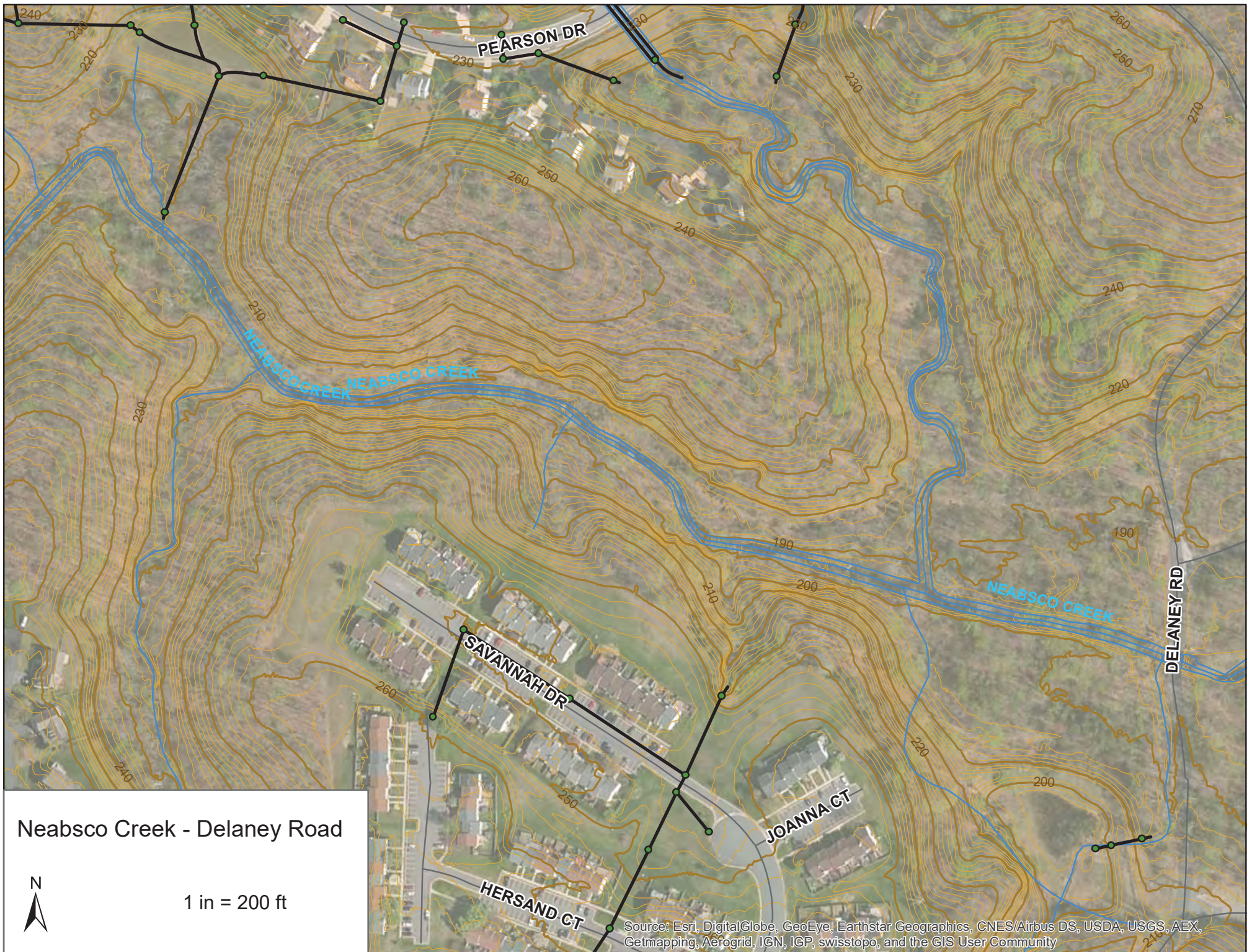


Purcell Branch - Purcell Road



1 in = 400 ft

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Neabsco Creek - Delaney Road



1 in = 200 ft

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Neabsco Creek - Delaney Road



1 in = 400 ft

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Cow Branch - Mellott Road



1 in = 200 ft

Source: Esri, DigitalGlobe, GeoEye, Earthstar, Geographic, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Cow Branch - Mellott Road



1 in = 400 ft

Source: Esri, DigitalGlobe, GeoEye, Earthstar/Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**APPENDIX B
FIELD FORMS**

**PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET
(FRONT)**

STREAM NAME		LOCATION	
STATION # _____	RIVERMILE _____	STREAM CLASS	
LAT _____	LONG _____	RIVER BASIN	
STORET #		AGENCY	
INVESTIGATORS			
FORM COMPLETED BY		DATE _____ TIME _____ AM PM	REASON FOR SURVEY

WEATHER CONDITIONS	Now <input type="checkbox"/> storm (heavy rain) <input type="checkbox"/> rain (steady rain) <input type="checkbox"/> showers (intermittent) ____% <input type="checkbox"/> %cloud cover <input type="checkbox"/> clear/sunny	Past 24 hours <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> % <input type="checkbox"/>	Has there been a heavy rain in the last 7 days? <input type="checkbox"/> Yes <input type="checkbox"/> No Air Temperature _____ °C Other _____
	Draw a map of the site and indicate the areas sampled (or attach a photograph)		
STREAM CHARACTERIZATION	Stream Subsystem <input type="checkbox"/> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Tidal	Stream Type <input type="checkbox"/> Coldwater <input type="checkbox"/> Warmwater	Catchment Area _____ km ²
	Stream Origin <input type="checkbox"/> Glacial <input type="checkbox"/> Spring-fed <input type="checkbox"/> Non-glacial montane <input type="checkbox"/> Mixture of origins <input type="checkbox"/> Swamp and bog <input type="checkbox"/> Other _____		

**PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET
(BACK)**

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Other _____ <input type="checkbox"/> Residential	Local Watershed NPS Pollution <input type="checkbox"/> No evidence <input type="checkbox"/> Some potential sources <input type="checkbox"/> Obvious sources Local Watershed Erosion <input type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy
RIPARIAN VEGETATION (18 meter buffer)	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous dominant species present _____	
INSTREAM FEATURES	Estimated Reach Length _____ m Estimated Stream Width _____ m Sampling Reach Area _____ m ² Area in km ² (m ² x1000) _____ km ² Estimated Stream Depth _____ m Surface Velocity _____ m/sec (at thalweg)	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded High Water Mark _____ m Proportion of Reach Represented by Stream Morphology Types <input type="checkbox"/> Riffle _____% <input type="checkbox"/> Run _____% <input type="checkbox"/> Pool _____% Channelized <input type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input type="checkbox"/> No
LARGE WOODY DEBRIS	LWD _____ m ² Density of LWD _____ m ² /km ² (LWD/ reach area)	
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating Algae <input type="checkbox"/> Attached Algae dominant species present _____ Portion of the reach with aquatic vegetation _____%	
WATER QUALITY	Temperature _____ °C Specific Conductance _____ Dissolved Oxygen _____ pH _____ Turbidity _____ WQ Instrument Used _____	Water Odors <input type="checkbox"/> Normal/None <input type="checkbox"/> Sewage <input type="checkbox"/> Petroleum <input type="checkbox"/> Chemical <input type="checkbox"/> Fishy <input type="checkbox"/> Other _____ Water Surface Oils <input type="checkbox"/> Slick <input type="checkbox"/> Sheen <input type="checkbox"/> Globs <input type="checkbox"/> Flecks <input type="checkbox"/> None <input type="checkbox"/> Other _____ Turbidity (if not measured) <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
SEDIMENT/SUBSTRATE	Odors <input type="checkbox"/> Normal <input type="checkbox"/> Sewage <input type="checkbox"/> Petroleum <input type="checkbox"/> Chemical <input type="checkbox"/> Anaerobic <input type="checkbox"/> None <input type="checkbox"/> Other _____ Oils <input type="checkbox"/> Absent <input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Profuse	Deposits <input type="checkbox"/> Sludge <input type="checkbox"/> Sawdust <input type="checkbox"/> Paper fiber <input type="checkbox"/> Sand <input type="checkbox"/> Relict shells <input type="checkbox"/> Other _____ Looking at stones which are not deeply embedded, are the undersides black in color? <input type="checkbox"/> Yes <input type="checkbox"/> No

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (FRONT)

STREAM NAME _____		LOCATION _____	
STATION # _____ RIVERMILE _____		STREAM CLASS _____	
LAT _____ LONG _____		RIVER BASIN _____	
STORET # _____		AGENCY _____	
INVESTIGATORS _____			
FORM COMPLETED BY _____		DATE _____ TIME _____ AM PM	REASON FOR SURVEY _____

	Habitat Parameter	Condition Category			
		Optimal	Suboptimal	Marginal	Poor
Parameters to be evaluated in sampling reach	1. Epifaunal Substrate/ Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are <u>not</u> new fall and <u>not</u> transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	2. Embeddedness	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	3. Velocity/Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/ depth regime (usually slow-deep).
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.	
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0	
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.	
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0	

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (BACK)

	Habitat Parameter	Condition Category																											
		Optimal				Suboptimal				Marginal				Poor															
Parameters to be evaluated broader than sampling reach	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.				Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.				Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.				Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.															
	SCORE																	20	19	18	17	16	15	14	13	12	11	10	9
	7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.				Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.				Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.				Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.															
	SCORE																	20	19	18	17	16	15	14	13	12	11	10	9
	8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.				Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.				Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.				Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.															
	Note: determine left or right side by facing downstream.																												
	SCORE ___ (LB)																	Left Bank	10	9	8	7	6	5	4	3	2	1	0
SCORE ___ (RB)	Right Bank	10	9	8	7	6	5	4	3	2	1	0																	
	9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.				70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.				50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.				Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.															
	SCORE ___ (LB)																	Left Bank	10	9	8	7	6	5	4	3	2	1	0
	SCORE ___ (RB)																	Right Bank	10	9	8	7	6	5	4	3	2	1	0
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.				Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.				Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.				Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.															
	SCORE ___ (LB)																	Left Bank	10	9	8	7	6	5	4	3	2	1	0
	SCORE ___ (RB)																	Right Bank	10	9	8	7	6	5	4	3	2	1	0

Total Score _____

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME _____	LOCATION _____	
STATION # _____ RIVERMILE _____	STREAM CLASS _____	
LAT _____ LONG _____	RIVER BASIN _____	
STORET # _____	AGENCY _____	
INVESTIGATORS _____		
FORM COMPLETED BY _____	DATE _____ TIME _____ AM PM	REASON FOR SURVEY _____

	Habitat Parameter	Condition Category			
		Optimal	Suboptimal	Marginal	Poor
Parameters to be evaluated in sampling reach	1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are <u>not</u> new fall and <u>not</u> transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.	
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0	
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.	
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0	

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitat Parameter	Condition Category																			
		Optimal				Suboptimal				Marginal				Poor							
Parameters to be evaluated broader than sampling reach	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.				Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.				Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.				Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.							
	SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)				The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.				The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.				Channel straight; waterway has been channelized for a long distance.							
	SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
	8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.				Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.				Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.				Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.							
	SCORE __ (LB)	Left Bank		10	9	8	7	6	5	4	3	2	1	0							
	SCORE __ (RB)	Right Bank		10	9	8	7	6	5	4	3	2	1	0							
	9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.				70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.				50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.				Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.							
	SCORE __ (LB)	Left Bank		10	9	8	7	6	5	4	3	2	1	0							
	SCORE __ (RB)	Right Bank		10	9	8	7	6	5	4	3	2	1	0							
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.				Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.				Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.				Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.							
	SCORE __ (LB)	Left Bank		10	9	8	7	6	5	4	3	2	1	0							
	SCORE __ (RB)	Right Bank		10	9	8	7	6	5	4	3	2	1	0							

Total Score _____

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME _____		LOCATION _____	
STATION # _____	RIVERMILE _____	STREAM CLASS _____	
LAT _____	LONG _____	RIVER BASIN _____	
STORET # _____		AGENCY _____	
INVESTIGATORS _____		LOT NUMBER _____	
FORM COMPLETED BY _____		DATE _____ TIME _____ AM PM	REASON FOR SURVEY _____

HABITAT TYPES	Indicate the percentage of each habitat type present <input type="checkbox"/> Cobble _____% <input type="checkbox"/> Snags _____% <input type="checkbox"/> Vegetated Banks _____% <input type="checkbox"/> Sand _____% <input type="checkbox"/> Submerged Macrophytes _____% <input type="checkbox"/> Other (_____) _____%
SAMPLE COLLECTION	Gear used <input type="checkbox"/> D-frame <input type="checkbox"/> kick-net <input type="checkbox"/> Other _____ How were the samples collected? <input type="checkbox"/> wading <input type="checkbox"/> from bank <input type="checkbox"/> from boat Indicate the number of jabs/kicks taken in each habitat type. <input type="checkbox"/> Cobble _____ <input type="checkbox"/> Snags _____ <input type="checkbox"/> Vegetated Banks _____ <input type="checkbox"/> Sand _____ <input type="checkbox"/> Submerged Macrophytes _____ <input type="checkbox"/> Other (_____) _____
GENERAL COMMENTS	

QUALITATIVE LISTING OF AQUATIC BIOTA

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3 = Abundant, 4 = Dominant

Periphyton	0	1	2	3	4	Slimes	0	1	2	3	4
Filamentous Algae	0	1	2	3	4	Macroinvertebrates	0	1	2	3	4
Macrophytes	0	1	2	3	4	Fish	0	1	2	3	4

FIELD OBSERVATIONS OF MACROBENTHOS

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3 = Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	1	2	3	4	Chironomidae	0	1	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	1	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	3	4	Other	0	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
Oligochaeta	0	1	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

YSI Calibration Form

Project: _____
 Date: _____
 Pre-Calibration Time (24-hr Clock): _____
 Post-Calibration Time (24-hr Clock): _____

Pine Sonde ID No.: _____
 Pine Handset ID No.: _____
 Battery Voltage (%): _____

Prior to Operation - Check the Following Items:

- Ensure Equipment is Operable Prior to Mobilization - Checked By _____
- Attach Carabiner to Sonde
- Attach Safety Line (Non-Wadeable Conditions) NA (Wadeable Conditions)
- Check Batteries/Back-Up Batteries



User Tips:

Keep the handset and sonde in the shade when not in use (i.e., cooler, bucket, bin).
 Keep the sensors damp between readings, check the sponge to ensure adequate moisture.
 Do not keep the slotted cover on the sonde between readings or sites, or during mobilization.
 If the calibration is "outside of range", call Pine Environmental at (770) 925-2855 or (800) 842-1088 for assistance, or for instructions to reset the default calibration settings.

Pre- Post-
 Calibration Calibration

DISSOLVED OXYGEN (DO)			
Was DO membrane changed? Yes, Time/Date: _____ <input type="checkbox"/> No <input type="checkbox"/> NA (optical sensor)			
Current Air Temperature °C (meter reading):			
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):	<input type="checkbox"/> NA (YSI includes barometer)		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration (or YSI barometer reading if available):	Ex.: 30.02 in. Hg x 25.4 = mm Hg; subtract 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg Elevation: Calvert, AL is 50 ft, and Athens, GA site is 700 ft.		
DO concentration before Calibration (mg/L):			
DO concentration after Calibration (mg/L):			
CONDUCTIVITY [Note: Calibrate before pH]			
Temperature (°C)			
Reading before Calibration (mS/cm ²)			
Reading AFTER Calibration (mS/cm ²)			
pH			
pH 7.0 value before calibration:			
pH 7.0 value after calibration:			
pH 7.0 mV (range is -50 to +50 mV):			
pH 10.0 value before calibration:			
pH 10.0 value after calibration:			
pH 10.0 mV (range is -130 to -230 mV):			
pH 4.0 value before calibration:			
pH 4.0 value after calibration:			
pH 4.0 mV (range is 130 to 230 mV):			
OXIDATION/REDUCTION POTENTIAL (ORP)			
Calibration Temperature (°C):			
Reading before calibration (mV):			
Reading after calibration (mV):			
TURBIDITY			
0 NTU Turbidity Standard	<input type="checkbox"/> NA (No Standard)	Before Cal:	After Cal:
1 NTU Turbidity Standard	<input type="checkbox"/> NA (No Standard)	Before Cal:	After Cal:
10 NTU Turbidity Standard	<input type="checkbox"/> NA (No Standard)	Before Cal:	After Cal:
126 NTU Turbidity Standard	<input type="checkbox"/> NA (No Standard)	Before Cal:	After Cal:

Pre-Calibrated By: _____

Post-Calibrated By: _____

Checked by: _____

**APPENDIX C
LABORATORY FORMS**

BENTHIC MACROINVERTEBRATE SAMPLE LOG-IN SHEET

Date Collected	Collected By	Number of Containers	Preservation	Station #	Stream Name and Location	Date Received by Lab	Lot Number	Date of Completion		
								sorting	mounting	identification

Serial Code Example: B0754001(1)
 B = Benthos (F = Fish; P = Periphyton) ■ 0754 = project number ■ 001 = sample number ■ (1) = lot number (e.g., winter 1996 = 1; summer 1996 = 2)

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BENTHIC MACROINVERTEBRATE LABORATORY BENCH SHEET (FRONT)

page _____ of _____

STREAM NAME _____	LOCATION _____
STATION # _____ RIVERMILE _____	STREAM CLASS _____
LAT _____ LONG _____	RIVER BASIN _____
STORET # _____	AGENCY _____
COLLECTED BY _____ DATE _____	LOT # _____
TAXONOMIST _____ DATE _____	SUBSAMPLE TARGET <input type="checkbox"/> 100 <input type="checkbox"/> 200 <input type="checkbox"/> 300 <input type="checkbox"/> Other _____

Enter Family and/or Genus and Species name on blank line.

Organisms	No.	LS	TI	TCR	Organisms	No.	LS	TI	TCR
Oligochaeta					Megaloptera				
Hirudinea					Coleoptera				
Isopoda									
Amphipoda					Diptera				
Decapoda									
Ephemeroptera					Gastropoda				
					Pelecypoda				
Plecoptera									
					Other				
Trichoptera									
Hemiptera									

Taxonomic certainty rating (TCR) 1-5: 1=most certain, 5=least certain. If rating is 3-5, give reason (e.g., missing gills). LS= life stage: I = immature; P = pupa; A = adult TI = Taxonomists initials

Total No. Organisms _____

Total No. Taxa _____

BENTHIC MACROINVERTEBRATE LABORATORY BENCH SHEET (BACK)

<p>SUBSAMPLING/SORTING INFORMATION</p> <p>Sorter _____</p> <p>Date _____</p>	<p>Number of grids picked: _____</p> <p>Time expenditure _____ No. of organisms _____</p> <p>Indicate the presence of large or obviously abundant organisms:</p> <p>_____</p> <hr/> <p>QC: <input type="checkbox"/> YES <input type="checkbox"/> NO QC Checker _____</p> <div style="text-align: center;"> <table style="margin: auto;"> <tr> <td style="text-align: center;"># organisms originally sorted</td> <td style="text-align: center;">÷</td> <td style="text-align: center;">(</td> <td style="text-align: center;"># organisms recovered by checker</td> <td style="text-align: center;">+</td> <td style="text-align: center;"># organisms originally sorted</td> <td style="text-align: center;">)</td> <td style="text-align: center;">=</td> <td style="text-align: center;">% sorting efficiency</td> </tr> <tr> <td style="text-align: center;">[]</td> <td></td> <td></td> <td style="text-align: center;">[]</td> <td></td> <td style="text-align: center;">[]</td> <td></td> <td></td> <td style="text-align: center;">[]</td> </tr> </table> </div> <p>≥90%, sample passes _____</p> <p><90%, sample fails, action taken _____</p> <hr/>	# organisms originally sorted	÷	(# organisms recovered by checker	+	# organisms originally sorted)	=	% sorting efficiency	[]			[]		[]			[]
# organisms originally sorted	÷	(# organisms recovered by checker	+	# organisms originally sorted)	=	% sorting efficiency											
[]			[]		[]			[]											
<p>TAXONOMY</p> <p>ID _____</p> <p>Date _____</p>	<p>Explain TCR ratings of 3-5:</p> <p>_____</p> <p>Other Comments (e.g. condition of specimens):</p> <p>_____</p> <hr/> <p>QC: <input type="checkbox"/> YES <input type="checkbox"/> NO QC Checker _____</p> <table style="width:100%;"> <tr> <td style="width:50%;">Organism recognition</td> <td style="width:25%;"><input type="checkbox"/> pass</td> <td style="width:25%;"><input type="checkbox"/> fail</td> </tr> <tr> <td>Verification complete</td> <td><input type="checkbox"/> YES</td> <td><input type="checkbox"/> NO</td> </tr> </table>	Organism recognition	<input type="checkbox"/> pass	<input type="checkbox"/> fail	Verification complete	<input type="checkbox"/> YES	<input type="checkbox"/> NO												
Organism recognition	<input type="checkbox"/> pass	<input type="checkbox"/> fail																	
Verification complete	<input type="checkbox"/> YES	<input type="checkbox"/> NO																	

General Comments (use this space to add additional comments):

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

STREAM NAME	LOCATION	
STATION # _____ RIVERMILE _____	STREAM CLASS	
LAT _____ LONG _____	RIVER BASIN	
STORET #	AGENCY	
INVESTIGATORS		
FORM COMPLETED BY	DATE _____ TIME _____ AM PM	REASON FOR SURVEY

WEATHER CONDITIONS	Now <input type="checkbox"/> storm (heavy rain) <input type="checkbox"/> rain (steady rain) <input type="checkbox"/> showers (intermittent) <input type="checkbox"/> %cloud cover <input type="checkbox"/> clear/sunny	Past 24 hours <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> % <input type="checkbox"/>	Has there been a heavy rain in the last 7 days? <input type="checkbox"/> Yes <input type="checkbox"/> No Air Temperature _____ °C Other _____
SITE LOCATION/MAP	Draw a map of the site and indicate the areas sampled (or attach a photograph)		
STREAM CHARACTERIZATION	Stream Subsystem <input type="checkbox"/> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Tidal Stream Origin <input type="checkbox"/> Glacial <input type="checkbox"/> Spring-fed <input type="checkbox"/> Non-glacial montane <input type="checkbox"/> Mixture of origins <input type="checkbox"/> Swamp and bog <input type="checkbox"/> Other _____	Stream Type <input type="checkbox"/> Coldwater <input type="checkbox"/> Warmwater Catchment Area _____ km ²	

**PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET
(BACK)**

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Other _____ <input type="checkbox"/> Residential	Local Watershed NPS Pollution <input type="checkbox"/> No evidence <input type="checkbox"/> Some potential sources <input type="checkbox"/> Obvious sources Local Watershed Erosion <input type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy
RIPARIAN VEGETATION (18 meter buffer)	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous dominant species present _____	
INSTREAM FEATURES	Estimated Reach Length _____ m Estimated Stream Width _____ m Sampling Reach Area _____ m ² Area in km ² (m ² x1000) _____ km ² Estimated Stream Depth _____ m Surface Velocity _____ m/sec (at thalweg)	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded High Water Mark _____ m Proportion of Reach Represented by Stream Morphology Types <input type="checkbox"/> Riffle _____% <input type="checkbox"/> Run _____% <input type="checkbox"/> Pool _____% Channelized <input type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input type="checkbox"/> No
LARGE WOODY DEBRIS	LWD _____ m ² Density of LWD _____ m ² /km ² (LWD/ reach area)	
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating Algae <input type="checkbox"/> Attached Algae dominant species present _____ Portion of the reach with aquatic vegetation _____%	
WATER QUALITY	Temperature _____ °C Specific Conductance _____ Dissolved Oxygen _____ pH _____ Turbidity _____ WQ Instrument Used _____	Water Odors <input type="checkbox"/> Normal/None <input type="checkbox"/> Sewage <input type="checkbox"/> Petroleum <input type="checkbox"/> Chemical <input type="checkbox"/> Fishy <input type="checkbox"/> Other _____ Water Surface Oils <input type="checkbox"/> Slick <input type="checkbox"/> Sheen <input type="checkbox"/> Globs <input type="checkbox"/> Flecks <input type="checkbox"/> None <input type="checkbox"/> Other _____ Turbidity (if not measured) <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
SEDIMENT/SUBSTRATE	Odors <input type="checkbox"/> Normal <input type="checkbox"/> Sewage <input type="checkbox"/> Petroleum <input type="checkbox"/> Chemical <input type="checkbox"/> Anaerobic <input type="checkbox"/> None <input type="checkbox"/> Other _____ Oils <input type="checkbox"/> Absent <input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Profuse	Deposits <input type="checkbox"/> Sludge <input type="checkbox"/> Sawdust <input type="checkbox"/> Paper fiber <input type="checkbox"/> Sand <input type="checkbox"/> Relict shells <input type="checkbox"/> Other _____ Looking at stones which are not deeply embedded, are the undersides black in color? <input type="checkbox"/> Yes <input type="checkbox"/> No

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (FRONT)

STREAM NAME _____		LOCATION _____	
STATION # _____ RIVERMILE _____		STREAM CLASS _____	
LAT _____ LONG _____		RIVER BASIN _____	
STORET # _____		AGENCY _____	
INVESTIGATORS _____			
FORM COMPLETED BY _____		DATE _____ TIME _____ AM PM	REASON FOR SURVEY _____

	Habitat Parameter	Condition Category			
		Optimal	Suboptimal	Marginal	Poor
Parameters to be evaluated in sampling reach	1. Epifaunal Substrate/ Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are <u>not</u> new fall and <u>not</u> transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	2. Embeddedness	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	3. Velocity/Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/ depth regime (usually slow-deep).
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.	
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0	
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.	
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0	

HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (BACK)

Habitat Parameter	Condition Category																				
	Optimal					Suboptimal					Marginal					Poor					
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.																				
	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.																				
Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.																					
Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.																					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.																				
	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.																				
Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.																					
Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.																					
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.																				
	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.																				
Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.																					
Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.																					
SCORE ___ (LB)	Left Bank		10	9		8	7	6			5	4	3			2	1	0			
SCORE ___ (RB)	Right Bank		10	9		8	7	6			5	4	3			2	1	0			
9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.																				
	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.																				
50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.																					
Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.																					
SCORE ___ (LB)	Left Bank		10	9		8	7	6			5	4	3			2	1	0			
SCORE ___ (RB)	Right Bank		10	9		8	7	6			5	4	3			2	1	0			
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.																				
	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.																				
Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.																					
Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.																					
SCORE ___ (LB)	Left Bank		10	9		8	7	6			5	4	3			2	1	0			
SCORE ___ (RB)	Right Bank		10	9		8	7	6			5	4	3			2	1	0			

Parameters to be evaluated broader than sampling reach

Total Score _____

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME _____	LOCATION _____	
STATION # _____ RIVERMILE _____	STREAM CLASS _____	
LAT _____ LONG _____	RIVER BASIN _____	
STORET # _____	AGENCY _____	
INVESTIGATORS _____		
FORM COMPLETED BY _____	DATE _____ TIME _____ AM PM	REASON FOR SURVEY _____

	Habitat Parameter	Condition Category			
		Optimal	Suboptimal	Marginal	Poor
Parameters to be evaluated in sampling reach	1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are <u>not</u> new fall and <u>not</u> transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitat Parameter	Condition Category																			
		Optimal				Suboptimal				Marginal				Poor							
Parameters to be evaluated broader than sampling reach	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.				Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.				Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.				Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.							
	SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)				The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.				The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.				Channel straight; waterway has been channelized for a long distance.							
	SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
	8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.				Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.				Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.				Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.							
	SCORE __ (LB)	Left Bank		10	9	8	7	6	5	4	3	2		1	0						
	SCORE __ (RB)	Right Bank		10	9	8	7	6	5	4	3	2		1	0						
	9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.				70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.				50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.				Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.							
	SCORE __ (LB)	Left Bank		10	9	8	7	6	5	4	3	2		1	0						
	SCORE __ (RB)	Right Bank		10	9	8	7	6	5	4	3	2		1	0						
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.				Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.				Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.				Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.							
	SCORE __ (LB)	Left Bank		10	9	8	7	6	5	4	3	2		1	0						
	SCORE __ (RB)	Right Bank		10	9	8	7	6	5	4	3	2		1	0						

Total Score _____

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME _____		LOCATION _____	
STATION # _____	RIVERMILE _____	STREAM CLASS _____	
LAT _____	LONG _____	RIVER BASIN _____	
STORET # _____		AGENCY _____	
INVESTIGATORS _____		LOT NUMBER _____	
FORM COMPLETED BY _____		DATE _____ TIME _____ AM PM	REASON FOR SURVEY _____

HABITAT TYPES	Indicate the percentage of each habitat type present <input type="checkbox"/> Cobble _____% <input type="checkbox"/> Snags _____% <input type="checkbox"/> Vegetated Banks _____% <input type="checkbox"/> Sand _____% <input type="checkbox"/> Submerged Macrophytes _____% <input type="checkbox"/> Other (_____) _____%
SAMPLE COLLECTION	Gear used <input type="checkbox"/> D-frame <input type="checkbox"/> kick-net <input type="checkbox"/> Other _____ How were the samples collected? <input type="checkbox"/> wading <input type="checkbox"/> from bank <input type="checkbox"/> from boat Indicate the number of jabs/kicks taken in each habitat type. <input type="checkbox"/> Cobble _____ <input type="checkbox"/> Snags _____ <input type="checkbox"/> Vegetated Banks _____ <input type="checkbox"/> Sand _____ <input type="checkbox"/> Submerged Macrophytes _____ <input type="checkbox"/> Other (_____) _____
GENERAL COMMENTS	

QUALITATIVE LISTING OF AQUATIC BIOTA

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3 = Abundant, 4 = Dominant

Periphyton	0	1	2	3	4	Slimes	0	1	2	3	4
Filamentous Algae	0	1	2	3	4	Macroinvertebrates	0	1	2	3	4
Macrophytes	0	1	2	3	4	Fish	0	1	2	3	4

FIELD OBSERVATIONS OF MACROBENTHOS

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3 = Abundant (>10 organisms), 4 = Dominant (>50 organisms)

Porifera	0	1	2	3	4	Anisoptera	0	1	2	3	4	Chironomidae	0	1	2	3	4
Hydrozoa	0	1	2	3	4	Zygoptera	0	1	2	3	4	Ephemeroptera	0	1	2	3	4
Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
Turbellaria	0	1	2	3	4	Coleoptera	0	1	2	3	4	Other	0	1	2	3	4
Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
Oligochaeta	0	1	2	3	4	Sialidae	0	1	2	3	4						
Isopoda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4						
						Culcidae	0	1	2	3	4						

YSI Calibration Form

Project: _____
 Date: _____
 Pre-Calibration Time (24-hr Clock): _____
 Post-Calibration Time (24-hr Clock): _____

Pine Sonde ID No.: _____
 Pine Handset ID No.: _____
 Battery Voltage (%): _____

Prior to Operation - Check the Following Items:

- Ensure Equipment is Operable Prior to Mobilization - Checked By _____
- Attach Carabiner to Sonde
- Attach Safety Line (Non-Wadeable Conditions) NA (Wadeable Conditions)
- Check Batteries/Back-Up Batteries



User Tips:

Keep the handset and sonde in the shade when not in use (i.e., cooler, bucket, bin).
 Keep the sensors damp between readings, check the sponge to ensure adequate moisture.
 Do not keep the slotted cover on the sonde between readings or sites, or during mobilization.
 If the calibration is "outside of range", call Pine Environmental at (770) 925-2855 or (800) 842-1088 for assistance, or for instructions to reset the default calibration settings.

Pre- Post-
 Calibration Calibration

DISSOLVED OXYGEN (DO)			
Was DO membrane changed? Yes, Time/Date: _____		<input type="checkbox"/> No	<input type="checkbox"/> NA (optical sensor)
Current Air Temperature °C (meter reading):			
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):	<input type="checkbox"/> NA (YSI includes barometer)		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration (or YSI barometer reading if available):	Ex.: 30.02 in. Hg x 25.4 = mm Hg; subtract 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg Elevation: Calvert, AL is 50 ft, and Athens, GA site is 700 ft.		
DO concentration before Calibration (mg/L):			
DO concentration after Calibration (mg/L):			
CONDUCTIVITY [Note: Calibrate before pH]			
Temperature (°C)			
Reading before Calibration (mS/cm ²)			
Reading AFTER Calibration (mS/cm ²)			
pH			
pH 7.0 value before calibration:			
pH 7.0 value after calibration:			
pH 7.0 mV (range is -50 to +50 mV):			
pH 10.0 value before calibration:			
pH 10.0 value after calibration:			
pH 10.0 mV (range is -130 to -230 mV):			
pH 4.0 value before calibration:			
pH 4.0 value after calibration:			
pH 4.0 mV (range is 130 to 230 mV):			
OXIDATION/REDUCTION POTENTIAL (ORP)			
Calibration Temperature (°C):			
Reading before calibration (mV):			
Reading after calibration (mV):			
TURBIDITY			
0 NTU Turbidity Standard	<input type="checkbox"/> NA (No Standard)	Before Cal:	After Cal:
1 NTU Turbidity Standard	<input type="checkbox"/> NA (No Standard)	Before Cal:	After Cal:
10 NTU Turbidity Standard	<input type="checkbox"/> NA (No Standard)	Before Cal:	After Cal:
126 NTU Turbidity Standard	<input type="checkbox"/> NA (No Standard)	Before Cal:	After Cal:

Pre-Calibrated By: _____

Post-Calibrated By: _____

Checked by: _____

BENTHIC MACROINVERTEBRATE SAMPLE LOG-IN SHEET

Date Collected	Collected By	Number of Containers	Preservation	Station #	Stream Name and Location	Date Received by Lab	Lot Number	Date of Completion		
								sorting	mounting	identification

Serial Code Example: B0754001(1)
 B = Benthos (F = Fish; P = Periphyton) ■ 0754 = project number ■ 001 = sample number ■ (1) = lot number (e.g., winter 1996 = 1; summer 1996 = 2)

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BENTHIC MACROINVERTEBRATE LABORATORY BENCH SHEET (FRONT)

page _____ of _____

STREAM NAME _____	LOCATION _____
STATION # _____ RIVERMILE _____	STREAM CLASS _____
LAT _____ LONG _____	RIVER BASIN _____
STORET # _____	AGENCY _____
COLLECTED BY _____ DATE _____	LOT # _____
TAXONOMIST _____ DATE _____	SUBSAMPLE TARGET <input type="checkbox"/> 100 <input type="checkbox"/> 200 <input type="checkbox"/> 300 <input type="checkbox"/> Other _____

Enter Family and/or Genus and Species name on blank line.

Organisms	No.	LS	TI	TCR	Organisms	No.	LS	TI	TCR
Oligochaeta					Megaloptera				
Hirudinea					Coleoptera				
Isopoda									
Amphipoda					Diptera				
Decapoda									
Ephemeroptera					Gastropoda				
					Pelecypoda				
Plecoptera									
					Other				
Trichoptera									
Hemiptera									

Taxonomic certainty rating (TCR) 1-5: 1=most certain, 5=least certain. If rating is 3-5, give reason (e.g., missing gills). LS= life stage: I = immature; P = pupa; A = adult TI = Taxonomists initials

Total No. Organisms _____

Total No. Taxa _____

BENTHIC MACROINVERTEBRATE LABORATORY BENCH SHEET (BACK)

<p>SUBSAMPLING/SORTING INFORMATION</p> <p>Sorter _____</p> <p>Date _____</p>	<p>Number of grids picked: _____</p> <p>Time expenditure _____ No. of organisms _____</p> <p>Indicate the presence of large or obviously abundant organisms:</p> <p>_____</p> <hr/> <p>QC: <input type="checkbox"/> YES <input type="checkbox"/> NO QC Checker _____</p> <div style="text-align: center;"> <table style="margin: auto;"> <tr> <td style="text-align: center;"># organisms originally sorted</td> <td style="text-align: center;">÷</td> <td style="text-align: center;">(</td> <td style="text-align: center;"># organisms recovered by checker</td> <td style="text-align: center;">+</td> <td style="text-align: center;"># organisms originally sorted</td> <td style="text-align: center;">)</td> <td style="text-align: center;">=</td> <td style="text-align: center;">% sorting efficiency</td> </tr> <tr> <td style="text-align: center;">[]</td> <td></td> <td></td> <td style="text-align: center;">[]</td> <td></td> <td style="text-align: center;">[]</td> <td></td> <td></td> <td style="text-align: center;">[]</td> </tr> </table> </div> <p>≥90%, sample passes _____</p> <p><90%, sample fails, action taken _____</p> <hr/>	# organisms originally sorted	÷	(# organisms recovered by checker	+	# organisms originally sorted)	=	% sorting efficiency	[]			[]		[]			[]
# organisms originally sorted	÷	(# organisms recovered by checker	+	# organisms originally sorted)	=	% sorting efficiency											
[]			[]		[]			[]											
<p>TAXONOMY</p> <p>ID _____</p> <p>Date _____</p>	<p>Explain TCR ratings of 3-5:</p> <p>_____</p> <p>Other Comments (e.g. condition of specimens):</p> <p>_____</p> <hr/> <p>QC: <input type="checkbox"/> YES <input type="checkbox"/> NO QC Checker _____</p> <table style="width:100%;"> <tr> <td style="width:50%;">Organism recognition</td> <td style="width:25%;"><input type="checkbox"/> pass</td> <td style="width:25%;"><input type="checkbox"/> fail</td> </tr> <tr> <td>Verification complete</td> <td><input type="checkbox"/> YES</td> <td><input type="checkbox"/> NO</td> </tr> </table>	Organism recognition	<input type="checkbox"/> pass	<input type="checkbox"/> fail	Verification complete	<input type="checkbox"/> YES	<input type="checkbox"/> NO												
Organism recognition	<input type="checkbox"/> pass	<input type="checkbox"/> fail																	
Verification complete	<input type="checkbox"/> YES	<input type="checkbox"/> NO																	

General Comments (use this space to add additional comments):

Appendix 16: Floatables Monitoring Manual



Prince William County

Floatables Monitoring Program

Permit No.
VA0088595

Prince William County Department of Public Works
Watershed Management Branch
5 County Complex Court, Suite 170
Prince William, Virginia 22192

5/1/2016

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I. Introduction

Prince William County is dedicated to Program providing its citizens with the healthiest environment possible. It is with this goal the County establishes programs aimed at reducing pollutant impacts from heavily urbanized and industrialized areas. Non-point source pollution from urban and industrial areas within the County is a great concern due to its potential to impact water quality. Pollutants are transported from these areas during rain events and often deposited untreated into nearby streams and rivers. To mitigate this issue, the Environmental Protection Agency (EPA) and Virginia Department of Environmental Quality (VA-DEQ) have instituted programs aimed at reducing the potential impact of pollutants from urban areas. Goes into

Under the Virginia Pollutant Discharge Elimination System Permit Program (VPDS) and Virginia Stormwater Management Program (VSMP) permits are issued aimed at reducing pollution runoff from industrial and urban areas containing Municipal Separate Storm Sewers Systems or MS-4s. These systems transport water from urbanized areas to streams and rivers and are a major concern of point and non-point source pollution. Discharges from MS4s are regulated under the Virginia Stormwater Management Act and Clean Water Act (CWA) through permits issued by DEQ and the EPA. Through this program, Prince William County maintains a Phase 1 VSMP MS-4 permit (Permit No. VA0088595).

Through its VSMP permit, the County is required to monitor floatables from areas suspected to be contributing excess levels of trash and refuse to its MS-4 by implementing a Floatables Monitoring Program. Unlike the Dry Weather Monitoring Program and Wet Weather Screening Program, the Floatables Monitoring Program is aimed at assessing trash loadings to streams. Using information obtained through this program, the County is to then develop strategies to reduce refuse load from these areas. The County's MS-4 permit, issued on December 17th, 2014, outlines requirements for the Floatables Monitoring Program as follows:

3. Floatables Solids Monitoring

No later than 24 months after the effective date of the permit, the permittee shall develop and implement a floatables monitoring program. The intent of the monitoring program is to determine the loading of floatables from the MS4 to streams within the county. The permittee will implement the floatables monitoring program as follows:

- a) Monitoring shall be conducted at five (5) monitoring sites located at MS4 outfalls and/or streams receiving discharges from the MS4.
- b) Monitoring shall be conducted once per quarter after program implementation.
- c) The monitoring program shall include the count of floatables visually observed and length or area of sites assessed.

This program manual describes the methods and procedures for Prince William County's Floatables Monitoring Program. All procedures are subject to modification as program feasibility and applicability are assessed during program implementation. All program modifications will be noted as part of the County's Program Plan.

II. Site Selection

a. Initial Locations and Site Screening

i. Methods and Results

Initial site locations were provided by the Prince William County Soil and Water Conservation District (PWCSWCD) from a list of sites currently monitored under its stream stewards program. These nine sites were selected as the starting point during site screening since the PWCSWCD currently visits these sites on a quarterly basis, and Floatables monitoring could straightforwardly be incorporated with the stream stewards program.

Three additional sites were identified using GIS in the need to incorporate a more diverse set of land uses in the floatables analysis, as the sites monitored by PWCSWCD were located in mostly residential areas. These sites were located by making an overall observation of the County's service area and the location of its regulated outfalls in relation to areas with diverse land uses. The first supplementary site was located off of Liberia Avenue, near the intersection of Liberia and route 294. This site includes discharge from an upstream commercial area. The second additional site is located on flat branch near the intersection of Sudley Road and Goodwin Drive. This site incorporates an area with a high degree of impervious surfaces and includes drainage from commercial and industrial land uses. Finally the third additional site is located on Cornice Place off of Old Bridge Road. This area drains from a smaller shopping center, and would be a good opportunity to see how BMPs applied in that shopping center can effect floatables numbers downstream.

b. Selection of final sampling sites

i. Methods

Sites identified during initial site screening were visited and scored according to a set of metrics. These metrics were adopted in order to identify optimal locations for floatables monitoring. Metrics incorporated elements analyzing the quality of upstream conditions, land uses, safety and access of the site, size of contributing drainage systems, and opportunity to reduce floatable sources. Each metric was scored on a scale of 1-5 with a score of 5 being the most desirable, and 1 being the least. The total score for each site was calculated by averaging the scores from each metric for the site. Sites with the highest average score were the most desirable for use in the floatables monitoring program.

Within each site, a sampling area will be selected. This sampling area will outline where volunteers or staff are to assess floatables. This sampling site will be selected during the first sampling period, and will encompass the area where the most floatables are identified.

ii. Results

All 12 sites were analyzed for use in the program. The score results from each site are located in Table 1 below.

Table 1: Site Assessment Scores

Site	Score
Site 7: Neabsco Creek, Andrew Leitch Park	3.6
Site 10: Liberia and 294	3.6
Site 3: Dawkins Branch, Victory Elementary	3.4

Site 11: Flat Branch	3.4
Site 12: Cornice Place and Old Bridge Road	3.2
Site 4: Dewey's Creek, Wayside Drive	3.2
Site 9: Powell's Creek, Monclair	3.0
Site 6: Hooe's Run, Springwood Drive	2.6
Site 5: Hooe's Run, Castile Court	2.6
Site 2: Catharpin Creek, James Long Park	2.6
Site 8: Neabsco Creek, Cloverdale Park	2.4
Site 1: Bull Run, Ben Lomond Park	0

Site scores varied from 3.6 to 0. Site 1 was disqualified due to a lack of MS-4 outfalls discharging into the stream segment. Sites that ranked the highest typically had a mix of contributing land uses and highly accessible, countable, and identifiable sources of floatables within the stream segment. Sites typically had one to three regulated outfalls discharging to the stream, and had medium to small contributing drainage areas. The top 5 sites are selected for the program, with the top 2 sites used for the pilot study. Completed site assessment sheets are available in Appendix A.

c. Site Rotation

Sites will be rotated from monitoring cycle if it is determined that the site does not perform as expected. This can occur for several reasons such as, if the site does not receive sufficient trash counts, if access to the site becomes too dangerous for staff to safely perform monitoring, or if activities occur on site that render monitoring impractical such as a stream restoration or redevelopment projects. Sites must remain in the program for at least one year before being replaced by another site, unless circumstances arise that prevent monitoring from occurring.

Replacement sites will be selected in the same method as described above in section b. New candidate sites will be selected from the list of sites that were not selected in the initial site selection procedure and from suggestions from County Staff.

III. Field Procedures

a. Pilot Program

i. Methods

To test and refine monitoring program procedures as well as assess staff effectiveness in monitoring efforts, the Floatables Monitoring Program will first operate under a pilot program. The pilot program will conduct monitoring at two sites for four sampling periods. In order to proceed with main sampling program in a reasonable timeframe, the pilot monitoring will take place at an accelerated schedule. Instead of sampling once per quarter, monitoring will be conducted once per month. Factors such as sampling procedures, sampling site characteristics, safety measures, and monitoring forms will be evaluated during this time. The pilot program will last a total of 4 months before the main monitoring program begins.

ii. Results

Pilot Program results will be included at the end of the pilot study for the program.

b. Training

Sampling will be performed with a mix of paid staff and volunteers. In order to maintain consistency in the program in the event that different groups of people sample different sites, or different groups of people sample from each sampling period to the next, training must take place. Staff will be responsible for reading and understanding the methods presented in this manual, and relaying that information to volunteers. Staff will be directed to either be present during all sampling events, or at the very least be present for the first sampling event a volunteer participates in. Important concepts to place emphasis on when training volunteers are bankfull depth, the location of site markers, and the layout of the sampling form. A sampling manual shall be provided to each volunteer performing monitoring and each inspection sheet will include instructions and a detailed list of site locations. Volunteers can be directed to contact PWC staff if needed.

c. Sampling Methods

Sampling will be consistent across all sites. As referenced in section II.b, a sampling area will be selected within each monitoring site. The sampling area will be identified on site with simple wooden stakes. The stakes will be labeled to indicate the direction to follow when sampling and also indicate the bankfull height of the stream. If a distinct sampling direction is not indicated, it will be assumed sampling will take place in the direction of stream flow. The distance between stakes will be approximately 100 ft. Floatables monitoring staff will walk the length of the sampling area counting the type and amount of each floatable type. Refuse will be considered a floatable eligible to be counted if it is above the water line, within the confines of the stream, and below the bankfull mark of the channel, as described in figure 1 below. Observations will be recorded on the form presented in section IV.a. Data sheets will be provided to the County at the end of each monitoring year and kept within the County's Floatables monitoring manual in Appendix B.

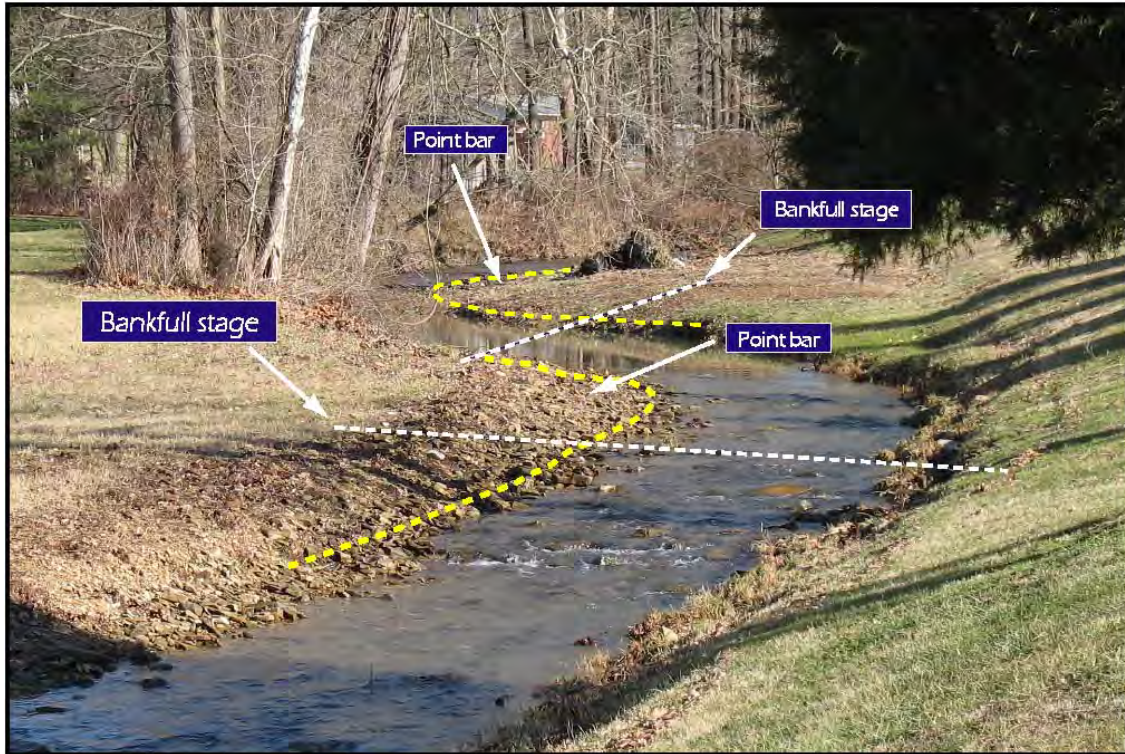


Figure 1. Bankfull Diagram, Credit Indiana FDH

d. Safety

Safety an important goal of the floatables monitoring program. When performing monitoring, staff should be equipped with proper footwear and clothing. This includes at a minimum closed toed shoes. Staff are recommended to also wear long sleeved shirts and pants, as well as waterproof gaiters or shoes in the event entering the stream is necessary. Staff should avoid accessing areas with high slopes and steep drop-offs.

The accessibility and safety of monitoring sites are incorporated in the site analysis used to determine sampling sites. Within sampling sites, sampling areas are identified that incorporate safe access and easy visibility for monitoring. Health and safety responsibility and accountability involves every employee. Some additional measures that should be followed or noticed includes:

- 1) Bring cell phone on all field site visits.
- 2) Exercise caution when encountering any wildlife and hazardous plants. In addition, many outfalls are located in remote areas that may be near gathering places for homeless or transient individuals. Do not enter a potentially hostile area.
- 3) Use common sense during electrical storms and/or when severe conditions (e.g., high wind, hail) develop. The safety of field staff overrides all other considerations.
- 4) Storm sewers contain a variety of water-borne bacteria and other harmful chemicals. Wash hands or use anti-bacterial wipes or hand gels liberally, especially prior to lunch breaks, etc.

i. DANGEROUS FLORA AND FAUNA

During the course of field activities, employees may come in contact with a wide range of dangerous or toxic animals and plants. Dangerous animals may include: black widow and brown recluse spiders; fire ants; mosquitoes and biting flies; bees, wasps and hornets; ticks and chiggers; microbial organisms (e.g., found in water, soil, and air and on carrier/host organisms); rabid mammals; and poisonous snakes. Dangerous plants may include: thorny plants; poison ivy, oak, and sumac; and molds, mildews, and fungi (which may cause allergic reactions). Contact with these organisms can cause effects from simple discomfort (such as from thorny bush scratches) to severe allergic reactions and possibly death. If interactions do occur, take appropriate actions related to specific interaction and individual response to interaction.

ii. WEATHER-RELATED HAZARDS

Weather-related hazards include the potential for heat or cold stress, electrical storms, treacherous weather-related working conditions, high winds, and limited visibility. These hazards correlate with the season in which site activities occur. In the event of adverse weather conditions, the Field Team Leader will determine if work can continue without endangering the health and safety of site personnel.

iii. HEAT STRESS

Heat stress is a significant potential hazard during the warmer months. Heat stress manifests itself as one of three conditions: heat cramps, heat exhaustion, or heat stroke. Heat cramps are brought about by a prolonged exposure to heat. As an individual sweats, water and salts are lost by the body, triggering painful muscle cramps.

iv. COLD STRESS

Cold stress is a danger at low temperatures and when the wind chill factor is low. Cold stress is generally described as a local cooling (frost nip, frost bite, and freezing) or a general cooling (hypothermia). Personnel working outdoors in temperatures at or below freezing may be subject to local cooling. Areas of the body that have a high surface area-to-volume ratio, such as fingers, toes, and ears, are the most susceptible. General cooling (hypothermia) occurs when exposure to cold reduces body temperature. With prolonged exposure, the body becomes unable to maintain its proper internal temperature. Without treatment, hypothermia will lead to stupor, collapse, and death. Prevention of cold stress is a function of whole body protection. Adequate insulated clothing will be worn when the air temperature drops below 50 °F. Reduced work periods may be necessary in extreme conditions to allow adequate periods in a warm area.

IV. Documentation
a. Forms

There are two types of data acquisition forms used in the program, the site identification/evaluation form, and the field inspection form. The site identification/evaluation form is used during the site selection process to evaluate potential sampling sites. It will also be used whenever new potential sites are evaluated for inclusion into the program. This form uses a set of metrics to score and average to generate a quantitative comparison between candidate sites. An example of the Site identification form can be seen in figure 2 below:

Site #: Site Description

Site Map

Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Figure 2: Site Identification Form

Field inspection forms are completed during each inspection. They incorporate information on the date, time, weather conditions, and site number of the inspection, Information on the person/group performing the inspection, and information on the floatables found on site. Each inspection from includes the basic sampling methods, and breaks down each floatable type typically observed in the field. An example of the field inspection form can be seen in figure 3 below:

Prince William County Floatables Monitoring Field Inspection Form

Location:	Date:	Time:
Name:		Weather Conditions:

The sampling area will be identified on site with simple wooden stakes. The stakes will be labeled to indicate the direction to follow when sampling and also indicate the bankfull height of the stream. If a distinct sampling direction is not indicated, it will be assumed sampling will take place in the direction of stream flow. The distance between stakes will be approximately 100 ft. Floatables monitoring staff will walk the length of the sampling area counting the type and amount of each floatable type observed. Refuse will be considered a floatable eligible to be counted if it is above the water line, within the confines of the stream, and below the bankfull mark of the channel.

Plastic Bags:	
Plastic Bottles:	
Snack bags or wrappers:	
Aluminum Cans:	
Oil containers:	
Cardboard:	
Styrofoam:	
Other:	

Signature: _____ Date: _____

Figure 3: Field Inspection Form

b. Documentation and trends analysis

Data gathered in the field will be organized using an excel database provided by Prince William County. This database incorporates all site characteristics and inspections and allows for the easy identification of continued trends within each sampling site.

Each site has its own sheet within the database. Each sheet contains easily identifiable areas to enter data gathered from the field. Each site is identified at the top of the sheet along with a description of the site location. This database will be the main form of data transfer between monitoring staff and PWC.

V. Future Program Goals

a. Trash Mitigation plans

As data is gathered at sampling sites, an effort to help reduce the amount of floatables entering the streams will be developed. Using data gathered on floatables entering the stream segments, a determination of their source will be made. Efforts will then be undertaken in the surrounding drainage areas to reduce the amount of the floatables identified in the stream reaches.

These mitigation plans will focus on efforts such as ensuring recycling and trash bins have lids, enhancing trash storage, enforcing and promoting current recycling standards, promoting trash pickup events, encouraging street sweeping efforts in commercial areas, and other methods. An assessment on the effectiveness of these efforts can then be made, with the possibility of expanding mitigation plans to other parts of the County.

b. Adapting to changing MS-4 Regulations

As the program continues throughout the length of the County's current MS-4 permit, the County will monitor trends related to future requirements within the MS-4 program. This could lead to changes in the floatables monitoring program. Since the permit requirements can only be changed during permit issuance, current program goals and methods will remain constant throughout each permit period (5 years). As the timeline advances towards the County receiving a new MS-4 permit, potential changes to the program will be observed and incorporated into the next monitoring period.

APPENDIX A – Site Identification Forms

Site 1: Bull Run, Ben Lomond Park



Quality of upstream MS-4 outfalls: No quality upstream outfalls [0]
Upstream land uses: Residential, some commercial [2]
Opportunity to reduce floatables sources: _____ []
Access and feasibility: _____ []
Size of contributing drainage area(s): Large >10ac [3]

Notes:

No MS-4 outfalls eliminates this site from the floatables monitoring program.

Site Score: 0

Site 2: Catharpin Creek, James Long Park



Quality of upstream MS-4 outfalls: Mostly Nonpoint, one MS-4 outfall (1)

Upstream land uses: Residential, Large lot, Sports Complex (2)

Opportunity to reduce floatables sources: Not much trash present (1)

Access and feasibility: Very easy access, ~~limited~~ Easy mobility lot, #5

Size of contributing drainage area(s): Small-Med (4)

Notes:

Access easily available from library parking lot. Site is deranked by
lack of floatable input, Not many MS-4 outfalls nearby, Little Nonpoint
Sources. Site good for monitoring, Bad for trend analysis

Site Score: 2.6

Site 3: Dawkins Branch, Victory Elementary School



Quality of upstream MS-4 outfalls:	<u>2 quality outfalls</u>	<u>[2]</u>
Upstream land uses:	<u>Residential, Schools, Roadway</u>	<u>[3]</u>
Opportunity to reduce floatables sources:	<u>Some floatables, limited But excessive sources</u>	<u>[4]</u>
Access and feasibility:	<u>Path allows easy access, Lot and access good</u>	<u>[5]</u>
Size of contributing drainage area(s):	<u>Med. large</u>	<u>[3]</u>

Notes:

Good open area for monitoring. Outreach can be isolated to single residential area. Not many floatables present when site inspection occurred

Site Score: 3.4

Site 4: Dewey's Creek, Wayside Drive



Quality of upstream MS-4 outfalls: One gravity outfall [3]

Upstream land uses: Residential, Commercial, Roadway [4]

Opportunity to reduce floatables sources: Large amount of trash [3]

Trash Source from Streambank

Access and feasibility: Available parking, easy access [3]

Size of contributing drainage area(s): Large [3]

Notes:

Stream will undergo Restoration project in coming years. May Complicate Monitoring efforts [fall 2016]. Could be good pilot site

Site Score: ~~4.0~~ 3.2

Site 5: Hoes Run, Castile Court



Quality of upstream MS-4 outfalls: 2-3 quality outfalls [3]
Upstream land uses: Residential, [2]
Opportunity to reduce floatables sources: good amount of trash identifiable sources [4]
Access and feasibility: Neighborhood w/ little parking, hill difficult [2]
Size of contributing drainage area(s): Medium [2]

Notes:

good opportunity to reduce floatables, Access may be difficult, Steep Slope
Down to Stream, and Stream has high steep banks.

Site Score: 2.6

Site 6: Hooes Run, Springwood Drive



- Quality of upstream MS-4 outfalls: 3 quality outfalls [3]
- Upstream land uses: Residential [2]
- Opportunity to reduce floatables sources: little to no trash [2]
- Access and feasibility: hilly area to descend, path helps access [3]
- Size of contributing drainage area(s): med-large [3]

Notes:

larger stream, access good, but roads may vary according to
where along road sampling occurs. very little trash in stream.

Site Score: 7.6

Site 7: Neabsco Creek, Andrew Leitch Park



- Quality of upstream MS-4 outfalls: 2 quality outfalls [2]
Upstream land uses: Residential small lot [3]
Opportunity to reduce floatables sources: Low numbers of floatables [4]
Access and feasibility: good access, too few inputs good isolated inputs [5]
Size of contributing drainage area(s): Small - mid [4]

Notes:

Many potential sampling sites, but must first find in stream access is good. Stream size is good. fairly simple area to reduce floatables.

Site Score: 3.6

Site 8: Neabsco Creek, Cloverdale Park



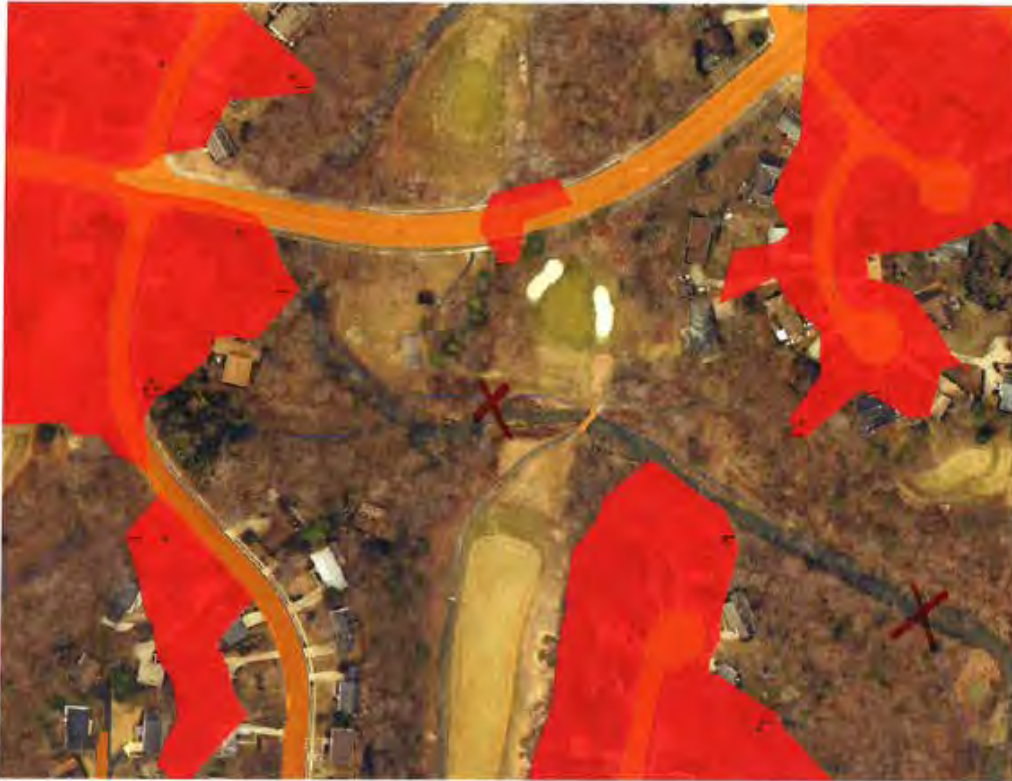
Quality of upstream MS-4 outfalls: 2-3 quality [3]
Upstream land uses: Residential [2]
Opportunity to reduce floatables sources: would be difficult to ID sources, [2] little amount
of trash [2]
Access and feasibility: long way from parking, wide deep channel [2]
Size of contributing drainage area(s): Med-Large [3]

Notes:

wide stream makes it difficult for monitoring efforts.

Site Score: 2.4

Site 9: Powells Creek, Monclair



Quality of upstream MS-4 outfalls: 1-2 quality outfalls [2]
 Upstream land uses: Residential [2]
 Opportunity to reduce floatables sources: ~~Some trash, difficult to determine~~ [2] *Identifiably sources (3) Some trash easy access*
 Access and feasibility: ~~large distance from parking, access through lots~~ [4] *Deep, wide channel*
 Size of contributing drainage area(s): Small - not [4]

Notes:

Trash present as part of Prior Stream Restoration project which must be removed from analysis. wide but shallow stream that receives high flows.

Site Score: 3.0

Site 10:



- Quality of upstream MS-4 outfalls: Many upstream outfalls [4]
- Upstream land uses: Commercial/residential [4]
- Opportunity to reduce floatables sources: Some [3]
- Access and feasibility: Fence impedes Access, Litter before stream [3]
- Size of contributing drainage area(s): Small-med [4]

Notes:

No current sampling site. Ingress to stream through private property. Mostly residential. Need access to BML, but site can be located before fenced off area leaves identifiable input drainage areas. Floatables are few, but have potential for more.

Site Score: 3.6

Site 11: Flat Branch

2



Quality of upstream MS-4 outfalls:	<u>Many</u>	[4]
Upstream land uses:	<u>Commercial/Residential</u>	[4]
Opportunity to reduce floatables sources:	<u>Sufficient floatables</u>	[4]
Access and feasibility:	<u>Ingress/Egress through private property</u>	[3] Lateral access good
Size of contributing drainage area(s):	<u>Large</u>	[2]

Notes:

No current sampling site. Ingress/Egress through private property. Sufficient floatables exist, but may not be attributed to MS-4 outfalls. Transported from upstream

Site Score: 3.4

Site 12:



Quality of upstream MS-4 outfalls: Many [4]
Upstream land uses: Commercial / Residential [4]
Opportunity to reduce floatables sources: Good amount of floatables [4]
Access and feasibility: Small stream, easy access from Roadway [3]
Size of contributing drainage area(s): Very Large [1]

Notes:

No current sampling site. Small stream with good floatable #'s. easy access
May be able to discern source of floatables for Reside Commercial sources

Site Score: 3.2

APPENDIX B – Field Inspection Forms

Forms will be added to this section upon completion

Floatables Monitoring Schedule					
		Month	Soil and Water Monitoring Session	Site	Type
Pilot Study	Q1	July	Summer	Andrew Leich	Floatables and Water Quality
		August		Dawkins Branch	Floatables and Water Quality
				Flat Branch	Floatables and Water Quality
		September	Out	Liberia Ave.	Floatables only
				Cornice Place	Floatables only
Floatables Monitoring Main Program Year 1	Q2	October	Fall	Andrew Leich	Floatables and Water Quality
		November		Dawkins Branch	Floatables only
				Flat Branch	Floatables only
		December	Out	Liberia Ave.	Floatables only
		Cornice Place		Floatables only	
	Q3	January	Winter	Andrew Leich	Floatables and Water Quality
		February		Dawkins Branch	Floatables only
				Flat Branch	Floatables only
				Cornice Place	Floatables only
	Q4	March	Spring	Liberia Ave.	Floatables only
				Andrew Leich	Floatables only
				Dawkins Branch	Floatables only
		April	Flat Branch	Floatables only	
		May	Out	Liberia Ave.	Floatables only
June	Cornice Place	Floatables only			
ring Main Program Year 2	Q1	July	Summer	Andrew Leich	Floatables and Water Quality
		August		Dawkins Branch	Floatables and Water Quality
				Flat Branch	Floatables and Water Quality
		September	Out	Liberia Ave.	Floatables only
		Cornice Place		Floatables only	
	Q2	October	Fall	Andrew Leich	Floatables and Water Quality
		November		Dawkins Branch	Floatables only
				Flat Branch	Floatables only
		December	Out	Liberia Ave.	Floatables only
		Cornice Place		Floatables only	
	January		Andrew Leich	Floatables and Water Quality	

Floatables Monitor	Q3	February	Winter	Dawkins Branch	Floatables only
				Flat Branch	Floatables only
				Cornice Place	Floatables only
		Q4	March	Spring	Liberia Ave.
	April		Andrew Leich		Floatables only
		May June	Out		Dawkins Branch
	Flat Branch				Floatables only
	Liberia Ave.	Floatables only			
				Cornice Place	Floatables only

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Floatables Monitoring Site Selection Data Sheets

The initial candidate Floatables Monitoring Program site locations were provided by PWCSWCD as part of their stream stewards program. These sites were first screened to include those who receive discharges from MS-4 Regulated Outfalls. Potential alternative sites are included as suggestions from PWC as additional sampling locations. These sites allow for a wider range of land uses to be included in the Floatables program analysis. Other sites will be considered upon discussion with stakeholders and County Staff if needed. These sites will be added at the end of this analysis document.

Maps are to be marked with important locations such as:

- Estimated Stream Stewards sampling location
- Ingress-egress for monitoring staff
- Potential sampling locations
- Trash hotspots
- Regulated outfall Locations
- Any dangerous or suspicious areas
- Other areas of interest

Scoring is determined by averaging the score from each individual scoring category. The score in each scoring category is selected from a scale of 1 to 5, with a score of 1 representing a least favored outcome, and a score of 5 representing a most desired outcome. If any qualifications are not met (i.e. a score of 0 is recorded for a site) then the site is disqualified from being used as a final site. The top 5 sites will be selected for the Floatables Monitoring Program.

Site 1: Bull Run, Ben Lomond Park



Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

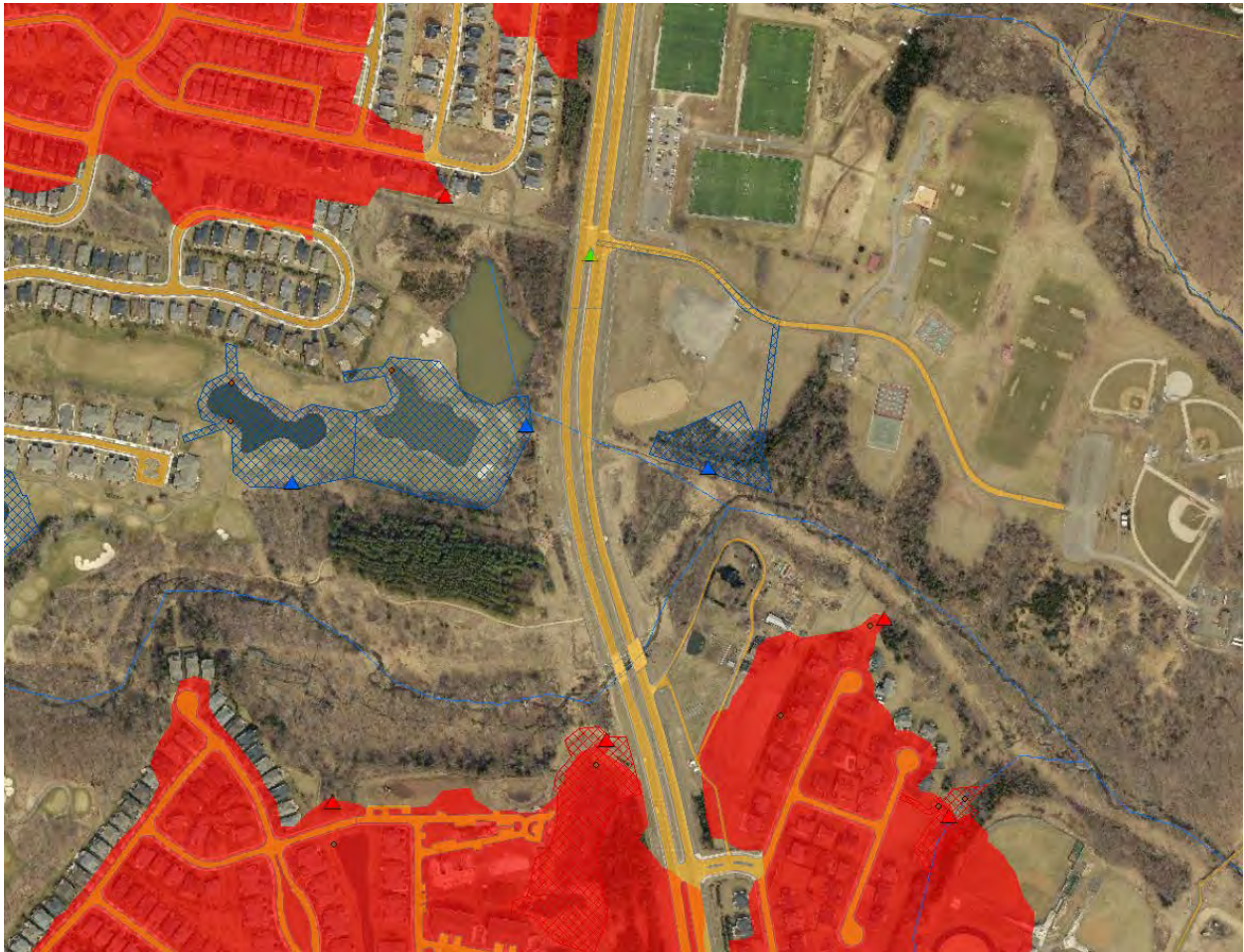
Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Site 2: Catharpin Creek, James Long Park



Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

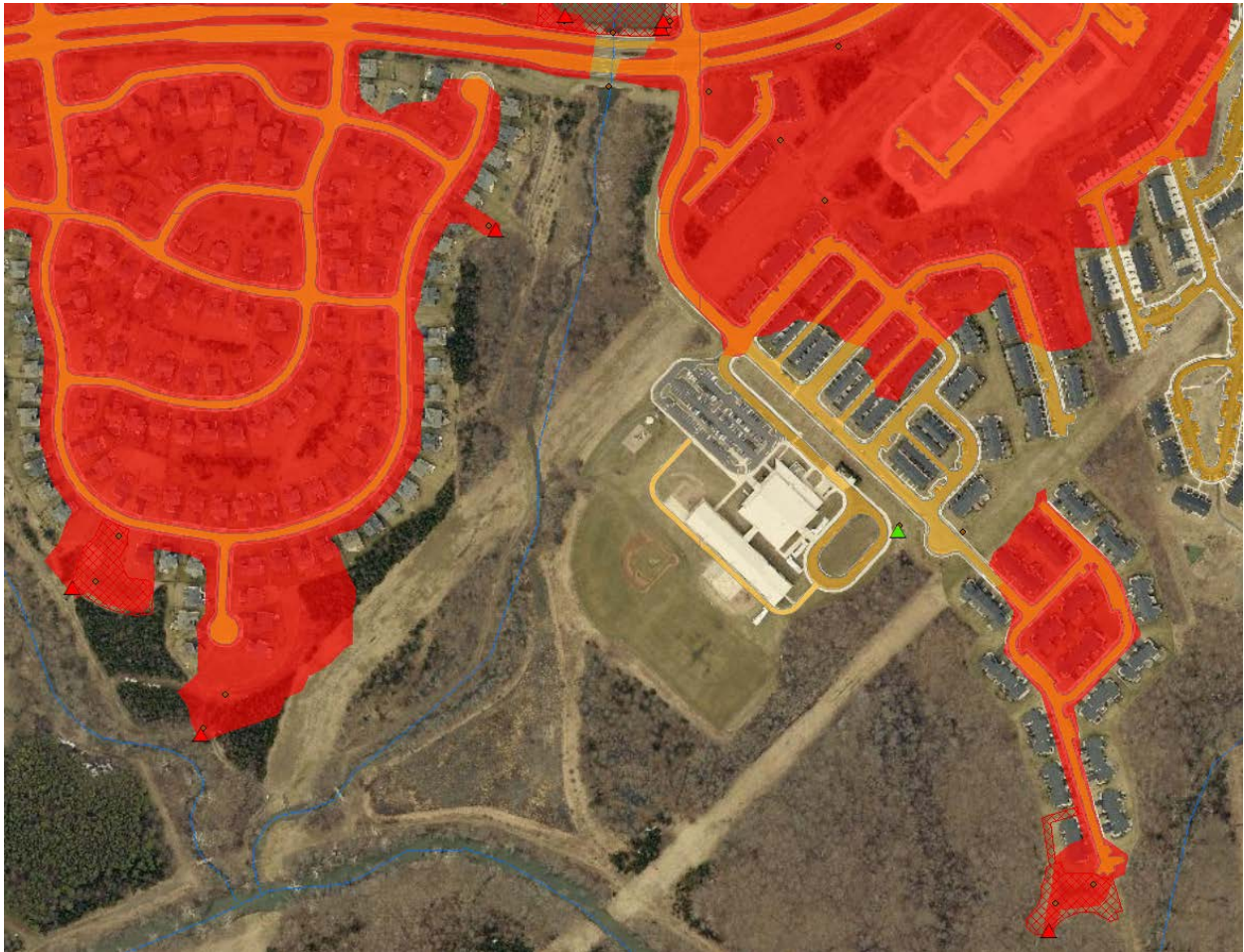
Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Site 3: Dawkins Branch, Victory Elementary School



Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Site 4: Dewey's Creek, Wayside Drive



Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Site 5: Hooes Run, Castile Court



Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Site 6: Hooes Run, Springwood Drive



Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

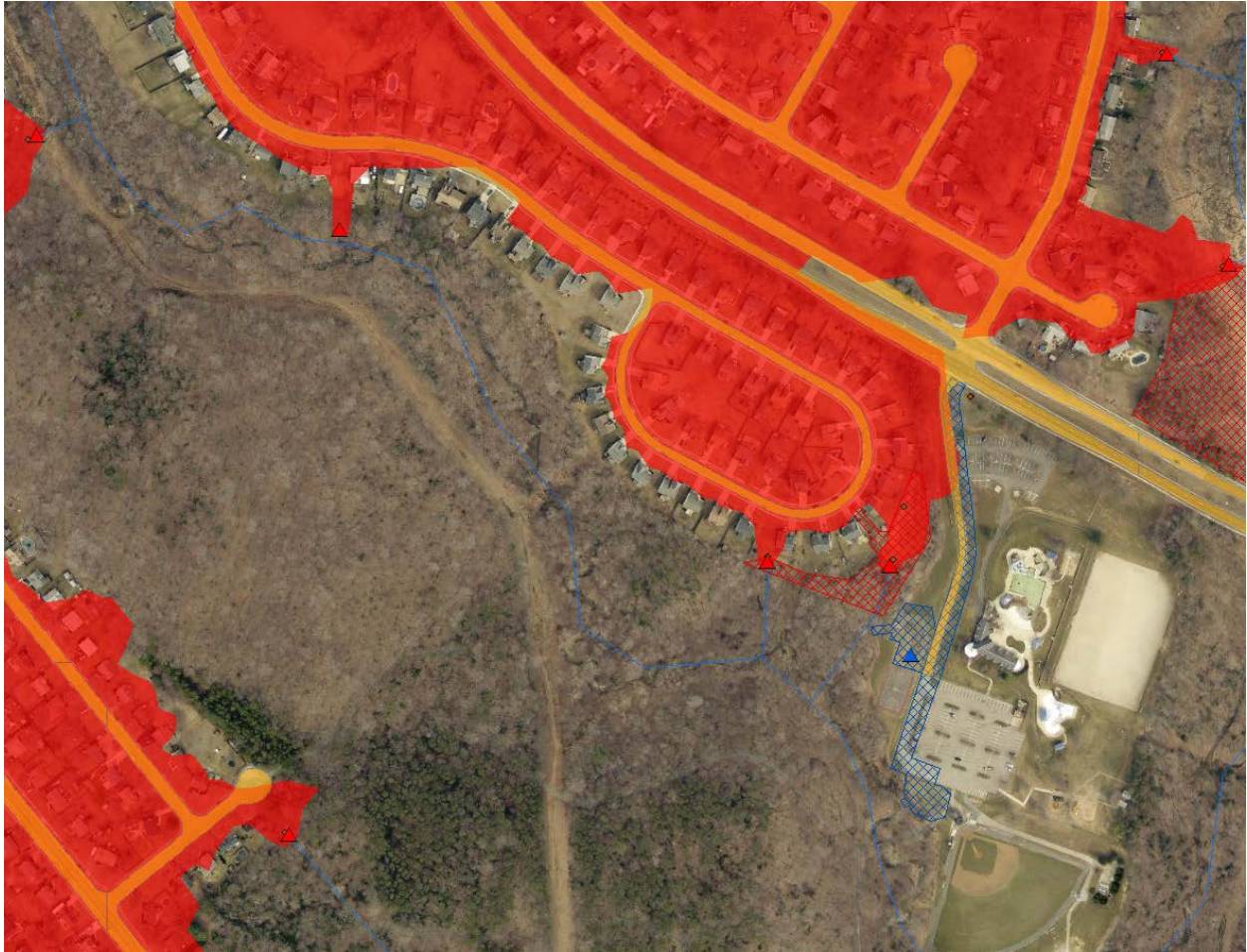
Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Site 7: Neabsco Creek, Andrew Leitch Park



- Quality of upstream MS-4 outfalls: _____ []
- Upstream land uses: _____ []
- Opportunity to reduce floatables sources: _____ []
- Access and feasibility: _____ []
- Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Site 8: Neabsco Creek, Cloverdale Park



Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Site 9: Powells Creek, Monclair



Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Site 10:



Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

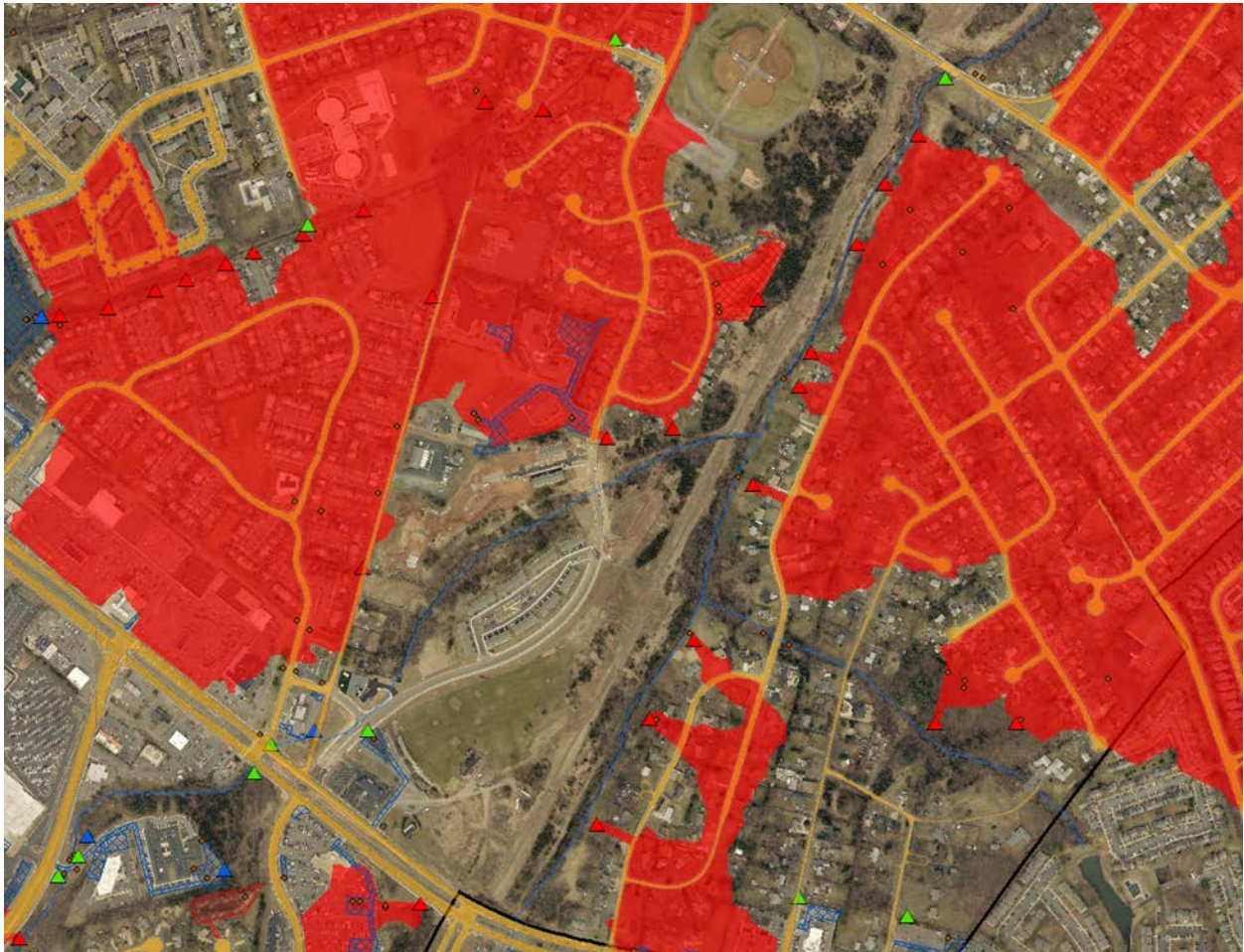
Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Site 11:



Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Site 12:



Quality of upstream MS-4 outfalls: _____ []

Upstream land uses: _____ []

Opportunity to reduce floatables sources: _____ []

Access and feasibility: _____ []

Size of contributing drainage area(s): _____ []

Notes:

Site Score: _____

Facility ID	Facility Type	Facility Description	ADDRESS	Substation	Longitude	Latitude	Total Drainage Area (Acres)	Previous Drainage Area (Acres)	Impervious Drainage Area (Acres)	Date Inspected	VARIUS	VIEWS	VIEWS U/I Name	GISID	Water Name Facility Discharge To?	300A/300C/300E Assessment Category	300B/300D/300F Water Quality Assessment Category	300B/300D/300F Water Quality Assessment Improvement Cause?	MSBT	Maintenance Agreement Type	STATUS	Discharge to MSB?	300A/300B/300E	300C/300D/300F	ROSC?
131	SWAMP	D 1891 DAMBITION LOOP	77.2294	38.8221	24.21	0.01	0.01	0.01	0.01	11/2/2004	P.O.	RUR	Nashua Creek	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
132	SWAMP	D 6975 SCENE POINTE PLACE	77.4503	38.8991	4.69	1.81	0.78	1.02	1.02	12/21/2004	P.O.	RUR	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
133	SWAMP	D 4981 SCENE POINTE PLACE	77.4503	38.8992	4.67	1.81	0.77	1.00	1.00	12/21/2004	P.O.	RUR	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
134	SWAMP	D 1466 SCENIC DRIVE	77.4503	38.8991	4.67	1.81	0.78	1.02	1.02	12/21/2004	P.O.	RUR	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
135	SWAMP	W 13006 PERCHANE TERRACE	77.3746	38.8797	31.51	26.82	8.66	8.66	8.66	12/1/2004	P.O.	PLAT	Ogousoon River-Ogousoon River	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
136	SWAMP	W 2646 WILLIAM PARKWAY	77.4299	38.8626	36.06	31.06	10.21	10.21	10.21	12/1/2004	P.O.	PLAT	Ogousoon River-Ogousoon River	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
137	SWAMP	D 1572 WESTCOTTWAY WAY	77.2448	38.8403	3.29	2.28	1.13	1.13	1.13	12/1/2005	P.O.	PLAT	Peltonde River-Ogousoon River	VAH-A206_00010404	Mannville Creek	5A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
138	SWAMP	D 10384 CABER RIDGE COURT	77.4602	38.7244	11.78	5.36	2.92	3.44	3.44	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Fauna/California		Public	Yes	Yes	Yes	Yes	Y120	
139	SWAMP	D 4541 BANBURY DRIVE	77.6027	38.8905	71.07	62.82	8.40	8.40	8.40	10/21/2006	P.O.	PLAT	Little Bull Run	VAH-A214_00010108	Bull Run	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
140	SWAMP	D 4858 BANBURY DRIVE	77.6027	38.8907	71.07	62.82	8.40	8.40	8.40	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
141	SWAMP	D 12005 SPRINGWOOD DRIVE	77.3749	38.8931	139.18	134.13	23.21	23.21	23.21	10/21/2006	P.O.	PLAT	Ogousoon River-Ogousoon River	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
142	SWAMP	D 6804 BANBURY DRIVE	77.6027	38.8907	71.07	62.82	8.40	8.40	8.40	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
143	SWAMP	D 1731 ROCKVILLE COURT	77.3726	38.8698	15.69	12.05	5.14	5.14	5.14	10/21/2006	P.O.	PLAT	Ogousoon River-Bellmont Branch	VAH-A206_00010404	Bull Run	5A	PCB in Fish Tissue		Public	Yes	Yes	Yes	Yes	Y120	
144	SWAMP	D 10905 BANBURY DRIVE	77.6027	38.8907	71.07	62.82	8.40	8.40	8.40	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
145	SWAMP	D 11836 DELAINE ROAD	77.3743	38.8511	139.34	25.83	44.61	21.96	21.96	10/21/2006	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	50	Benthic Macroinvertebrates Measurements, PCB in Fish Tissue		Public	Yes	Yes	Yes	Yes	Y120		
146	SWAMP	D 1017 LANTIER HILL DRIVE	77.3743	38.8503	139.39	15.83	15.83	15.83	15.83	10/21/2006	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
147	SWAMP	D 14625 BARNACK HILL SECTION 2	77.3743	38.8503	139.39	15.83	15.83	15.83	15.83	10/21/2006	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
148	SWAMP	D 4050 ROWDIE COURT	77.3743	38.8503	139.39	15.83	15.83	15.83	15.83	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
149	SWAMP	D 4050 ROWDIE COURT	77.3743	38.8503	139.39	15.83	15.83	15.83	15.83	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
150	SWAMP	D 10324 CABER RIDGE COURT	77.4602	38.7244	11.78	5.36	2.92	3.44	3.44	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Fauna/California		Public	Yes	Yes	Yes	Yes	Y120	
151	SWAMP	D 14760 BANBURY COURT	77.6027	38.8905	64.80	39.20	5.59	5.59	5.59	10/21/2006	P.O.	PLAT	Ogousoon River	VAH-A206_00010404	Joseph Park Drainage Cree	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
152	SWAMP	D 10324 CABER RIDGE COURT	77.4602	38.7244	11.78	5.36	2.92	3.44	3.44	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Fauna/California		Public	Yes	Yes	Yes	Yes	Y120	
153	SWAMP	D 11070 SPENNINGER DRIVE	77.6027	38.7121	8.45	7.51	5.04	5.04	5.04	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
154	SWAMP	D 11070 SPENNINGER DRIVE	77.6027	38.7121	8.45	7.51	5.04	5.04	5.04	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
155	SWAMP	D 10324 CABER RIDGE COURT	77.4602	38.7244	11.78	5.36	2.92	3.44	3.44	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Fauna/California		Public	Yes	Yes	Yes	Yes	Y120	
156	SWAMP	D 12723 GOLD CUP TRAIL	77.6027	38.8647	184.02	168.84	34.17	34.17	34.17	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Purcell Branch	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
157	SWAMP	D 7753 MILLERS DRIVE	77.4602	38.7244	21.08	20.48	2.60	2.60	2.60	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Fauna/California		Public	Yes	Yes	Yes	Yes	Y120	
158	SWAMP	D 12054 CEDAR CREEK DRIVE	77.6027	38.8628	3.72	3.08	0.69	0.69	0.69	12/24/2006	P.L.	PLAT	Broad Run-Roddy Branch	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
159	SWAMP	D 12054 CEDAR CREEK DRIVE	77.6027	38.8628	3.72	3.08	0.69	0.69	0.69	12/24/2006	P.L.	PLAT	Broad Run-Roddy Branch	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
160	SWAMP	D 12054 CEDAR CREEK DRIVE	77.6027	38.8628	3.72	3.08	0.69	0.69	0.69	12/24/2006	P.L.	PLAT	Broad Run-Roddy Branch	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
161	SWAMP	W 9445 HEDDEN SPRING DRIVE	77.4602	38.7244	11.78	5.36	2.92	3.44	3.44	10/21/2006	P.O.	PLAT	Broad Run-Roddy Branch	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
162	SWAMP	W 9445 HEDDEN SPRING DRIVE	77.4602	38.7244	11.78	5.36	2.92	3.44	3.44	10/21/2006	P.O.	PLAT	Broad Run-Roddy Branch	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
163	SWAMP	W 9445 HEDDEN SPRING DRIVE	77.4602	38.7244	11.78	5.36	2.92	3.44	3.44	10/21/2006	P.O.	PLAT	Broad Run-Roddy Branch	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
164	SWAMP	D 8025 STE THOMAS COURT	77.4602	38.7244	11.78	5.36	2.92	3.44	3.44	10/21/2006	P.O.	PLAT	Ogousoon River-Lake Junction	VAH-A206_00010404	Ogousoon River	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
165	SWAMP	D 12054 CEDAR CREEK DRIVE	77.6027	38.8628	3.72	3.08	0.69	0.69	0.69	12/24/2006	P.L.	PLAT	Broad Run-Roddy Branch	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	Yes	Yes	Yes	Yes	Y120	
166	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35	0.35	6/21/2007	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	NR	Yes	Yes	Yes	Y120	
167	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35	0.35	6/21/2007	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	NR	Yes	Yes	Yes	Y120	
168	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35	0.35	6/21/2007	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	NR	Yes	Yes	Yes	Y120	
169	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35	0.35	6/21/2007	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	NR	Yes	Yes	Yes	Y120	
170	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35	0.35	6/21/2007	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	NR	Yes	Yes	Yes	Y120	
171	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35	0.35	6/21/2007	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	NR	Yes	Yes	Yes	Y120	
172	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35	0.35	6/21/2007	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	NR	Yes	Yes	Yes	Y120	
173	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35	0.35	6/21/2007	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	NR	Yes	Yes	Yes	Y120	
174	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35	0.35	6/21/2007	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	NR	Yes	Yes	Yes	Y120	
175	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35	0.35	6/21/2007	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	NR	Yes	Yes	Yes	Y120	
176	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35	0.35	6/21/2007	P.O.	PLAT	Nashua Creek	VAH-A206_00010404	Broad Run	4A	Exterrestrial only		Public	NR	Yes	Yes	Yes	Y120	
177	SWAMP	D 15180 DAVE ROADWAY	77.6027	38.8905	2.40	0.81	0.35	0.35																	

Facility ID	Facility Type	Facility Description	ADDRESS	Substation	Longitude	Latitude	Total Drainage Area (Acres)	Previous Drainage Area (Gens)	Impervious Drainage Area (Acres)	Date Inventory	VARS1	VARS2	VARS1/2 Name	GSOS	Water Name Facility Discharge To?	3004/3005/6 Water Quality Assessment Category	3004/3005/6 Water Quality Assessment	3004/3005/6 Water Quality Assessment Improvement Case#?	MSBT	Maintenance Agreement?	STATUS	Discharge to MSB?	MSB AGENCY	MSBT			
316	SWAMP/BMP	304 SHERWOOD DR	311	STACY BOGE	-77.3991	38.739	0.84	0.84	2.8	12/22/2014	P-0	P-0	Nashua Creek														
317	BMP	1 8465 BEAUFORT DRIVE	317	CAMP GENESEE (DANAMAKA) SECTION 1	-77.5993	38.779	0.87	0.87	0.3	12/29/2014	P-1	P-1	Broad Run-Celtic/Bran	VAR-A126_BRM3240	Broad Run	4A	Exhorted/ok					Yes	N		Y13		
318	BMP	8 8465 BEAUFORT DRIVE	318	CAMP GENESEE (DANAMAKA) SECTION 1	-77.5993	38.7793	1.31	1.31	0.84	12/29/2014	P-1	P-1	Broad Run-Celtic/Bran	VAR-A126_BRM3240	Broad Run	4A	Exhorted/ok					Yes	N		Y13		
319	SWAMP/BMP	1 8465 BEAUFORT DRIVE	319	CAMP GENESEE (DANAMAKA) SECTION 1	-77.5993	38.7793	0.84	0.84	0.84	12/29/2014	P-1	P-1	Broad Run-Celtic/Bran	VAR-A126_BRM3240	Broad Run	4A	Exhorted/ok					Yes	N		Y13		
320	SWAMP	10 1026 LEONARD/TORREY WAY	320	LAKE TERRACE SECTION 2	-77.3708	38.6211	21.76	15.88	7.87	3/6/2015	P-0	P-1	Powells Creek	VAR-A126_POW3240	Powells Creek	4A	Exhorted/ok					Yes	N		Y13		
321	BMP	4 2061 WINDERMERE DRIVE	321	LAKE TERRACE SECTION 2	-77.3708	38.6211	21.76	15.88	7.87	3/6/2015	P-0	P-1	Powells Creek	VAR-A126_POW3240	Powells Creek	4A	Exhorted/ok					Yes	N		Y13		
322	SWAMP/BMP	10 1026 LEONARD/TORREY WAY	322	LAKE TERRACE SECTION 2	-77.3707	38.6204	21.26	12.75	8.52	3/21/2015	P-0	P-0	Nashua Creek														
323	SWAMP/BMP	10 1026 LEONARD/TORREY WAY	323	LAKE TERRACE SECTION 2	-77.3708	38.6211	21.26	12.75	8.52	3/21/2015	P-0	P-0	Nashua Creek														
324	BMP	1 1442 WOODCREEK LANE	324	POTOMAC HOSPITAL	-77.2065	38.8496	1.46	1.26	4.41	5/24/2015	P-0	P-0	Nashua Creek														
325	BMP	1 1442 WOODCREEK LANE	325	POTOMAC HOSPITAL	-77.2065	38.8496	1.46	1.26	4.41	5/24/2015	P-0	P-0	Nashua Creek														
326	BMP	1 1442 WOODCREEK LANE	326	POTOMAC HOSPITAL	-77.2065	38.8496	1.46	1.26	4.41	5/24/2015	P-0	P-0	Nashua Creek														
327	BMP	1 1442 WOODCREEK LANE	327	POTOMAC HOSPITAL	-77.2065	38.8496	1.46	1.26	4.41	5/24/2015	P-0	P-0	Nashua Creek														
328	SWAMP/BMP	10 20545 BERRY OAKHURST COURT	328	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
329	SWAMP/BMP	10 20545 BERRY OAKHURST COURT	329	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
330	SWAMP/BMP	10 20545 BERRY OAKHURST COURT	330	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
331	BMP	10 20545 BERRY OAKHURST COURT	331	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
332	SWAMP/BMP	10 20545 BERRY OAKHURST COURT	332	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
333	SWAMP/BMP	10 20545 BERRY OAKHURST COURT	333	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
334	BMP	10 20545 BERRY OAKHURST COURT	334	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
335	SWAMP/BMP	10 20545 BERRY OAKHURST COURT	335	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
336	BMP	10 20545 BERRY OAKHURST COURT	336	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
337	BMP	10 20545 BERRY OAKHURST COURT	337	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
338	BMP	10 20545 BERRY OAKHURST COURT	338	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
339	BMP	10 20545 BERRY OAKHURST COURT	339	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
340	BMP	10 20545 BERRY OAKHURST COURT	340	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
341	BMP	10 20545 BERRY OAKHURST COURT	341	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
342	BMP	10 20545 BERRY OAKHURST COURT	342	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
343	BMP	10 20545 BERRY OAKHURST COURT	343	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
344	BMP	10 20545 BERRY OAKHURST COURT	344	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
345	BMP	10 20545 BERRY OAKHURST COURT	345	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
346	BMP	10 20545 BERRY OAKHURST COURT	346	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
347	BMP	10 20545 BERRY OAKHURST COURT	347	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
348	BMP	10 20545 BERRY OAKHURST COURT	348	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
349	BMP	10 20545 BERRY OAKHURST COURT	349	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
350	BMP	10 20545 BERRY OAKHURST COURT	350	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
351	BMP	10 20545 BERRY OAKHURST COURT	351	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
352	BMP	10 20545 BERRY OAKHURST COURT	352	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
353	BMP	10 20545 BERRY OAKHURST COURT	353	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
354	BMP	10 20545 BERRY OAKHURST COURT	354	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
355	BMP	10 20545 BERRY OAKHURST COURT	355	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
356	BMP	10 20545 BERRY OAKHURST COURT	356	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
357	BMP	10 20545 BERRY OAKHURST COURT	357	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
358	BMP	10 20545 BERRY OAKHURST COURT	358	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
359	BMP	10 20545 BERRY OAKHURST COURT	359	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
360	BMP	10 20545 BERRY OAKHURST COURT	360	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
361	BMP	10 20545 BERRY OAKHURST COURT	361	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	12.80	1.80	9/11/2015	P-1	P-1	Ogden Run Lake Jackson	VAR-A126_OGD3240	Ogden Run	4A	Exhorted/ok					Yes	N		Y13		
362	BMP	10 20545 BERRY OAKHURST COURT	362	CAMP GENESEE (DANAMAKA) SECTION 1	-77.4592	38.7713	11.80	1																			

Activity ID	Facility Type	Facility Description	ADDRESS	Substation	Longitude	Latitude	Total Drainage Area (Acres)	Previous Drainage Area (Acres)	Impervious Drainage Area (Acres)	Date Inspected	VARIUS	VARIUS	VARIUS ID Name	GISID	Water Name Facility	303A/303C/303E Water Quality Assessment Category	303A/303C/303E Water Quality Assessment	303A/303C/303E Water Quality Assessment Improvement Cause?	MSMT	Maintenance Agreement Type	STATUS	Discharge to MSMT	303A/303C/303E MSMT	NSCF
6017	CRMP	U	1841 GENERAL HOSPITAL DRIVE	IGUSA DE DOS PERCENTUAL FUERTA DEL OCEA	-77.841	18.139	0.05	0.05	0.05	12/2/2016	PLD	PLD	Nashboro Creek						C	Private	Yes		2/20/2017	
6018	CRMP	U	2025 JOHN MARSHALL HIGHWAY		-77.682	18.113	0.16	0.15	0.01	11/4/2017	PLD	PLD		VAN-A218_BM02140	North Fork Broad Run	4A	Exhaurished		C	Private	Yes		16/2/2017	
6019	CRMP	U	1400 EGDORNE CIRCLE	WOODBRIDGE STATION APARTMENTS	-77.292	18.652	0.02	0.02	0.02	1/23/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140	Munrocks Creek	5A	Exhaurished		C	Private	Yes		2/20/2017	
6020	CRMP/BMP	T	1400 EGDORNE CIRCLE	WOODBRIDGE STATION APARTMENTS	-77.292	18.652	0.02	0.02	0.02	1/23/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140	Munrocks Creek	5A	Exhaurished		C	Private	Yes		2/20/2017	
6021	CRMP	U	11111 NORTWELL ROAD		-77.524	18.772	1.17	1.17	0.00	11/1/2017	PLD	PLD		VAN-A218_BM02140	Broad Run	4A	Exhaurished		C	Private	Yes		3/29/2017	
6022	CRMP	U	11111 NORTWELL ROAD		-77.524	18.772	1.17	1.17	0.00	11/1/2017	PLD	PLD		VAN-A218_BM02140	Broad Run	4A	Exhaurished		C	Private	Yes		3/29/2017	
6023	CRMP	B	11111 NORTWELL ROAD		-77.524	18.772	0.65	0.65	0.00	11/1/2017	PLD	PLD		VAN-A218_BM02140	Broad Run	4A	Exhaurished		C	Private	Yes		7/19/2017	
6024	CRMP	U	1400 EGDORNE DRIVE HIGHWAY	BRM MAMMUCO PDAJ SHOPPING CENTER	-77.469	18.699	0.86	0.86	0.00	11/1/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140	Munrocks Creek	5A	Exhaurished		C	Private	Yes		4/27/2017	
6025	CRMP	U	1400 EGDORNE DRIVE HIGHWAY	BRM MAMMUCO PDAJ SHOPPING CENTER	-77.469	18.699	0.86	0.86	0.00	11/1/2017	PLD	PLD	Nashboro Creek						C	Private	Yes		4/27/2017	
6026	CRMP/BMP	D	1322 NICHOLSON DRIVE	LONG'S AUTOMATIC	-77.285	18.612	0.11	0.00	0.11	3/20/2017	PLD	PLD		VAN-A218_BM02140					C	Private	Yes		4/27/2017	
6027	CRMP/BMP	D	1322 NICHOLSON DRIVE	LONG'S AUTOMATIC	-77.285	18.612	0.11	0.00	0.11	3/20/2017	PLD	PLD		VAN-A218_BM02140					C	Private	Yes		4/27/2017	
6028	CRMP	U	1322 NICHOLSON DRIVE	KING ELEMENTARY SCHOOL BUILDING ADDITION	-77.285	18.609	11.11	11.12	1.11	3/24/2017	PLD	PLD	Nashboro Creek						C	Private	Yes		6/4/2018	
6029	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Broad Run Runoff Branch	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6030	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6031	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6032	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6033	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6034	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6035	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6036	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6037	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6038	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6039	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6040	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6041	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6042	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6043	CRMP	U	1322 NICHOLSON DRIVE	ENCLOSURE RENOVATION & STORAGE BUILDING ADDITION	-77.285	18.612	0.11	0.00	0.11	3/24/2017	PLD	PLD	Potomac River-Occoquan Riv	VAN-A218_BM02140					C	Private	Yes		6/4/2018	
6044	CRMP/BMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6045	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6046	CRMP/BMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	2.84	0.00	2.84	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6047	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6048	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6049	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6050	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6051	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6052	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6053	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6054	CRMP/BMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	2.84	0.00	2.84	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6055	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6056	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6057	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6058	CRMP	U	14780 JOHN ROAD	INDEPENDENT HIL MAINTENANCE FACILITY	-77.486	18.673	0.10	0.00	0.10	9/25/2017	PLP	PLD	Quantico Creek	VAN-A218_30021002	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		11/21/2017	
6059	CRMP/BMP	U	14805 BLACKBURN ROAD	FEATHERSTONE ES ASSOCIATIONS AND ALTERNATIONS	-77.282	18.619	0.10	0.00	0.10	1/17/2018	PLM	PLD	Potomac River-Occoquan Riv	VAN-A218_30011008	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		2/16/2018	
6060	CRMP	U	14805 BLACKBURN ROAD	FEATHERSTONE ES ASSOCIATIONS AND ALTERNATIONS	-77.282	18.619	0.10	0.00	0.10	1/17/2018	PLM	PLD	Potomac River-Occoquan Riv	VAN-A218_30011008	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		2/16/2018	
6061	CRMP	U	14805 BLACKBURN ROAD	FEATHERSTONE ES ASSOCIATIONS AND ALTERNATIONS	-77.282	18.619	0.10	0.00	0.10	1/17/2018	PLM	PLD	Potomac River-Occoquan Riv	VAN-A218_30011008	South Fork Quantico Crk	4A	Exhaurished		C	Private	Yes		2/16/2018	
6062	CRMP/BMP	D	13375 ASH ROAD	NORWELL # 4 SCHOOL	-77.535	18.688	4.02	4.02	0.00	2/29/2018	PLM	PLD	Cedar Run-Slate Run	VAN-A218_30111008	Slate Run	4A	Exhaurished		C	Private	Yes		3/27/2018	
6063	CRMP/BMP	D	13375 ASH ROAD	NORWELL # 4 SCHOOL	-77.535	18.688	4.02	4.02	0.00	2/29/2018	PLM	PLD	Cedar Run-Slate Run	VAN-A218_30111008	Slate Run	4A	Exhaurished		C	Private	Yes		3/27/2018	
6064	CRMP/BMP	D	13375 ASH ROAD	NORWELL # 4 SCHOOL	-77.535	18.688	4.02	4.02	0.00	2/29/2018	PLM	PLD	Cedar Run-Slate Run	VAN-A218_30111008	Slate Run	4A	Exhaurished		C	Private	Yes		3/27/2018	
6065	CRMP	U																						

**Drainage Areas
Cow Branch Locations**

**Cow Branch - Mellot Road
DA=400.74 ac**

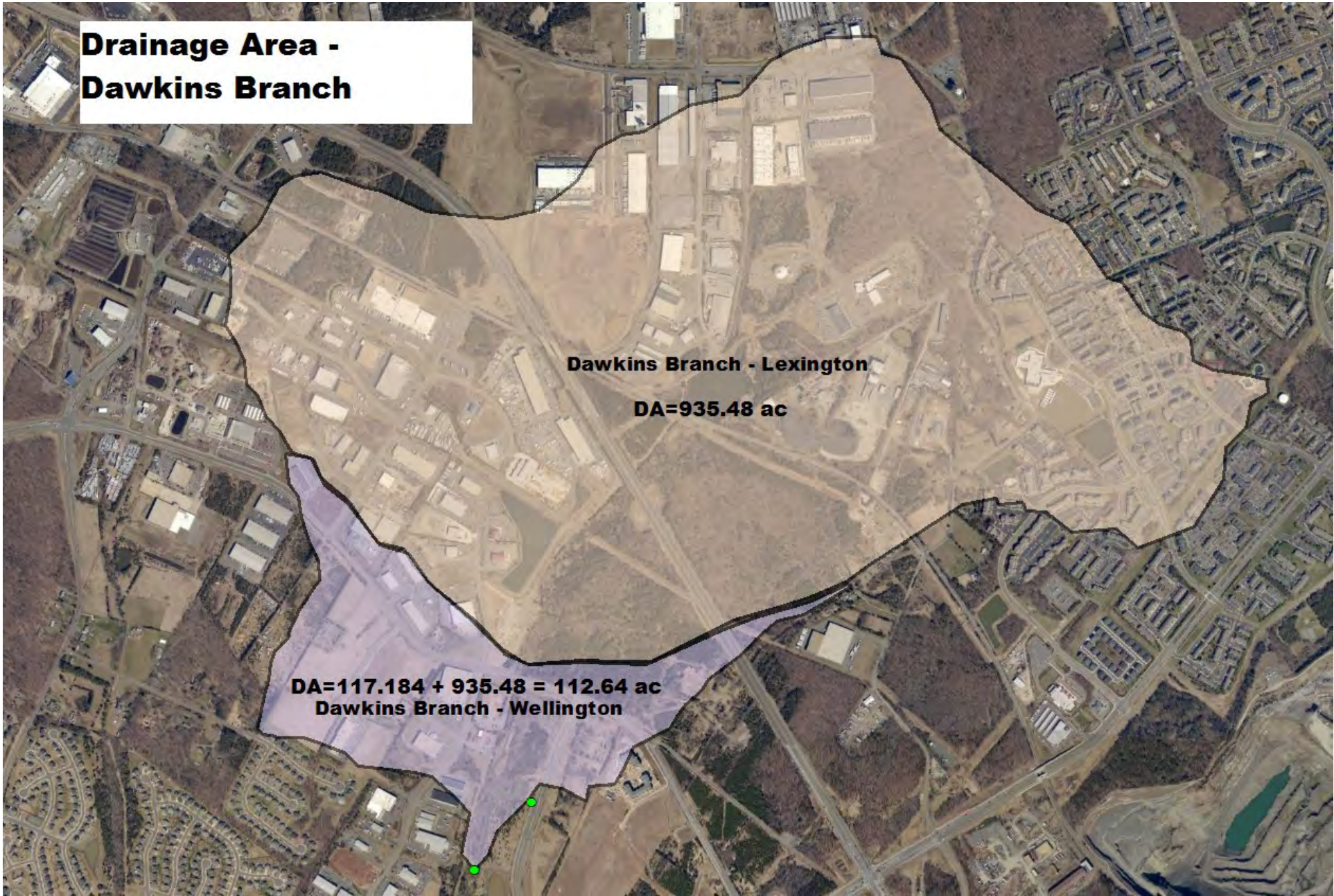
**Cow Branch - Montgomery Av
DA=39.79 ac**



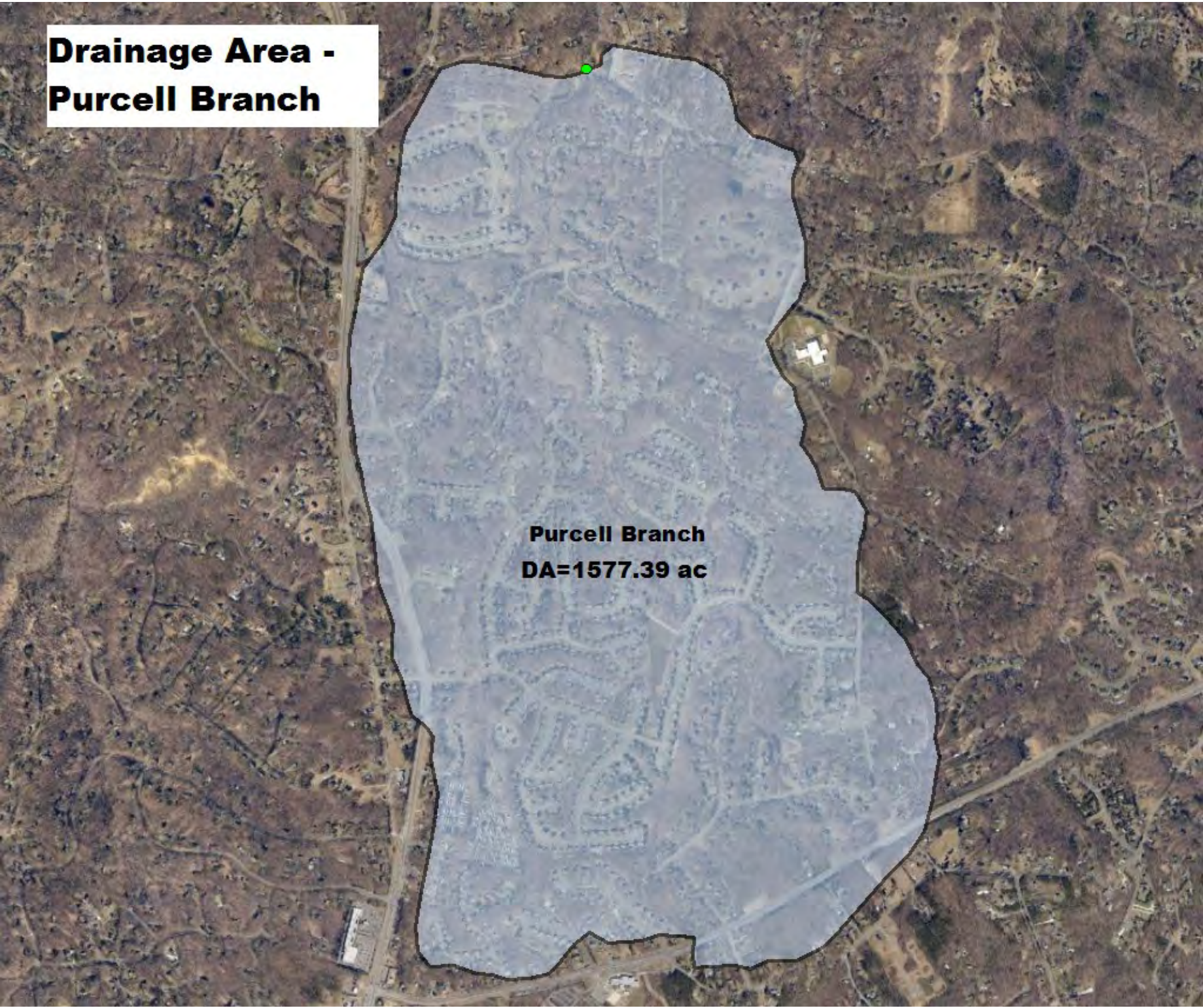
**Drainage Area -
Dawkins Branch**

**Dawkins Branch - Lexington
DA=935.48 ac**

**DA=117.184 + 935.48 = 112.64 ac
Dawkins Branch - Wellington**



**Drainage Area -
Purcell Branch**



**Purcell Branch
DA=1577.39 ac**

Appendix 17: Local TMDL Action Plan Implementation

Local TMDL Action Plan Implementation FY24

Benthic TMDL Action Plan

The Benthic TMDL Action Plan includes stream restoration projects, reforestations (LUC), stormwater retrofit projects completed in the Bull Run Watershed. The following table summarizes the projects that have been implemented as well as planned projects in FY22.

Project Name	Project Type	Status	TSS Reduction (lbs/yr)
Ben Lomond Park Area A	Reforestation	Completed	19.94
Ben Lomond Park Area C	Reforestation	Completed	30.58
Ben Lomond Park Area B	Reforestation	Completed	506.58
Sudley Place Reforestation	Reforestation	Completed	421.48
Ben Lomond Park Area D	Reforestation	Completed	15.96
Garner Drive	Reforestation	Completed	53.18
SWM Facility #99	Retrofit	Completed	4,273.97
Oak Street	Stream Restoration	Completed	49,591.16
SWM Facility #77	Retrofit	Completed	1,323.13
SWM Facility #386	Retrofit	Completed	8,314.92
Total Completed			64,550.90
SWM Facility #416	Retrofit	Implementation	27,611.25
Ben Lomond Reforestation (LUC)	Reforestation	Implementation	425.47
Total Planned for FY24			28,036.72

The status of other implementation items from the Benthic TMDL Action Plan are summarized below:

Implementation Item	Description	Implementation Status
MS4 Program Plan	The County will continue to implement the MS4 Program Plan, including elements related to sediment, in accordance with the schedule provided for in the MS4 Program Plan.	The County continues to implement its MS4 Program Plan.
Chesapeake Bay TMDL Action Plan	The County will continue to leverage the projects selected to meet the Chesapeake Bay TMDL Action Plan to reduce sediment in the Bull Run watershed. The County will include whether a project will help meet Bull Run sediment load reductions in its project selection prioritization process.	The County continues to implement the Chesapeake Bay TMDL Action Plan. See above summary.
County Owned or Operated Property	The County will consider potential retrofits of property assessed in Appendix A for inclusion in lists of projects to meet the Chesapeake Bay TMDL. The County will address minor erosion issues identified during the assessment of properties as described in Appendix A.	Projects currently planned for implementation: <ul style="list-style-type: none"> • Reforestation at Ben Lomond Park • Water quality retrofit of SWM Facility #416 • Mayhew Park Stream Restoration

Local TMDL Action Plan Implementation FY24

Implementation Item	Description	Implementation Status
Redevelopment	The County will continue to enforce provisions that require redevelopment to reduce phosphorus from existing conditions (20% one acre and greater; 20% less than one acre). Reductions in phosphorus also result in reductions in sediment.	The county continues to implement Section 23.2 of the Prince William County Code.
Enhanced Education, Outreach, and Training	The County will continue to implement enhanced education, outreach, and training for sediment in accordance with the MS4 permit and the MS4 Program Plan.	The County is implementing its enhanced education, outreach and training for sediment in accordance with the MS4 Program Plan

Local TMDL Action Plan Implementation FY24

Bacteria TMDL Action Plan

The status of implementation items from the Bacteria TMDL Action Plan are summarized below:

Program Element	Description	Implementation Status
Pet Waste Brochure Distribution	The County will provide pet waste brochures (see Appendix A) for distribution at the private facilities listed in Table 2.H.	The County determined that distribution of brochures at private facilities is not an effective method of outreach. In FY21, the County updated the pet waste brochure and is distributing to HOA's and other community partners for distribution.
Pet Waste Clean-Up Signage	The County will assess the trail system within the MS4 portion of affected watersheds for opportunities to install signage reminding pet owners to clean up pet waste.	The County assessed County-owned properties in FY18 and determined no need for signage. The assessment of County properties was repeated in FY21 with HOA common areas added to the scope. The County is currently evaluating opportunities to work with HOA's and Parks to provide signage and other outreach materials to users.

Local TMDL Action Plan Implementation FY24

PCB TMDL Action Plan

The status of implementation items from the PCB TMDL Action Plan are summarized below:

Implementation Item	Description	Implementation Status
Enhanced training on good housekeeping and pollution prevention practices	Training materials will be revised in PY3 to include information relevant to potential PCB sources and steps to take if a source of PCBs is discovered at a County-owned property. The training will be implemented in PY4 as part of the ongoing biennial training program.	The online PWC University training materials were revised in FY22 to include information related to sources of PCB discharges.
Enhanced training on recognition and reporting of illicit discharges by field personnel	The County's Illicit Discharge Identification and Elimination Program Manual will be updated in PY3 to include information on potential sources of PCBs, safety precautions and notifications.	The Illicit Discharge Identification and Elimination Program Manual was revised in FY22 to include information related to sources of PCB discharges.