

HENRICO COUNTY MS4 PROGRAM PLAN

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PART I.A.1
AUTHORIZED DISCHARGES

PERMIT LANGUAGE

- a) 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 Henrico County in Virginia.
- b) The following discharges, whether discharged separately or commingled with municipal stormwater, are also authorized by this state permit for discharge through the MS4:
 - 1) Non-stormwater discharges and stormwater discharges associated with industrial activity (defined at 9 VAC 25-31-10) that are authorized by a separate Virginia Pollutant Discharge Elimination System (VPDES) permit;
 - 2) 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
 - 3) 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:
 - (a) water line flushing;
 - (b) landscape irrigation;
 - (c) diverted stream flows;
 - (d) rising ground waters;
 - (e) uncontaminated ground water infiltration (as defined at 40 CFR Part 35.2005(20));
 - (f) uncontaminated pumped ground water;

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- (g) discharges from potable water sources;
 - (h) foundation drains;
 - (i) air conditioning condensation;
 - (j) irrigation water;
 - (k) springs;
 - (l) water from crawl space pumps;
 - (m) footing drains;
 - (n) lawn watering;
 - (o) individual residential car washing;
 - (p) flows from riparian habitats and wetlands;
 - (q) dechlorinated swimming pool discharges;
 - (r) street wash water;
 - (s) discharges or flows from fire fighting activities; and
 - (t) other activities generating discharges identified by the Department as not requiring VPDES authorization.
- 4) 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.e). (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 II.G of this state permit.

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SPECIFIC REPORTING REQUIREMENTS

None specified.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.A.1 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

The Stormwater Management Master Plan describes Henrico County's storm water management program and provides detail for the four major components of the program:

- I. Runoff from Commercial and Residential Facilities*
- II. Illicit Discharge Detection & Elimination*
- III. Runoff from Industrial Facilities*
- IV. Runoff from Construction Sites*

PART I.A.2
PERMITTEE RESPONSIBILITIES

PERMIT LANGUAGE

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 this program reduces the discharge of pollutants to the maximum extent practicable. Where wasteloads have been allocated for pollutant(s) of concern in an approved 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.

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.

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 Board will determine, at its sole discretion, whether the reported information will result in an enforcement action. In addition, the permittee must report

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noncompliance which may adversely affect surface waters or endanger public health in accordance with Part II.I.

SPECIFIC REPORTING REQUIREMENTS

- Each annual report shall include a current list of roles and responsibilities.
- Each annual report shall include a list of those circumstances of non-compliance outside of the permittee's control.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.A.2 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

Responsibility for the various tasks and programs necessary to demonstrate compliance with other sections of the MS4 Permit are identified in the respective parts of this MS4 Program Plan.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.A.3
LEGAL AUTHORITY

PERMIT LANGUAGE

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:

- a) Control the contribution of pollutants to the MS4;
- b) Prohibit illicit discharges to the MS4;
- c) 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;
- d) Require compliance with conditions in ordinances, permits, contracts, inter-jurisdictional agreements, or orders; and,
- e) 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.

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.

SPECIFIC REPORTING REQUIREMENTS

None specified.

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MS4 PROGRAM ELEMENTS

The County's MS4 program is governed by the following state and federal laws and regulations:

- the National Pollutant Discharge Elimination System and the Virginia Pollutant Discharge Elimination System requirements developed under the authority of §402(p) of the Clean Water Act;
- the Virginia Erosion and Sediment Control Law (§62.1-44.15:51 et seq. of the Code of Virginia);
- the Virginia Erosion and Sediment Control Regulations (9VAC25-840 et seq.);
- the Virginia Stormwater Management Act (§62.1-44.15:24 et seq. of the Code of Virginia);
- the Virginia Stormwater Management Program Regulations (9VAC25-870 et seq.); and
- the Chesapeake Bay Preservation Act (§ 62.1-44.15.67 et seq. of the Code of Virginia); and
- the Chesapeake Bay Preservation Area Designation and Management Regulations (9VAC25-830 et seq.)

Appropriate provisions of these state and federal laws and regulations have been incorporated into the following sections of the Henrico County Code:

- *Chapter 10 - Environment, Article II. Stormwater Management;*
- *Chapter 10 - Environment, Article VII. Illicit Discharge Detection and Monitoring;*
- *Chapter 19 - Subdivisions, Article II - Plat Approval Procedure;*
- *Chapter 23 - Water and Sewer, Article II - Sanitary Sewage Disposal; and*
- *Chapter 24 - Zoning, Article XXII - Supplemental Regulations*

Implementation of many of these local requirements is further explained in the Henrico County Environmental Compliance Manual.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.A.3 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

Henrico County implemented the Chesapeake Bay Preservation Act regulations on November 15, 1991. Requirements for CBPA areas include measures to control and manage stormwater for both quantity and quality as identified in the Henrico County Erosion Control and the Henrico County Zoning Ordinances. In addition to the ordinances, performance criteria checklists are created for construction plan review. These checklist can be found by clicking on the following link: <http://henrico.us/works/engineering-environmental-services/environmental-compliance-plan-review-checklists/>. These checklists cover the major requirements for new development and redevelopment.

Chapter 10 of the Henrico County Code makes it unlawful to discharge any materials other than stormwater to the storm sewer system in the County without a VPDES permit. This Chapter also prohibits an industrial discharge into the storm sewer system without a VPDES permit or the violation of any condition or provision of any permit granted for stormwater discharges

This stormwater ordinance provides the County the proper authority to order an illegal dumping activity or illicit discharge to be discontinued. In addition, although a facility is permitted by the Department of Environmental Quality (DEQ) to discharge into the municipal separate storm sewer system, Henrico County has the authority to require the implementation of additional controls necessary for the County to meet its permit responsibilities. The ordinance provides penalties for failure to comply with an order to discontinue these activities. In certain instances, the most appropriate action the County may take is to require the illicit discharge to obtain a VPDES permit from the DEQ.

Two avenues of action are pursued based on the presence or absence of a NPDES permit. In situations where a permit is required, the following procedures are followed:

- *Notification to the owner identifying reason(s) that the County believes non-stormwater discharges from the site may be entering the municipal storm sewer system; and*

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- *Identification of corrective measures necessary and an appropriate time frame for compliance.*

If the site owner refuses to take corrective action or disagrees that action is necessary, the County:

- *Issues the owner a final notice indicating that stormwater monitoring to “fingerprint” the site will commence at the facility’s expense and penalties described in the Henrico County Environment Ordinance will become effective;*
- *Notifies the Virginia Department of Environmental Quality of the permit violation;*
- *Petitions the Virginia Department of Environmental Quality, in the instances of a general permit, to require the issuance of an individual permit.*

In situations where a permit is not required, the following procedures are followed:

- *Notification to the owner identifying reason(s) that the County believes non-stormwater discharges from the site may be entering the municipal separate storm sewer system; and*
- *Photo-documentation and inspection of site.*

If the County determines that a non-stormwater discharge is entering the storm sewer system the County issues a notification to take corrective action and/or requests a Pollution Prevention Plan and appropriate timeframe for compliance.

If the owner refuses to take corrective action or disagrees that action is necessary, the County will issue the owner a final notice indicating that stormwater monitoring to “fingerprint” the site will commence at the facility’s expense and penalties described in the Henrico County Environment Ordinance will become effective.

A Notice of Violation sheet has been created and can be found in the following attachments.

NOTICE OF VIOLATION

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County of Henrico Department of Public Works Engineering and Environmental Services Division

NOTICE OF VIOLATION

TO: _____ DATE: _____ TIME: _____

FIRM: _____ LOCATION: _____

An inspection was made on _____. The actions listed below violate Henrico County Code Section 10-218. Violations can result in fines or civil penalties, or both.

- ☐ Discharge of soaps, detergents and/or cleaners into the stormwater sewer system, other than for individual car washing on residential property
- ☐ Discharge of petroleum products into the stormwater sewer system
- ☐ Discharge of chemicals into the stormwater sewer system
- ☐ Discharge of paint, varnish, primer or other finishing products into the stormwater sewer system
- ☐ Depositing leaves, grass clippings, tree trimmings or any other organic waste into the stormwater sewer system
- ☐ Addition of soil/solids into the stormwater sewer system
- ☐ Discharge of fertilizers and/or pesticides into the stormwater sewer system
- ☐ Illegal connection to the stormwater sewer system
- ☐ Discharge of fats, oils & grease into the stormwater sewer system
- ☐ Other (as follows): _____

You are hereby required to stop this activity immediately. You have _____ to take corrective action for this violation. Please notify me by phone or email when corrective action has been taken.

Comments:

County Official _____

Position _____

Phone _____

Email _____

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PART I.A.3
ATTACHMENTS

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PART I.A.4 MS4 PROGRAM RESOURCES

PERMIT LANGUAGE

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.

SPECIFIC REPORTING REQUIREMENTS

- **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.**

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.A.4 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.A.5
PERMIT MAINTENANCE FEES

PERMIT LANGUAGE

Permit maintenance fees shall be paid in accordance with Part XIII of the VSMP regulations (9VAC25-870-700 et seq.).

SPECIFIC REPORTING REQUIREMENTS

- 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.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.A.5 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.A.6
MS4 PROGRAM PLAN

PERMIT LANGUAGE

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 referenced 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 (9VAC25-840-10 et. seq.) and the Chesapeake Bay Preservation Act (§ 62.144.15:67 et seq.) and Chesapeake Bay Preservation Area Designation and Management Regulations (9VAC25-830 et. seq.). The MS4 Program Plan is an enforceable part of this state permit.

Updates to the MS4 Program Plan shall be submitted to the Department for review and approval in accordance with the due dates established by this state permit. Updates to the MS4 Program Plan shall become effective and enforceable upon written approval from the Department.

The most recent MS4 Program Plan shall be posted on the permittee's website, and provided in another location easily accessible to the public.

SPECIFIC REPORTING REQUIREMENTS

- **Utilizing the last annual report prior to this state permit effective date as a baseline, the permittee's first annual report submitted under this state permit (Initial Report) shall include the necessary updates to describe implementation of this MS4 Program Plan and meet the conditions described in this section.**
- **NOTE: For purposes of the next permit cycle, the fourth annual report submitted under this state permit will be considered the updated MS4 Program Plan to be reviewed as part of permit reissuance.**

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MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.d of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.A.7

MS4 PROGRAM REVIEW AND UPDATES

PERMIT LANGUAGE

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.

a) ***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:

- 1) 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.
- 2) 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.
- 3) 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:

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- (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;
- (b) Expectations on the effectiveness of the replacement BMPs, strategies or policies;
- (c) An analysis of how the replacement BMPs are expected to achieve the goals of the BMPs to be replaced;
- (d) A schedule for implementing the replacement BMPs, strategies and policies; and
- (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.

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.

b) *MS4 Program Updates Requested by the Department of Environmental Quality:*

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 to assure compliance with the statutory requirements of the Virginia Stormwater Management Act and associated regulations and to:

- 1) Address impacts on receiving water quality caused by discharges from the MS4;
- 2) Include more stringent requirements necessary to comply with new State or Federal-statutory or regulatory requirements; or
- 3) Include such other conditions necessary to comply with State or Federal statutory or regulatory requirements.

Proposed changes requested by the Department shall be made in writing and set

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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.

SPECIFIC REPORTING REQUIREMENTS

- **All modifications and proposed modifications shall be reported in accordance with this section of the permit.**

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.A.7 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.B.1
PLANNING

PERMIT LANGUAGE

No later than 12-months after the effective date of this state permit, the permittee shall submit to the Department a stormwater retrofit project summary that includes potential stormwater management projects to be completed during the term of the permit. Projects addressing stormwater quantity may be included if there is a water quality benefit to the project. At a minimum, the permittee shall consider the following for each project in the summary: type of project or BMP, number of acres which the BMP treats, impervious and pervious acreage treated by the potential project, condition of the downstream channel, amount of total pollutant reduction, feasibility for implementation, and estimated cost of implementation. The summary shall include a prioritized list of the identified projects for consideration of implementation.

The permittee shall seek public participation in identifying potential stormwater management projects for completion. A copy of the analysis shall be placed on the permittee's web-site no later than 30 days after it is submitted to the Department. Project statuses shall be updated on the website no less than once per year.

SPECIFIC REPORTING REQUIREMENTS

- **No later than 12 months after the permit effective date, the permittee shall provide the stormwater management project analysis as described in Part I.B.1.**
- **The permittee shall provide a current web link to the analysis no later than 12 months after the effective date of this state permit with each annual report.**

MS4 PROGRAM ELEMENTS

To be developed.

HENRICO COUNTY MS4 PROGRAM PLAN

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.1 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.B.2.a

MS4 PROGRAM IMPLEMENTATION
CONSTRUCTION SITE RUNOFF AND POST CONSTRUCTION
RUNOFF FROM AREAS OF NEW DEVELOPMENT AND
DEVELOPMENT ON PRIOR DEVELOPED LANDS

PERMIT LANGUAGE

- 1) 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.
- 2) 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. or that have been adopted in accordance with § 62.1-44.15:65 and/or § 62.1-44.15:33 of the Code of Virginia.

SPECIFIC REPORTING REQUIREMENTS

- Each annual report shall contain the number of regulated land disturbing activities approved and the total number of acres disturbed.
- Each annual report shall contain the number of land disturbing activity inspections conducted and the number and type of each enforcement action taken.
- The annual report due March 31, 2016 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.
- The annual report due March 31, 2016 shall include a list of all known land disturbing projects that qualify under the 'Grandfathering' provision of the

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VSMP regulations found at 9VAC25-870-48.

- Each annual report shall include a summary of actions taken by the permittee to implement Part I.B.2.a)1) through 3) of this state permit.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.a of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

The County of Henrico operates a stormwater management program for water quality and quantity consistent with the Chesapeake Bay Preservation Area and Management Regulations and the Erosion and Sediment Control Regulations. The County's stormwater management program addresses both structural and source controls and is applied to all development and redevelopment activities in the County. The requirements of the Program are implemented during the subdivision and plan of development review and approval process consistent with the County's Zoning Ordinance and Comprehensive Plan. Individual components of this stormwater management program are discussed below.

New development and redevelopment can utilize various structural and non-structural BMPs which achieve the goals of the stormwater requirements. Among them are vegetated swales, detention and retention basins, infiltration trenches, filter strips, etc.

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In addition to required water quality control measures, Henrico County requires commercial and industrial development in designated watersheds to detain stormwater onsite. Otherwise, the developer must incorporate measures to improve the receiving channel to an adequate condition. The fifty-year post-development runoff rate is utilized for stormwater detention design.

Prior to development plan approvals, Henrico County Department of Public Works performs a comprehensive review of the plans to ensure that all stormwater requirements are being met by the proposed development.

Post construction certification procedures have also been revised to ensure BMPs are constructed according to the approved plans prior to release of performance bonds, certificates of occupancy, etc. Post construction certifications can be found by clicking on the following link: <http://henrico.us/works/engineering-environmental-services/forms/>.

All proposed storm sewer projects in the County are reviewed by either the Engineering and Environmental Services or Design Division of Public Works for compliance with County drainage policy. Storm sewers are required to convey the runoff from a 10-year design storm. Conveyances include all storm sewer inlets, pipes, outfalls, and ditches which carry stormwater from the system outfall to a stream or natural drainage way. When a project involves only private drainage, those conveyances are considered private property and County oversight ends when the Erosion and Sediment Control Bond is released at the completion of the project. Storm sewers carrying drainage from adjacent properties through the property to be developed shall be installed in easements. Storm sewers carrying drainage from public facilities or right-of-ways through the property to be developed shall be installed in an easement dedicated to the County.

All plans for development are checked for areas where stormwater conveyance systems may be modified to reduce water quality impacts. Examples of measures frequently utilized include grass-lined or riprap ditches to reduce velocities and facilitate the settling of sediments and pollutants. Velocity dissipating devices and level spreading devices at storm sewer outfalls are required when justified by site conditions.

In watersheds where older structures are subject to flooding, stormwater detention is required based on what is referred to as the 50/10 concept. This requirement mandates that development in affected drainage basins must detain the 50-year developed runoff and release it at a rate not to exceed the 10-year design storm pre-developed peak flow rate for the property.

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An adequate channel must be shown to exist prior to approval of proposed construction plans. In cases where an adequate channel does not exist, the developer is responsible for correcting the existing deficiency prior to or as part of proposed construction plans.

Henrico County requires that any proposed land disturbance activity greater than 2,500 square feet submit a plan for interdepartmental approval. The plan approval process is initiated through the Department of Planning. An Environmental Site Assessment (ESA) form is also completed as part of the application process. This ESA form identifies environmentally sensitive areas within the scope of the proposed construction project, including Chesapeake Bay Preservation Areas and Wetlands. The ESA form can be found by clicking on the following link: <http://henrico.us/pdfs/works/ESC%20Notes%20and%20Details%20-%2027may14%20-%20Standard%20Notes.pdf>. ESA is required for all subsequent plans submitted for review/development within Henrico County in addition to the initial plan. The objective of the ESA is to require the developer to adequately identify and address environmentally sensitive areas at the very earliest stages of site planning so that potential water quality impacts may be considered. Basins and other best management practices, which may be required, must be designed for controlling both water quantity and quality. Non-structural controls may also be required in these areas. Resource Protection Areas (RPA), which include perennial streams and contiguous wetlands, are protected with a 100-foot buffer strip. Additional buffer strips and ground cover requirements have been placed on developments that reduce the amount of stormwater runoff from the site. A comprehensive list of environmental requirements for development sites can be found in the Chapter 10 Erosion and Sediment Control Ordinance and Chapter 22 Zoning Ordinance of the Henrico County Code.

Structural and non-structural BMPs and the location of environmentally sensitive areas are identified in the plan approval process. This information is required under the Henrico County Environmental Ordinance Section 10-35 Contents of plan. Chapter 10 of the Henrico County Environmental Ordinance can be found by clicking the following link: <http://henrico.us/pdfs/countyattony/Chpt010Environment.pdf>.

In addition to adequately identifying and addressing environmentally sensitive areas, the developer must address erosion and sediment control as part of the site plan. Erosion and sediment controls are designed in accordance with the Virginia Erosion and Sediment Control Handbook 1992. The handbook has specific criteria which must be met as part of construction site planning, some of these are: stormwater run-off calculations and subsequent basin sizes; clearing and grading limits/phasing of construction; and seeding requirements. Henrico County also requires standard

HENRICO COUNTY MS4 PROGRAM PLAN

Erosion and Sediment Control Sheets with all plan. <http://henrico.us/pdfs/works/ESC%20Notes%20and%20Details%20-%2027may14%20-%20Standard%20Details.pdf> and <http://henrico.us/pdfs/works/ESC%20Notes%20and%20Details%20-%2027may14%20-%20Standard%20Notes.pdf> The E&S Control Sheet highlights various erosion control methods and identifies special notes and requirements, which need to be carried out by all contractors working in Henrico County. Examples of these special notes include:

- a. A plan/sketch shall be submitted indicating the precautions and procedures to be followed when diverting a live stream. Such plan will be approved to Henrico County's Environmental Engineer prior to any in-stream construction.
The plan will include, but is not limited to:
 - i. The location of all temporary channels, pipes, etc. including a sequence of construction if applicable;
 - ii. Type of channel lining or size of pipe;
 - iii. Type of non-erodible material to be used to divert stream; and
 - iv. Location and proposed method of filtering construction discharge water and other erosion and sediment devices.
- b. Clearing and grubbing of wetland areas requires evidence of a permit. All wetlands disturbed during construction will be restored to their original elevation, by removing excess material, grading and seeding with a wetland seed mix.

In order to streamline the process, the ESA information is located on the Henrico County Erosion and Sediment Control Sheet. This ensures that the information remains with the plans and can be referenced during construction operations.

The ESA and proposed erosion and sediment control devices are reviewed several times during the plan approval process. Henrico County hosts a Staff/Developer meeting with all concerned parties which acts as an early scoping meeting to highlight and address problems with a draft set of plans. Prior to this meeting, the Henrico County Department of Public Works Engineering and Environmental Services Division reviews the plans. The environmental review includes a site visit to confirm ESA and erosion and sediment control information. Once necessary changes have been made, the initial plan is resubmitted with details for final approval. As part of the process, a pre-construction meeting is held on-site to check that all environmentally sensitive areas have been delineated. At that time items such as seeding stabilization, phase

HENRICO COUNTY MS4 PROGRAM PLAN

development, and many other issues are reinforced with the contractor. In the event that, during construction, additional erosion control devices are found necessary, the County has the authority to require their installation. Also as part of the plan approval process, the applicant must submit a statement acknowledging that a NPDES permit application, if required, has been filed for land disturbance activities of one (1) acre or greater.

Best Management Practices (BMPs), either structural or non-structural, can be temporary or permanent and are identified as such when a developer submits an Erosion and Sediment Control Plan in Henrico County. The proposed project type, size, duration, soil, composition, slope and proximity to environmentally sensitive receiving waters (i.e., CBPAs) all are considered in determining the appropriate structural and non-structural BMPs.

Henrico County has the authority, through ordinance and the plan approval process, to require operators to install any additional erosion controls not identified on the plans that are deemed necessary during construction. The County also has the authority to ensure that all devices are maintained during construction activities. Table 1-2 illustrates the common construction site BMPs in use in Henrico County.

Table 1-2: BMPs in use in Henrico

BMP Type
<i>Bioretention Basin/Trench</i>
<i>Extended Detention Basin</i>
<i>Extended Detention Basin w/a</i>
<i>Shallow Marsh</i>
<i>Retention Basin (wet pond)</i>
<i>Sand Filter</i>
<i>Other (manufactured unit)</i>

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Henrico County ensures that developers are in compliance with Erosion and Sediment Control Plans and that all nonstructural and structural controls are maintained by requiring that an Erosion and Sediment Control Agreement be executed prior to plan approval. The developer must provide the Henrico County Department of Public Works with either cash escrow or a letter of credit to ensure erosion control can be accomplished by the County if the developer is unable to fulfill the obligation. The amount of monies posted with the County is based upon the number of disturbed acres, amount of silt basins, amount of silt fence, construction entrances, etc. Vegetated buffers, wetlands, and Chesapeake Bay Preservation Areas are protected by field delineation and ordinance requirements. In addition, "Environmental Protection Area" signs are erected along the boundaries of Resource Protection Areas and non-impacted wetlands and stream channels present on residential lots. Nonstructural and structural controls are inspected before and during construction by Environmental Inspectors in the Henrico County Department of Public Works. Monies posted by developers are not released until a final site inspection is performed and all deficiencies are corrected.

Site inspections and enforcement of erosion and sediment controls for construction sites is conducted by the Department of Public Works, Environmental Inspectors. The Department has eight (8) Environmental Inspectors to ensure that development sites comply with environmental regulations.

Inspections of construction sites actually begin during the plan approval process when the inspector conducts an Environmental Site Assessment review of the site observing environmentally sensitive areas. A pre-construction meeting is held by the Environmental Inspector who signs the plans after ensuring environmentally sensitive areas have been flagged and erosion and sediment concerns have been addressed. Inspections are performed in accordance with the Virginia Soil and Water Conservation Board's approved Alternative Inspection Program (AIP) for Henrico County, approved June 28, 2012 (ADD LINK). <http://henrico.us/assets/ESC-Alternative-Inspection-Program.pdf> ~~Periodic inspections are made during or immediately following initial installation of erosion and sediment controls, at least one inspection every two weeks and after each major storm event.~~ The developer is also required to inspect all erosion and sediment controls after every storm event and to repair any damages.

Responsibility for inspection and enforcement rest with the Department of Public Works, who make periodic inspections of the land-disturbing activities in accordance with State law and the approved AIP. If the County determines that the owner or permittee has failed to comply with the plan, then the County will serve a notice to comply (see attachments) upon the owner or permittee.

The notice specifies the measures necessary to comply with the plan and specifies the

HENRICO COUNTY MS4 PROGRAM PLAN

time within which such measures are to be completed.

If the measures required by the plan are not completely constructed, or, if constructed, fail through overload or inadequate maintenance, then the County may, if the owner or permittee does not, install ground cover, plants, stabilizing devices or other material to the minimum extent necessary to achieve erosion and sediment control and protect water quality equal to that which would have been furnished by the approved plans. The cost of any such temporary measures taken by the County shall be borne by the owner or permittee and shall be a charge against the security required. The County may collect any amounts expended that exceed the security provided. Within forty-five (45) days of the achievement of adequate stabilization of the land-disturbing activity, the security, or the unexpended portion thereof, shall be refunded to the applicant or terminated.

No person may engage in a land-disturbing activity without an approved plan or in violation of an approved plan.

Upon receipt of a sworn complaint of a substantial violation from the Director or his designee charged with enforcement, the County Manager may, in conjunction with or subsequent to a notice to comply previously described, issue a stop work order requiring that all or part of the land-disturbing activities permitted on the site be stopped until the specified corrective measures have been taken. Where the alleged noncompliance is causing or is in imminent danger of causing harmful erosion of lands and sediment deposition in waters within the watersheds of the Commonwealth, such an order may be issued without regard to whether or not the owner or permittee has been issued a Notice To Comply.

Where the alleged noncompliance is not causing or is not in imminent danger of causing harmful erosion or sediment deposition in waters within the watersheds of the Commonwealth, a Stop Work Order may be issued only after either the owner or permittee has failed to comply with a Notice To Comply. The Stop Work Order shall be served in the same manner as a Notice To Comply.

The order shall remain in effect for a period of seven (7) calendar days from the date of service pending application by the Director, or alleged violator for appropriate relief to the circuit court of the jurisdiction wherein the violation is alleged to have occurred. Upon completion of the corrective action, the Stop Work Order shall immediately be lifted. Nothing in the above shall prevent the County Manager from taking additional enforcement action permitted by State law.

Upon completion of the land-disturbing activity the permittee is required to provide written notification to the Director that a final inspection is requested and that all

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requirements of the approved plans have been completed in accordance with the plans and that adequate stabilization of the disturbed land has been achieved.

The inspector performs a final inspection and approval to release a bond is given if the site has adequate stabilization and all temporary erosion and sediment controls used during construction have been removed (i.e., silt fence, silt fence post, temporary diversion dikes and inlet protection).

NOTICE TO COMPLY

HENRICO COUNTY MS4 PROGRAM PLAN

**County of Henrico
Department of Public Works
Engineering and Environmental Services Division (EESD)
NOTICE TO COMPLY**

[illegible]

2

PART I.B.2.b
MS4 PROGRAM IMPLEMENTATION
RETROFITTING ON PRIOR DEVELOPED LANDS

PERMIT LANGUAGE

From the stormwater retrofit project summary list required in Part I.B.1, the permittee shall complete at least eight (8) 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.

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 (in degrees, minutes and seconds).

SPECIFIC REPORTING REQUIREMENTS

- Each annual report shall include a status update for those projects for which implementation began during the reporting period.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.d of the MS4 Permit are assigned to the following Departments / Divisions of the County:

HENRICO COUNTY MS4 PROGRAM PLAN

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.B.2.c
MS4 PROGRAM IMPLEMENTATION
ROADWAYS

PERMIT LANGUAGE

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.

- 1) No later than 12-months after the effective date of this state permit, the permittee shall develop and 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.
- 2) No later than 36-months after the effective date of this state permit, the permittee shall develop and implement written protocols for permittee maintained road, street, and parking lot maintenance, equipment maintenance, and material storage designed to minimize pollutant discharge.
- 3) Materials utilized for deicing and sanding activities shall remain covered from precipitation until application.
- 4) 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.

SPECIFIC REPORTING REQUIREMENTS

- The permittee shall include a copy of the written protocols identified in **Part I.B.2.c)(2)** with the annual report due March 31, 2019.

HENRICO COUNTY MS4 PROGRAM PLAN

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.c of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

The roadway network in Henrico County consists of approximately 3400 lane miles of streets and highways. Henrico County is somewhat unique in Virginia because the construction, operation, and maintenance of much of the roadway network are accomplished by the County instead of the Virginia Department of Transportation (VDOT). The responsibility or ownership of any given road is determined by its classification. The state, through VDOT, is responsible for all interstate and state-owned primary routes, while the County is responsible for all other roads in the County. The County roadway network includes virtually all types of roads (excluding interstates), from neighborhood streets to 2-lane country roads to four and six-lane divided roads which function as major transportation arteries both within and through the County. Many roadway management programs are accomplished by the County of Henrico Department of Public Works. These programs include snow management, vegetation control, road repair and maintenance, traffic control, and street sweeping.

The County of Henrico utilizes County equipment to spread deicing salts and abrasives to plow the County-owned roadway network during all snowfall events determined to pose a danger to the motoring public. VDOT coordinates snow removal activities on all state-owned roads within Henrico County.

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County snow removal crews and equipment are mobilized on average once per season for a major event. Only bridges, overpasses and known trouble spots are treated at the beginning of a frozen precipitation event which never develops into a major event. This occurs an average of three or four times per year. A 50/50 sand to salt mixture is spread on roadways at rates between 200 and 600 pounds per lane mile during a major event. During major events pure salt may be applied at a rate of 200 to 400 pounds per lane mile. The application rate correlates positively to storm intensity and temperature. Maintenance supervisors are educated in the risks deicing chemicals pose to the environment and are conservative with the amount of salt applied when non-threatening conditions exist.

Snowplow routes correspond to school bus routes and any major roads not traveled by buses. During a major event approximately 5000 tons of salt or sand is spread on roadways. The cumulative total of salt spread during all non-major events averages approximately 3000 tons per year. The salt and sand/salt mixture utilized in snow management is stored in large domed buildings located at both the east and west County road maintenance facilities.

After the storms are over, roadways are swept to remove chemicals and large particulates associated with snow removal.

Road repair and maintenance includes regularly scheduled routine maintenance of shoulders and ditches performed by County personnel. Three categories of roadway shoulders exist: paved, graveled, and sodded or grassed. Routine maintenance which involves road shoulders is performed every 10 years for paved, 5 years for sodded, and every year for gravel shoulders. No significant pollution potential exists from maintenance of paved shoulders except when the maintenance involves land disturbance. When this is the case, erosion and sedimentation controls which are covered under construction activities are used as necessary. Sodded shoulders pose the least pollution threat.

Both paved and gravel shoulders pose a pollution threat by increasing the amount of impervious cover and by reducing or eliminating the amount of vegetated area between the road surface and the ditch. Pollutants washing off the road surface adhere to sediment particles on the road or at the edge of pavement and may be transported to the nearest water body.

Henrico County personnel perform all ditch maintenance activities which generally involve removal of accumulated sediment or other obstructions to flow. This type of maintenance is typically performed on roadside ditches once every four years. Maintenance may occur more often in residential areas at adjacent property owner's

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requests. Maintenance of off-road easement ditches is performed on an as-needed basis; for any given ditch the cycle ranges from one to ten years.

Ditch maintenance operations entail mechanized regrading of ditch bottoms. Generally the ditch is cleared of all vegetation and debris and a specific bottom grade is re-established. The County has acquired a piece of equipment which removes material efficiently from the very bottom of the ditch line, while maintaining the integrity of the side slopes. This machinery is used only in areas where feasible and traditional practices are relied upon in other areas. Ditches are reseeded and mulched where it is deemed necessary by County personnel, particularly in cases with steep slopes or expected high velocities. Jute mesh is used, where needed, to stabilize freshly cut banks.

Prior to commencement of all scheduled ditch maintenance activities the proposed job is evaluated to determine necessary erosion and sediment control measures. Frequently employed methods include: silt fence, check jams, revegetation, and stabilization. Stabilization measures include: jute mesh, riprap, paved ditch and piping. There are no formally written policies or guidelines for County ditch maintenance.

During the planning and design of roadway construction projects, a wide variety of BMPs are incorporated into the roadway system in order to improve water quality. Each roadway design is assessed individually for the use of measures which could improve water quality. Depending on the drainage system needed and existing soil conditions, some appropriate BMPs include: extended detention ponds; wet ponds; infiltration basins; infiltration trenches; filter strips; seepage areas; and grassed drainage ways.

The County currently owns five street sweepers and usually four are in use at any given time due to maintenance and down time. Under optimal conditions street sweepers can remove approximately 50 percent of the pollutants accumulating on urban streets. Roads are swept as sweepers become available, their primary use is to follow road construction crews and clean up in front of and behind them.

See the following attachments for working standards and SOPs.

FACILITY SWEEPING STANDARD OPERATING PROCEDURE

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County of Henrico

Verification	Originator	Revised	Issued
Initials	B Mc	B Mc	
Date	03/13/2013	10/20/2014	

Environmental Standard Operating Procedure 101 Facility Sweeping

Persons responsible:	DPW Operators
Area of application:	Henrico County Public Works Operations
Document location:	Pw share/pw rd main/depot environmental main
Revisions	
Rev. No.	Date Description

Purpose:

The purpose of this Standard Operating Procedure (SOP) is to provide maintenance and management requirements to owners and operators who sweep their facility of pollutants that contribute to storm water pollutant runoff to surface water.

Scope:

This SOP applies to all DPW Henrico County operations that own or operate a facility.

Exclusions:

N/A

Responsibility:

The Sweeping operator will ensure this SOP is followed and implemented.

Definitions:

- Sweeping - Parking lot sweeping of pollutants, including sediment, debris, trash, road salt, trace metals, and loose aggregates.

Regulatory Requirements:

Reporting Requirements:

- Sweeping must be performed bi-weekly or as needed by a mechanical or vacuum sweeper.

Record Keeping Requirements:

- Maintain documentation of the following at the sweeping site or at a readily available alternative site:
 - Date and time of sweeping
 - Date, time, of sweeping of any unexpected spills

Note: this requirement is satisfied by completing a "Sweeping Maintenance Form".

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County of Henrico

Verification	Originator	Revised	Issued
Initials	B Mc	B Mc	
Date	03/13/2013	10/20/2014	

Environmental Standard Operating Procedure 101 Facility Sweeping

- **Spills:** *Note:* Spills must be managed as required by the "Spill Response & Notification SOP"

Disclaimer:

Although every effort has been made to ensure this SOP addresses all applicable regulations, it is the sweeping operator's responsibility to ensure all rules and regulations are identified and followed.

DRAFT

ERODIBLE STOCKPILES STANDARD OPERATING PROCEDURE

HENRICO COUNTY MS4 PROGRAM PLAN



County of Henrico

Verification	Originator	Revised	Issued
Initials	B Mc	B Mc	
Date	03/13/2013	11/06/2014	

Environmental Standard Operating Procedure 102

Erodible Stockpiles

Persons responsible: DPW Operators
Area of application: Henrico County Public Works Operations
Document location: Pw share/pw rd main/depot environmental main

Revisions

Rev. No.	Date	Description
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Purpose:

The purpose of this Standard Operating Procedure (SOP) is to provide maintenance and management requirements to owners and operators who store and maintain stockpiles.

Scope:

This SOP applies to all DPW Henrico County operations that own or operate a facility.

Exclusions:

N/A

Responsibility:

The operator will ensure this SOP is followed and implemented.

Definitions:

- Stockpiles - Stone, top soil, fill dirt, waste dirt, sand, salt, and 50/50.
- Cover - tarp, vegetation, salt dome, and metal/plastic/wooden roof structures.
- Containment - earth berm, stone berm, sediment pit, sediment basin
- Erodible - able to wear or wash away gradually by natural forces such as water, wind, or ice.
- Non-Erodible - opposite of erodible, not able to wear or wash away gradually.

Regulatory Requirements

- **All Erodible Stockpiles must be covered and have acceptable containment.**
 - This requirement is satisfied by covering the erodible stockpile with established vegetation, a tarp, or roof structure; and contained by an earth berm and sediment basin.
 - The covered erodible stockpile must be checked at the end of each work day by the Loader operator.
 - In the event that the stockpile is uncovered for the purpose of adding or removing material; it can remain uncovered until the last bit of material, for the day has been handled.
 - The stockpiles must be kept free of litter and debris.

Page 1 of 2

SOP is effective for a period of one year past the Issue Date, versions older than that may be obsolete

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PART I.B.2.c
ATTACHMENTS

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County of Henrico

Verification	Originator	Revised	Issued
Initials	B Mc	B Mc	
Date	03/13/2013	11/06/2014	

Environmental Standard Operating Procedure 102 Erodible Stockpiles

Overflow Control Requirements:

- Ensure the volume of the stockpile is not greater than the cover capacity.
- Ensure the stockpile operation is monitored constantly.
- Ensure stockpile has a suitable sized containment.

Disclaimer:

Although every effort has been made to ensure this SOP addresses all applicable regulations, it is the operator's responsibility to ensure all rules and regulations are identified and followed.

PART I.B.2.d
MS4 PROGRAM IMPLEMENTATION
PESTICIDE, HERBICIDE, AND FERTILIZER APPLICATION

PERMIT LANGUAGE

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:

- 1) The permittee shall develop and implement 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 in accordance with the following schedule:
 - (a) No later than 12-months after the effective date of this state permit the permittee shall identify all permittee lands where nutrients are applied to a contiguous area of more than one acre. A latitude and longitude shall be provided for each such piece of permittee land.
 - (b) The permittee shall develop and implement turf and landscape nutrient management plans on all permittee lands where nutrients are applied to a contiguous area of more than one acre. The following measurable goals are established for the development and implementation of turf and landscape nutrient management plans.
 - (1) No later than 24-months after the effective date of this state permit, not less than 15% of all identified acres will be covered by turf and landscape nutrient management plans.
 - (2) No later than 36-months after the effective date of this state permit, not less than 40% of all identified acres will be covered by turf and landscape nutrient management plans.
 - (3) No later than 48-months after the effective date of this state permit, not less than 75% of all identified acres will be covered by turf and landscape nutrient management plans.

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(c) The permittee shall annually track the following:

- (1) The total acreage of permittee lands upon which nutrients are applied and controlled using general County 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.
- 2) The permittee shall continue to employ good housekeeping/pollution prevention measures in the application, storage, transport and disposal of pesticides, herbicides and fertilizers.
 - 3) The permittee may regulate the use, application, or storage of fertilizers pursuant to §3.2-3602 of the Code of Virginia.
 - 4) The permittee shall track the acreage of permittee lands managed under Integrated Pest Management Plans.

SPECIFIC REPORTING REQUIREMENTS

- **The report due March 31, 2016 shall contain a list of all permittee lands and applicable acreage on which nutrients are applied to more than one contiguous acre.**
- **Each annual report submitted after March 31, 2016 shall report on compliance with the turf and landscape nutrient management plan implementation schedule and include a list of the permittee's properties for which turf and landscape nutrient management plans have been implemented during the reporting year and the cumulative total of acreage under turf and landscape nutrient management plans.**
- **Each annual report shall include the number of acres managed under Integrated Pest Management Plans.**

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MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.d of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

Vegetation control along County roadways involves three categories of activities: planting, maintenance, and removal of vegetation. At present there are not written policies or guidelines that govern these activities, although the Virginia Sediment and Erosion Control Handbook (3rd ed. 1992) is followed with regards to the removal and planting of vegetation. Many of these activities are managed through the Department of Public Works, Maintenance Division. Other activities, such as roadside mowing, which are largely contracted out, are handled through the Department of General Services. There are no officially adopted roadside landscape manuals or guidelines currently used by the County, with the exception of the VDOT Guidelines for Roadside Plantings which deals only with safety issues such as sight distances and imminent hazard.

Planting vegetation along roadways generally occurs to fulfill two needs: stabilization to prevent erosion and beautification. Stabilization is part of virtually all roadway construction activities and many maintenance activities. Stabilization planting generally consists of low maintenance grass seed mixes and occasionally wetland or wildflower seed mixes. Beautification generally occurs only along high volume roadways in high-density commercial or residential areas or around entrances to image-conscious establishments. Office parks and residential developments, both single and multi-family, also frequently involve elaborate landscaping schemes. Beautification planting occurs in a wide variety of forms and there are no existing County regulations that

HENRICO COUNTY MS4 PROGRAM PLAN

govern what can be planted as part of a landscaping project.

Maintenance performed on roadside vegetation includes fertilization of high visibility roadside and median grass and mowing of all roadside grass. The areas that receive fertilization are only the few “parkway” type roadways and most raised, grassed medians on major County thoroughfares. These areas are fertilized once a year (September). Approximately 30 percent of all mowing is contracted out to private firms. Mowing is scheduled throughout the growing season. The timing varies somewhat over the season and particularly with the level of care required for any given roadside. The high visibility roadways, those receiving fertilization, are mowed twice per month during peak growth times. Rural roadsides are mowed approximately once every two months unless there are complaints. All other roadside mowing schedules vary between these two general overall schedules.

Vegetation removal operations primarily involve either tree cutting or pruning, or spraying of herbicides. Trees are pruned or removed based on either safety issues or complaints. These operations are coordinated through the Road Maintenance and Traffic Engineering Divisions of the Department of Public Works. Herbicides are used primarily for two operations; guardrail spraying, and concrete shoulder and median seam spraying. Occasionally herbicides are used for other nuisance weed control applications. The two mentioned; however, are the only scheduled uses. These activities are coordinated by the Maintenance Division of the Department of Public Works. The County purchases only three chemicals for nuisance weed control: “Roundup”, “Surflan”, and “Rodeo”. Total annual purchase is less than fifty gallons combined. Roundup is used for seam spraying, Surflan is used for guardrail spraying and Rodeo is used for killing aquatic weeds both in and around water bodies when necessary. All vegetation control is currently performed by contract.

In general, high visibility solid median and shoulder seams are sprayed once each May through September and all high visibility guardrails are sprayed once every two years. All spraying occurs during the growing season; specific schedules vary somewhat depending upon how rapidly the weeds are growing and the immediate weather. The Weather Channel is consulted each morning and monitored throughout the day and spraying is not performed if rain is predicted for that day. The County currently has a contract with a private landscaping company to apply all herbicide treatments. County personnel accompany this private contractor during most applications. The Virginia Department of Agriculture and Consumer Services certify all herbicide applicators. Risk Management maintains a list of certified pesticide applicators within the County.

Equipment used for herbicide spraying consists of hand-held or backpack units and a 150-gallon truck mounted swing lock sprayer. Each day spraying is planned, the

HENRICO COUNTY MS4 PROGRAM PLAN

amount of chemical mixed is carefully proportioned to the area to be treated and rarely is there any leftover chemical. The equipment is cleaned by filling the receptacle half-full with water and spraying out in a gravel parking lot. Care is taken to avoid ditches, inlets or other areas where the chemical might directly enter a water body. All empty herbicide containers are triple rinsed and discarded at the landfill. All unused chemical is stored in a properly labeled storage location under cover, and is locked at all times.

The County of Henrico has several departments that utilize pesticides and fertilizers. The Department of Public Works, Road Maintenance Division uses herbicides for weed control under guardrails and on raised concrete medians where mowing operations are impractical. The Department of Recreation and Parks also uses herbicides and fertilizer for their Landscape Maintenance, Sports Turf Maintenance and Golf Course Maintenance operations at County-wide Recreation and Park Sites and the Belmont Golf Course. All County departments are involved in the Henrico County Standing Water Initiative, which focuses on Environmental Mosquito Management through source reduction, biological, and bio-rational larvacide applications. All Henrico County employees that apply pesticides are certified in the appropriate pesticide application category for the pesticide applications that they make. This certification is by the Virginia Department of Agriculture and Consumer Services. Current certification categories include 3-A, 3-B, 6, 8 and 60. Certified Pesticide Applicators must renew their certification biannually and attend recertification programs every two years. All pesticide usage is done in accordance to the requirements of the FIFRA regulated pesticide label. All County employees that apply fertilizer are trained in the proper application of the fertilizers used and fertilizer applications are made as to avoid direct and minimize indirect introduction into the County's Storm Sewer System or any other waterways

PART I.B.2.e
MS4 PROGRAM IMPLEMENTATION
ILLICIT DISCHARGES AND IMPROPER DISPOSAL

PERMIT LANGUAGE

Discharges to the MS4 not authorized by this state permit shall be effectively prohibited.

1) 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 non-stormwater 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 non-stormwater 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.

2) The permittee shall continue implementing a sanitary sewer inspection program to minimize the exfiltration from the sanitary system to the MS4.

The permittee shall inspect a minimum of 300,000 linear feet of sanitary sewer annually.

3) The permittee shall develop and implement a program to reduce the discharge of floatables (e.g. litter and other human-generated solid refuse).

4) 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) and household hazardous waste 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 not less than twice per year.

5) 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 I.B.2.l)(1) of this state permit.

HENRICO COUNTY MS4 PROGRAM PLAN

- 6) 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.

SPECIFIC REPORTING REQUIREMENTS

- 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.
- Each annual report shall include the amount of linear feet of sanitary sewer inspected during the reporting year.
- The initial annual report shall include a description of the procedures the permittee will implement to reduce floatables as required by Part I.B.2.e)3) above.
- Each following 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.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.e of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

Henrico County has developed criteria and requirements for oil/water separators, and inlet trash racks that can be found at:

<http://henrico.us/pdfs/works/Chapter15MS4PROGRAMREQUIREMENTS.pdf>

These controls are required for many commercial and retail parking lots, gasoline/service stations, and establishments with drive-through windows and industrial activities.

Henrico County has a litter pick-up program with the basic schedule for major roadways consisting of pick-up once per month and twice per month ahead of mowing in the summer. The Keep Henrico Beautiful program also coordinates pick-ups once per month on selected roadways.

Inspections and monitoring are conducted in known problem areas, in response to complaints and in the event of spills. Activities which are exempt from regulation under the stormwater ordinance (i.e., water line flushing, landscape irrigation, individual car washing on residential properties, de-chlorinated swimming pool discharges, etc.) have not been determined to be causing a detrimental effect on stormwater quality and therefore are not currently inspected or monitored.

The Department of Public Works employs a stormwater inspector to detect and investigate illegal dumping activities and illicit connections. Close coordination is also maintained, when appropriate, with the Department of Public Utilities, Health, and Fire in these investigations.

Priority areas have been identified for detailed screening of the stormwater system based on the likelihood of illicit connections. These areas have been identified based on public complaints, visual screening, Geographic Information System (GIS) and water sampling during dry weather. Using the County's GIS system, we can map highly developed areas, industrial sites, and previous illicit discharge sites. Using this mapping, potential field screening sites can be determined to screen several sites in one location. We have used this method to investigate Food Service Providers via our FOG program in 2009. Currently we are investigating automotive shops via this

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method, and are scheduled to investigate laundry facilities in 2011. The County also has a yearly inspection program that covers inspections for a number of outfalls which discharge into state waters. As these outfalls are inspected/monitored, the results are kept in the database for future inspections and reference. If any evidence of illicit discharge is found, then the source is tracked and documented.

Once a problem area or discharge is found, additional efforts usually are necessary to determine the source of the problem (see attachments). Methods used to find the source of an illicit discharge include: dye- or smoke-testing buildings in the area, tracing the discharge upstream in the storm sewer, and using video to inspect the storm sewers. Once the source is identified, the offending discharger is notified and directed to correct the problem. Education and working with the discharger are typically effective in resolving the problem before legal action is considered. All actions taken during the illicit discharge identification and remediation are documented. This illustrates that progress is being made to eliminate illicit connections and discharges. An inspection checklist has been developed and this data is incorporated into a database. Information items related to each potential illicit discharge collected include:

- *Location of the illicit/improper discharge;*
- *Constituents involved in the discharge (i.e., fecal coliform, fecal streptococcus, surfactant, residual chlorine, fluorides or potassium);*
- *Land use in the area;*
- *Age of the facilities in the area;*
- *Prevalence of complaints, problems in the area;*
- *Locations tested during search for source;*
- *Facility contact/action taken (smoke/dye testing, camera surveillance, monitoring), and*
- *Penalty action(s).*

The County of Henrico Department of Public Utilities maintains an Inflow and Infiltration (I&I) program. A sewer cleaning crew cleans all sanitary sewer lines once every five years. Any inspection or observation of a problem by County personnel may initiate an investigation of the associated sanitary sewer lines in the general area. Cleaning crews occasionally find cracks, leaks, leaky joints or poorly constructed manholes in sewer lines. Investigations are accomplished through the use of dye testing in existing lines and video inspection in newly constructed lines. Investigations may also involve surface inspection of sanitary sewer easements. Pump flows from pump stations are monitored as part of the I&I program and a reduction in flows from a pump station may indicate a leak in the sanitary sewer system. The Department of Public Utilities also has crews that will perform maintenance on pipes to prevent seepage.

HENRICO COUNTY MS4 PROGRAM PLAN

The Department of Public Utilities, the Department of Health, and the Department of Public Works coordinate closely to detect and remediate seepage problems. The I&I program also inspects suspect areas where sanitary sewer lines and storm sewer lines come in close contact. Currently, the Department of Public Utilities is not investigating any sewer systems for possible illegal connections.

ILLICIT DISCHARGE SOP



County of Henrico NPDES Stormwater Program

Standard Operating Procedure Illicit Discharge

Scope:

1. NPDES Engineers
2. Environmental Inspectors
3. County employees filling in for any of the above

Materials:

1. Digital camera
2. Notepad & pen/pencil
3. Manhole puller
4. County business cards
5. Sampling Kit – pH, Chlorine, Fluoride
6. List of recommended spill cleanup companies
7. Phone information for Marshall & Miller –804-798-6525
8. F&R Laboratories – 804-264-2701

Procedure:

1. Obtain as much information as possible from the office via phone and/or email.
Desired basic information:
 - a. Location of discharge (exact physical address)
 - b. Time/Date the discharge took place
 - c. Contact Information at the site
 - d. Type of material discharged
 - e. Amount of material discharged
 - f. Responsible parties if known
2. Notify the Fire Department if not already notified. Primary contact is Scotty Roberts 804-501-7310 or cell 804-349-2210. Secondary contact is Henrico's Emergency Communication Center at 804-501-5000.
3. If state waters are involved, determine if DEQ has been notified (usually done by fire division). If DEQ has not been notified, contact Jeremy Kazio @ 804-527-

HENRICO COUNTY MS4 PROGRAM PLAN

5042. If underground tanks are involved, contact Robyne Bridgman @ 804-527-5057.

4. Look up the area of the spill on Arc/GIS.
 - a. Determine which tributaries the discharge might be draining into if it reaches the storm sewer system.
 - b. Print out a map containing the storm sewer lines, storm sewer structures, streams and streams with >100 acre drainage and aerial photos
 - c. Check to see if any other discharges w/ similar characteristics are in the same area
5. Drive to the site and attempt to meet the primary contact. Exchange contact information, making sure that you can reach someone at the site if needed. Also make sure they have a county business card if they should need to contact us.
6. Using a digital camera, take pictures of the area, discharge, leakage, and track it all the way to its destination.
7. Attempt to determine what category the waste falls into:
 - a. Petroleum (smell, sheen, visual)
 - b. Acid/Base (pH Test)
 - c. Organic Chemicals (smell)
 - d. Explosive (Fire Dept. sniffer)
 - e. Unknown (Call Primary Labs and get samples for them for analysis)
8. Determine if booms/socks are needed to absorb the spilled material, or if mats will do the job. Typically booms/socks are used in higher flow area such as drainage ditches and near outfalls. If there is no containment in place yet, place booms/socks and absorbent pads at appropriate areas (areas of the highest contaminant concentration and near the outfall). Keep track of materials used for reimbursement.
9. Investigate with surrounding residents to try to determine the culprit of the illegal discharge. If culprit is located, give them the list of cleanup contractors and have them initiate cleanup.
10. If state waters are involved, discuss the situation with DEQ representatives and determine clean up requirements. Jeremy Kazio is the primary contact.

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11. If clean up is required and culprit cannot be located, contact one of the approved clean up contractors.

(Note 10 & 11 may be done either by Fire Div. or Public Works)

12. Enter results in NPDES database and map discharge in Arc/GIS.

13. Follow up as needed, keeping in contact with the cleanup contractor, DEQ, Fire and any other involved parties until site is cleaned up.

PART I.B.2.f
MS4 PROGRAM IMPLEMENTATION
SPILL PREVENTION AND RESPONSE

PERMIT LANGUAGE

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.

SPECIFIC REPORTING REQUIREMENTS

- 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.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.f of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit

HENRICO COUNTY MS4 PROGRAM PLAN

expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

The Henrico County Division of Fire Hazardous Materials Incident Team (HAZMAT Team) currently conducts a substantial program to respond to, contain, and stabilize potential surface water, groundwater and soil spills. The County of Henrico Department of Public Works Environmental Section coordinates with the Division of Fire to ensure cleanup of the spill by a qualified contractor.

The Environmental Section is currently directed to small spills by citizens and through various departments (Public Works, Public Utilities, Parks and Recreation, etc.). There is also an online report form where citizens can post spills & dumps: <http://www.co.henrico.va.us/works/ectf/ectfform.html>. Several of the staff in the Environmental Section of the Department of Public Works has been trained in emergency spill response and the 40-hour HAZWOPER course. Technical assistance from the Division of Fire's Hazardous Incident Team is also obtained, particularly if the spill contains a possible hazardous chemical. Ultimately the HAZMAT team could be called upon to conduct containment procedures, if appropriate.

The Division of Fire documents all spill incidents they respond to on a hazardous incident report form that is filed with the Division of Fire's Operations Emergency Service Coordinator. The Environmental Section collects copies of report forms to maintain a list of problems throughout the municipal separate storm sewer system, and monitor any possible effects.

The main component of the spill prevention program for industrial facilities located in Henrico County is the development of a Pollution Prevention Plan. If the possibility of a spill into the municipal separate storm system exists at a facility the County encourages the development of a Pollution Prevention Plan. The Environmental Section of the Department of Public Works maintains a small library of guidance materials for the development of pollution prevention plans and the use of best management practices and encourages and provides some guidance in the development of appropriate measures for facilities. Spill prevention programs may be developed to address issues relevant to policies in Henrico County. Spill prevention, however is largely accomplished through an active inspection and education program in the County.

In cases of a spill and failure of containment procedures, the Division of Fire and HAZMAT Team are notified. The pollution prevention team also coordinates closely with the DEQ office of Pollution Prevention.

The attachments contain the spill response SOPs, Incident Response Form, a contact

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list developed for environmental cleanup contactors, and the Division of Fire's SOPs regarding spills and containment.

GENERAL SPILL RESPONSE SOP



County of Henrico NPDES Stormwater Program

Standard Operating Procedure General Spill Response

Scope:

1. County Employees reporting a released spill of hazardous or non-hazardous materials to the environment

Procedure:

1. Obtain as much information as possible from the office via phone and/or email.
Desired basic information:
 - a. Location of spill (exact physical address)
 - b. Time/Date the spill took place
 - c. Contact Information at the site
 - d. Type of material spilled
 - e. Amount of material spilled
 - f. End result of the spill (did it reach state waters?)
 - g. Responsible parties if known
2. Notify Jennifer Welch at 349-3204. If unavailable, report the spill to the Fire Department. Primary contact is Scotty Roberts 804-501-7310 or cell 804-349-2210. Secondary contact is Keith Johnson at 804-501-4919. General Fire number is 804-501-4900 and after hours # is 804-501-5000.
3. If state waters have been or will be contaminated, determine if DEQ has been notified (usually done by fire division). If DEQ has not been notified, contact Jeremy Kazio @ 804-527-5042. If underground tanks are involved, contact Robyne Bridgman @ 804-527-5027. After hours spills contact DEQ at 1-800-468-8892.
4. If Jennifer Welch is not available, then follow these steps:
5. Look up the area of the spill on Arc/GIS.

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- a. Determine which tributaries the spill might be draining into if it reaches the storm sewer system.
 - b. Print out a map containing the storm sewer lines, storm sewer structures, streams and streams with >100 acre drainage and aerial photos, use topography if needed.
6. Drive to the site and meet the primary contact. Exchange contact information, making sure that you can reach someone at the site if needed. Also make sure they have a county business card if they should need to contact us. Your primary goal is gathering as much information as possible.
7. Using a digital camera, take abundant pictures of the area, spill, leakage, and track it all the way to its destination.
8. Determine if booms/socks are needed to absorb the spilled material, or if mats will do the job. Typically booms/socks are used in higher flow area such as drainage ditches and near outfalls. If Fire Dept. is on site, they will boom off the necessary areas.
9. If a contractor is cleaning up the site, be sure to confirm that any absorbent has been swept up before leaving the site. Absorbent that is left on asphalt will wash into the storm sewer system with the contaminants that it has absorbed.
10. Give the site contact a copy of the list of cleanup vendors. Be sure to tell them this is only a partial list, and that they may contract any licensed cleanup vendor they wish. Timeline varies from job to job, normally cleanup should begin ASAP, within 24 hours at the latest.
11. During investigation, ask any and all questions of the witnesses/landowners in the area to determine the specific source of the spill and who is responsible. If responsibility is readily apparent, contact that party ASAP and have them begin reparations. If it is not, then put the information into the standard Spill Response Form and call one of the approved clean up contractors if needed.

Fill out the Spill Response Form upon returning to the office. Print and file a copy for records, then enter the pertinent data into the NPDES Access file for database tracking and map the site in Arc/GIS

SPILL REPORTING FORM

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County of Henrico Environmental Compliance Task Force

Incident Report Form

(To be used with all posting to ECTF shared folder)

Part 1

Incident Name: Database Lookup # (DLN): Danger Rating (Green/Yellow/Red) :	
Nature of Potential Problem	
Location <i>Street Number and Name</i>	
Incident Submitted by <ul style="list-style-type: none">○ Name○ Contact Information○ Time/Date Submitted	
Witnesses, if any	
Arc/GIS Information	

Part 2

Person Responding <ul style="list-style-type: none">○ Department○ Contact Information○ Time/Date Visited Site	
Findings	

HENRICO COUNTY MS4 PROGRAM PLAN

PART I.B.2.f
ATTACHMENTS

HENRICO COUNTY MS4 PROGRAM PLAN

Recommendations	
Follow-up	

Part 3

Final Status	
Narrative	
By/date	

Incident Report Form (Continued)

Part 4

Summary of Expenses					
Department Name					Total
Expenses Incurred					
<i>Man hours</i>					

HENRICO COUNTY MS4 PROGRAM PLAN

PART I.B.2.f
ATTACHMENTS

HENRICO COUNTY MS4 PROGRAM PLAN

<i>Direct Costs</i>					
Reason					
Expenses Recovered					
By What Means?					
Total by Dept					
				Net Costs	

ENVIRONMENTAL CLEAN UP CONTRACTORS

HENRICO COUNTY MS4 PROGRAM PLAN

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PART I.B.2.f
ATTACHMENTS

HENRICO COUNTY MS4 PROGRAM PLAN

Hazardous Waste Disposal and Emergency Response Services Contracts

In conjunction and coordination with the Department of Finance, Purchasing Division, the Department of Human Resources, Division of Risk Management is recommending that all Departments use the **Commonwealth of Virginia's Hazardous Waste Disposal Management Services Contract E194-72842 for Hazardous Waste Disposal**.

Four contractors and contact information are presented as options under this contract and are listed below in alphabetical order:

- **Clean Harbors Environmental Services**
 - Glenn Newsome
804-400-4063
newsomeg@cleanharbors.com
Emergency #804-381-2146
Contract Dates: October 10, 2013-October 9, 2018
- **PSC Environmental Services**
 - Matt Gemmell
804-836-2706
matthew.gemmell@pscnow.com
Contract Dates: October 10, 2013-October 9, 2018
- **Triumvirate Environmental**
 - Vaughan Harry
347-907-4417
yharry@triumvirate.com
Contract Dates: October 10, 2013-October 9, 2018
- **Veolia ES Technical Solutions**
 - Tony Jackson
804-233-6980 Ext. 72029
victor.jackson@veoliaes.com
Contract Dates: October 10, 2013-October 9, 2018

In conjunction and coordination with the Department of Finance, Purchasing Division, the Department of Human Resources, Division of Risk Management is recommending that all Departments use one of the following contracts for **Emergency Response Services** (i.e. emergency cleanup of hazardous material or petroleum releases).

- **Chesterfield County Emergency Response Services Contract 13-0802**
 - **First Call Environmental**
 - 24-Hour Emergency Response Number: 1-800-646-1290
Jim Gorey, jgorey@firstcallenvironmental.com
Contract Dates: November 18, 2013-September 9, 2014
- **Virginia Tech Emergency Response Contract TS-035-13**
 - **W.E.L.**
 - 24-Hour Emergency Response Number: 1-800-847-2455
Chris Haywood, 434-993-2210
welcah@yahoo.com
Contract Dates: January 1, 2013-December 31, 2014

These recommendations are based on a review of cost and levels of service available within the contracts. When utilizing these contracts please prepare and transmit a purchase requisition through ORACLE. This procedure allows for annual reporting of expenditures by contract number and it provides the Purchasing Division information on annual contract usage.

Please contact Jason Young, Environmental Manager, you44@co.henrico.va.us or Jacque Comuzzi, Buyer com005@co.henrico.va.us if you have any questions.

DIVISION OF FIRE
SPILLS INVOLVING PETROLEUM PRODUCTS

HENRICO COUNTY MS4 PROGRAM PLAN

County of Henrico Division of Fire		Title: EO-08 Spills Involving Petroleum Products
By order of:  Edwin W. Smith		Effective Date: April 15, 2009
Chief, Division of Fire		Rescinds: January 15, 2008

PURPOSE - This procedure is provided to assist Division of Fire personnel in handling spills of fuel oil, diesel fuel, gasoline and similar petroleum products. However, this should not be seen as a replacement for the use of good incident command and good judgment in handling these spills.

BACKGROUND - Petroleum spills can be classified by the amount of product that is present or by the hazards created by the situation. These classifications can assist in making decisions regarding the necessary response.

Spills are categorized as either small or large. A spill is considered to be small if it meets one of the following criteria:

1. Less than 50 gallons.
2. Less than 10 feet in diameter when puddled on a flat hard surface.

A spill is considered to be large if it exceeds either of the above criteria or is a continuously "running" spill with no apparent means to secure the source.

Spills can be of high, moderate, or low hazard. To classify spills based on the hazard they present, consideration must be given to the following:

1. Type and quantity of product
2. Location of the spill
3. Proximity to population
4. Other details specific to a given situation

RESPONSE - When combating a spill of any size, it is of paramount importance that due caution be exercised by all personnel since petroleum products have many hazardous properties.

In general, the most frequently encountered problems will be those that involve small amounts of product and are a low hazard. In these instances, the basic procedure is to absorb as much product as possible with absorbent materials from Squad 21, Haz Mat 3, Squad 13, or Squad 18 and wash down the remainder with an emulsifier, such as ADP-7 (click for more information on [ADP-7](#)). Small spills that result from such things as auto accidents should be cleaned up with absorbent materials supplied by a wrecker service. Washing down with the emulsifier should be done only when absorbent materials are unavailable. Sand or particulate absorbent may be placed on the road to eliminate slippery conditions. All spills must be dealt with in light of both present and potential hazards.

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The responsible party must take clean-up action. On spills that exceed 50 gallons, the Deputy Fire Marshal/HAZMAT (FM2) must be notified immediately in order to coordinate cleanup. If FM2 is unavailable, then the on-duty Hazardous Material Team (Station 21) must be notified. When absorbents are used, their use must be documented and forwarded to the Deputy Fire Marshal/HAZMAT (FM2) so reimbursement can be arranged.

The Hazardous Incident Team and its equipment are available for assistance in whatever way is felt necessary for containment and stabilization and should be called whenever the situation demands. Assistance from individual members on duty is encouraged if possible.

State law requires that the Department of Environmental Quality (DEQ), Water Division, be notified of all petroleum spills ([DEQ spill information](#)). This notification is just that: a notification of the occurrence for their records. They will not normally respond to the scene immediately. They will, however, require answers to specific questions. Those questions are:

1. What water body is affected?
2. What was spilled?
3. How much was spilled?
4. How much reached the water?
5. Is the Coast Guard on the scene?
6. Cause of the spill?
7. Date and time of the spill?
8. Who was the spiller?
9. Site contact and phone?
- 10.* Is this a fish kill?
- 11.* Is there a vessel grounding or collision?
- 12.* Is it a petroleum spill where 100 gallons reached the water?
- 13.* Is it a petroleum spill greater than 500 gallons?
- 14.* Is it a train derailment?
- 15.* Is it a petroleum tanker wreck with cargo leaking?
- 16.* Is the presence of the Water Control Board requested?

A "yes" answer to any asterisked question will automatically result in a representative responding to the scene. However, they will not respond with any emergency containment equipment. When they arrive, they can help persuade a reluctant responsible party to proceed with the proper clean-up measures, assess the impact on state waters of a large petroleum spill and provide guidance to the responsible party regarding necessary clean up actions. On large spills or spills that are significant for any other reason, the Incident Commander should make contact directly with DEQ via cellular or hard-line telephone. ([Virginia DEQ- contacts](#))

PROCEDURE - When a petroleum spill is encountered, proceed through the following checklist:


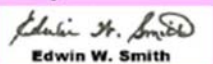
1. Identify product.
2. Determine source of spill.
3. Secure the source of the spill.
4. Estimate quantity.
5. Determine public safety and environmental hazards present.

HENRICO COUNTY MS4 PROGRAM PLAN

6. In a small spill, absorbents should be used. ADP-7 is to be used only when absorbent materials are not available.
7. Take action to contain the product.
 - a) Are absorbent materials needed to contain/stabilize the spill?
 - b) Are HIT Team personnel needed to contain/stabilize the spill?
8. If large spill, notify FM2. If unavailable, notify the on-duty Haz Mat Team.
9. Determine owner/responsible party.
10. Is the spill a threat to a body of water?
11. Notify State Department of Environmental Quality, Water Division, of the spill at 698-4109 or the State EOC at 674-2400.
12. Document all costs and specifics of the call and forward them to the Hazardous Materials Coordinator Deputy Fire Marshal/HAZMAT (FM2).
13. Anytime absorbent materials are used they become the responsibility of Responsible Party (RP). It is acceptable to bag the material after use, but make sure it goes with the vehicle or the RP takes responsibility of it.

DIVISION OF FIRE
HAZARDOUS MATERIAL EMERGENCY INCIDENTS

HENRICO COUNTY MS4 PROGRAM PLAN

County of Henrico Division of Fire		Title: FC-1-9 Hazardous Material Emergency Incidents
By order of:  Edwin W. Smith		Effective Date: November 15, 2009
Chief, Division of Fire		Rescinds: January 15, 2008

I. **PURPOSE:** To outline dispatch procedures to be used for hazardous materials incidents within Henrico County.

II. **PROCEDURES:** Response to Hazardous Materials Emergencies shall be the same assignment as the CAD assignment to that particular structure, vehicle, etc.

1. Upon notification of a hazardous material spill, leak, or emergency, the Communications Officer will obtain as much of the following product information as possible: [\(see form\)](#)

- A. Date
- B. Time
- C. Caller's name
- D. Caller's phone #
- E. Product/chemical name
- F. Product UN # (United Nations #), STCC # (Standard Transportation Commodity Code #), or CAS # (Chemical Association Standard #)
- G. Product form: solid, liquid, or gas
- H. Type of container
- I. Condition: leaked, spilled, on fire, etc.
- J. Estimated amount of leak, spill, etc.

2. Dispatch according to the structure, vehicle, etc., involved.

3. Advise responding units of all pertinent information available. This includes: product identification, injuries associated with incident, special conditions, etc.

4. Notify the Hazardous Materials Coordinator of chemical emergency:

Deputy Fire Marshal/Haz Mat -	FM2 Capt. C.L. Jones
Pager	- 349-2210
Cell Phone	- 349-2210
Work phone	- 501-7310
Home phone	- 449-6586

HENRICO COUNTY MS4 PROGRAM PLAN

5. In his absence, notify the following:

Deputy Coordinator of Emergency Management
Anna McRay - OEM1
Work phone - 501-7183
Cell Phone - 822-6201
Home Phone - 754-1191
Email - mcr

and the Hit Team Leader:

Capt. E.S. Langford - HazMat 4
Work phone - 266-5560
A/N Pager - 968-0870

6. Contact **CHEMTREC at 1-800-424-9300**, as directed by the Incident Commander.

Reviewed by: _____
Police Communications Commanding Officer

Standard Operating Guidelines

HENRICO COUNTY MS4 PROGRAM PLAN
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DIVISION OF FIRE
HIT ACTIVATION

HENRICO COUNTY MS4 PROGRAM PLAN

County of Henrico Division of Fire		Title: FC-1-10 HIT Activation
By order of:  Edwin W. Smith		Effective Date: November 15, 2009
Chief, Division of Fire		Rescinds: January 15, 2008

I. **PURPOSE:** To provide procedures to follow when requesting that the Hazardous Incident Team responds to the scene of an incident.

II. **PROCEDURES:** It is the responsibility of the incident commander to request the HIT Team. The Communications Officer will then use the following procedure when directed to contact HIT members:

1. Procedures for activating the full HIT Team on calls within the County:

A. The Communications Officer will activate all station alerting systems and announce that the Hazardous Incident Team is to respond to (location of command post or staging area.) This procedure is to be used at all hours of the night and day.

B. Activate the DOF "allpage".

2. Procedures for calling the Team for response outside the County:

When mutual aid for the HIT Team is requested by outside organizations, the Communications Officer will follow the below listed guidelines:

A. Call District Chief 3 and communicate the details of the request. District Chief 3 will make the decision on what equipment to dispatch to the call.

If the decision is to activate the full H.I.T.:

- The Communications Officer will activate all station alerting systems and announce that the Hazardous Incident Team is to respond to (location of command post or staging area.) This procedure is to be used at all hours of the night and day.
- Activate the DOF "allpage".

3. HIT Radio Procedures on Scene

- A. Hazardous Materials Command Unit is HazMat 1 (HM1).
- B. Hazardous Materials Tractor Trailer is HazMat 2 (HM2).
- C. Hazardous Materials Box Truck is HazMat 3 (HM3)
- D. Hazardous Incident Team Leader is HazMat 4 (HM4).
- E. Tactical units will be by job title, as needed.

November 15, 2009

Standard Operating Guidelines

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HENRICO COUNTY MS4 PROGRAM PLAN

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HENRICO COUNTY MS4 PROGRAM PLAN

Reviewed by: _____
Police Communications Commanding Officer

Standard Operating Guidelines

HENRICO COUNTY MS4 PROGRAM PLAN
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PART I.B.2.g
MS4 PROGRAM IMPLEMENTATION
INDUSTRIAL AND HIGH RISK RUNOFF

PERMIT LANGUAGE

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) and any other industrial or commercial discharges the permittee determines are contributing a significant pollutant loading to the MS4.

- 1) The permittee shall maintain, and update as necessary, a list of all known industrial and high-risk dischargers to the MS4. This list shall include VPDES industrial stormwater permits.
- 2) No later than 12-months after the effective date of this state permit, the permittee shall develop and implement a prioritized schedule and procedure to inspect outfalls of facilities with VPDES industrial stormwater permits at the point of connection to the MS4. Prioritization may be based on historical discharges, local water quality impairments, industrial category or other methods selected by the permittee. The permittee shall inspect all VPDES industrial stormwater permitted outfalls connected to its MS4 a minimum of once every five years.
- 3) The permittee shall review copies of discharge monitoring reports (DMRs) submitted to the permittee by all VPDES industrial stormwater permitted facilities as part of the permittee's investigations of significant pollutant loadings. The permittee 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.
- 4) 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 permittee programs.

HENRICO COUNTY MS4 PROGRAM PLAN

- 5) The permittee shall refer the following facilities to the Department of Environmental Quality, Piedmont Regional Office, for DEQ compliance review under the Virginia State 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 pursuant to 40 CFR Part 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 industrial stormwater permit facility where there is evidence of significant pollutant loadings to the MS4.
 - (d) Facilities that do not submit signed copies of DMRs to the permittee as required under a VPDES industrial stormwater permit.
- 6) 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.
 - (a) Outfalls from these facilities shall be included in the prioritized inspection schedule.
 - (b) 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.
 - (c) The permittee shall require control measures as necessary and/or appropriate for stormwater discharges from these dischargers.

SPECIFIC REPORTING REQUIREMENTS

- **The annual report due March 31, 2016 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.**

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- Each annual report shall report on implementation of the inspection schedule and include a list of the facilities and/or facility outfalls inspected during the reporting period.
- Each annual report shall include a list of referrals to the Department.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.g of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

Henrico County has compiled a database with information regarding industrial facilities located within the County and their permitting status based upon their interpretation of the NPDES regulations. A program has been developed to inspect and monitor storm water discharges to the County municipal system from industrial facilities. The inspection schedules and SOPs for inspection site determination are in Appendix L.

Currently there are 42 Industrial locations in the database. This number will fluctuate as locations are removed and others are added over time. Some of these facilities are inspected annually, and some every 5 years (see appendix L – Tables 1.A.c-1-4). If follow-up inspections are required due to non-compliance, consideration is given to an adequate time frame for compliance due to the complexity of best management practices that may be required. The legal authority to conduct inspections and require compliance is based on the fact that they drain to the County's MS4 system. Facilities

HENRICO COUNTY MS4 PROGRAM PLAN

are notified via telephone that an inspection will be performed and a definite date and time is established with the facility contact person. Inspections are increased in the event of non-compliance. Prior to the actual site visit, review of the site layout, permit requirements and Pollution Prevention Plans are conducted for each facility, with proper attention paid to special requirements. During the site visit inspection personnel consider the following factors:

- *Nature of materials exposed to stormwater and their likelihood of contaminations;*
- *Adequate coverage for materials storage;*
- *The deleterious impacts of the material as a contaminant in stormwater;*
- *The existence and effectiveness of existing BMPs that mitigate the potential for the material to contaminate stormwater;*
- *Existence of a pollution prevention team, spill prevention and response, good housekeeping practices, or other safeguards; and*
- *Existing stormwater treatment, if any.*

Inspection personnel also evaluate information considered in the development of the most appropriate BMPs for potential pollution sources, such as:

- *Age of the facility;*
- *Type of operations at the facility;*
- *Physical attributes/constraints at the site; and*
- *Cost and effectiveness of the BMPs*

A facility contact person accompanies inspection personnel for both information and safety purposes. Inspection personnel, after presentation of credentials or other documents, are allowed to inspect the facility and review records that must be maintained under conditions of the permit. Inspection personnel are able to inspect, at reasonable times, any regulated facilities or equipment (including monitoring and control equipment). Inspections are based on site-specific requirements of the permit.

An inspection checklist (see Appendix L) has been developed for use by inspection personnel and focuses on areas that are, or have the potential to be, sources of pollution. At a minimum the inspector's checklist includes:

- *Evaluating records for accuracy and updates;*
- *Relevant drainage map accuracy and updates*
- *Reviewing test results, if required, for accuracy and updates;*
- *Inspecting inlets to separate storm sewer system to be sure they are clean and free of debris and contaminants;*

HENRICO COUNTY MS4 PROGRAM PLAN

- *Evaluating BMPs onsite (if present) for proper function and preventive maintenance;*
- *Reviewing housekeeping practices onsite;*
- *Reviewing employee training regarding stormwater practices; and*
- *Considering any construction activities (current or future), which may require controls, and contacting the appropriate erosion and sediment control inspector.*

In instances where non-compliance is discovered, the facility is notified and given a reasonable period of time to correct any problems. Additional inspections will be accomplished to verify the appropriate measures have been undertaken. Personnel are properly trained in stormwater inspection procedures. The County has one inspector available to conduct these industrial inspections.

The County of Henrico continues to develop a library of guidance information concerning stormwater management issues. Personnel offer guidance and information on modern control methodologies and their potential for application in the region. Guidance includes, but is not limited to, EPA Best Management Practices Manuals, details concerning structural controls, and a list of service consultants who may provide additional education for specific types of industries. Guidance for storage and handling of toxic substances includes, but is not limited to, the NPDES Permit Manual.

Compliance monitoring is required for those facilities in violation of the Stormwater Ordinance. This stage of monitoring is initiated by discharges that negatively impact the water quality of the separate storm sewer system at the facility. Monitoring continues until the discharge is in compliance with recognized standards. To date, this monitoring program has not been necessary. Two avenues of action are pursued based on the presence or absence of a NPDES permit. In situations where a permit is required, the following procedures are followed:

- *Notification to the owner identifying reason(s) that the County believes non-stormwater discharges from the site may be entering the municipal storm sewer system; and*
- *Identification of corrective measures necessary and an appropriate time frame for compliance.*

If the site owner refuses to take corrective action or disagrees that action is necessary, the County:

- *Issues the owner a final notice indicating that stormwater monitoring to “fingerprint” the site will commence at the facility’s expense and penalties described in the Henrico County Environment Ordinance will become effective;*

HENRICO COUNTY MS4 PROGRAM PLAN

- *Notifies the Virginia Department of Environmental Quality of the permit violation;*
- *Petitions the Virginia Department of Environmental Quality, in the instances of a general permit, to require the issuance of an individual permit.*

In situations where a permit is not required, the following procedures are followed:

- *Notification to the owner identifying reason(s) that the County believes non-stormwater discharges from the site may be entering the municipal separate storm sewer system; and*
- *Photo-documentation and inspection of site.*

If the County determines that a non-stormwater discharge is entering the storm sewer system the County issues a notification to take corrective action and/or requests a Pollution Prevention Plan and appropriate timeframe for compliance.

If the owner refuses to take corrective action or disagrees that action is necessary, the County will issue the owner a final notice indicating that stormwater monitoring to “fingerprint” the site will commence at the facility’s expense and penalties described in the Henrico County Environmental Ordinance will become effective.

PART I.B.2.h
MS4 PROGRAM IMPLEMENTATION
STORMWATER INFRASTRUCTURE MANAGEMENT

PERMIT LANGUAGE

The permittee shall continue to maintain and implement programs to maintain the County's stormwater infrastructure and to update the accuracy and inventory of the storm sewer system.

- 1) For stormwater management (SWM) facilities and infrastructure maintained by the permittee including residential properties where SWM facilities, BMP and Storm Drainage Systems qualify for County maintenance (excluding apartments and mobile home parks), the following conditions apply:
 - (a) The permittee shall provide for adequate long-term operation and maintenance of SWM facilities owned or operated by the permittee in accordance with written inspection and maintenance procedures included in the MS4 Program Plan.
 - (b) The permittee shall, at a minimum, 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 of this state permit.
 - (c) The permittee shall conduct maintenance on SWM facilities owned or operated by the permittee as necessary.
 - (d) The permittee shall continue its stormwater system inspection program and shall inspect no less than 15% of the MS4 annually and 100% of the system prior to the expiration of the permit such that all MS4 structures are inspected at least once during the term of the permit.
 - (e) The permittee shall dispose of all wastes and wastewaters collected during storm water system cleaning in accordance with local, state, and federal laws and regulations.

HENRICO COUNTY MS4 PROGRAM PLAN

- (f) The permittee shall obtain any required state or federal permit(s) necessary to complete maintenance activities.
- 2) For SWM facilities not maintained by the permittee and that discharge into the MS4, the following conditions apply:
 - (a) The permittee shall continue to implement a program to ensure proper maintenance of each privately maintained SWM facility that discharges into the MS4 system as documented in the MS4 Program Plan.
 - (1) 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 periodic inspections, homeowner outreach and education, or other methods targeted at promoting the long term maintenance of such facilities.
 - (2) 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 all privately maintained facilities no less than once per 5 years and conduct follow-up activities to ensure the required maintenance has been completed. Inspection may be conducted by the permittee or their designee as defined in 9VAC 25-870-114.:
 - (3) For SWM facilities that are privately maintained and for which maintenance agreements have not been established between the permittee and the owner, the permittee shall implement a pilot program consisting of the following:
 - (i) No later than 12-months after the effective date of the permit, the permittee shall develop draft procedures and policies that are designed to ensure that inspection and maintenance of privately maintained SWM facilities are being conducted. The draft procedures and policies should identify any expected limitations to the permittee's ability to implement these procedures and policies and should propose options to overcome these limitations;

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- (ii) No later than 15-months after the effective date of the permit, the permittee shall implement these draft procedures and policies including the proposed options identified in subsection Part I.B.2.h)2)a)(3)(i) above; and,
 - (iii) No later than 36-months after the effective date of the permit, the permittee shall modify the draft policy and procedures required by Part I.B.2.h)2)a)(3)(i) for the inspection of privately maintained SWM facilities based on the findings of Part I.B.2.h)2)a)(3)(ii) and finalize the inspection procedures.
- 3) No later than 18 months after the effective date of this permit, the permittee shall map the MS4 service area and each MS4 outfall. The following information shall be tracked for each MS4 outfall:
 - (a) An individual identification number, local watershed, HUC 6 and receiving water;
 - (b) The latitude and longitude in degrees, minutes and seconds;
 - (c) New outfalls shall be tracked upon their inclusion into the MS4.
- 4) No later than 24 months after the effective date of this state permit, the permittee shall identify the following for each local watershed, sixth order HUC and Chesapeake Bay Segment:
 - (a) The number of impervious, pervious and total acres served by the MS4 as of June 30, 2009.
 - (b) The number of impervious, pervious and total acres treated by stormwater controls as of June 30, 2009,
- 5) No later than 54 months after the effective of this state permit, the permittee shall update each of the following:
 - (a) The number of impervious, pervious and total acres served by the MS4 for each Henrico County local watershed, sixth order HUC and Chesapeake Bay segment.
 - (b) The number of impervious, pervious and total acres treated by stormwater controls.

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SPECIFIC REPORTING REQUIREMENTS

- The permittee shall submit with the annual report due March 31, 2016 the written inspection and maintenance procedures.
- Each annual report shall include a progress report on efforts to repair failed storm sewer outfalls.
- 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.h)1), including the total number of stormwater facilities operated by the permittee, the type and number of stormwater facilities inspected and maintained; the linear feet of storm sewer system owned and/or operated by the permittee, and the linear feet of storm sewer system inspected.
- 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.
- 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 I.B.2.h)2).
- The MS4 service area map including outfalls and information included in Part I.B.2.h)3) shall be submitted no later than 18 months after the effective date of this state permit. The information shall be submitted as an electronic file in one of the following formats shapefile, geodatabase, .xls, .xlsx, .csv, .mdx, .dbf, delimited text, XML, or other file approved by the Department.
- The second annual report submitted under this state permit shall include the information included in Part I.B.2.h)4). The information shall be submitted in a format specified by the Department.
- The fourth annual report shall include an updated list of all information requested in Part 1.B.2.h)5).

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MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.h of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

The County of Henrico owns and operates several Best Management Practices (BMPs). These BMPs service various County-owned facilities. The Department in charge of the various facilities is also in charge of the maintenance of the BMP. The Department in charge of the facility will conduct inspections and provide maintenance as necessary.

New development and redevelopment within Chesapeake Bay Preservations Areas (approximately 30% of the County) were then required to address water quality concerns. Required basins and other best management practices (BMPs) located in these areas were designed for controlling stormwater quantity and quality. Maintenance agreements were signed by the owner and the County, and inspections of the BMPs were made by county personnel. Henrico County extended the CBPA stormwater criteria requirements county-wide on July 23, 1993.

Prior to plan approval, Henrico County requires maintenance agreements, <http://henrico.us/works/engineering-environmental-services/forms/>, be recorded which require permanent BMPs to be properly maintained to function according to their design. The County continues its BMP inspection program and has developed a database to assist in the administration of the inspection and maintenance process. The BMP inspection and maintenance standard operating procedures can be found in the following appendix.

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The County also has a yearly inspection program that covers inspections for a number of outfalls which discharge into state waters. As these outfalls are inspected/monitored, the results are kept in the database for future inspections and reference.

BMP INSPECTION AND MAINTENANCE SOP

HENRICO COUNTY MS4 PROGRAM PLAN



DEPARTMENT OF PUBLIC WORKS BMP PERIODIC MAINTENANCE/MS4 OUTFALL INSPECTION STANDARD OPERATING PROCEDURE

The following items will be needed prior to performing periodic maintenance inspections on BMPs.

- Hard hat
- Safety vest
- Camera
- Manhole puller
- Shovel/probe
- Mosquito dipper
- Machete/brush clippers
- Flashlight
- Tape/Rule
- Sample bottles
- Copy of the BMP Periodic Maintenance Inspection form, the Stormwater Outfall Inspection Report form, and the inspection guidelines for the type(s) of BMPs that you will be inspecting. These forms can be found in the following folder:

<\\Wcd310\pwshare\EESD BMP Inspections\1 Inspection Reports and Guidance>

Prior to the site visit, obtain the following information:

- Pull the BMP file for the project from the cabinets in front of Keith's office.
- Check the folder to make sure the appropriate details listed below are present. Cross-check the scanned copies of the approved construction plans to make sure that the file copies are the most current and reflect any revisions. The following information must be in the file:
 - BMP construction details, cross-sections, and design calculations
 - Drainage area to the BMP(s)
 - Vicinity map
 - BMP Maintenance Agreement
- Make copies of the missing information for the file.

SITE VISIT

BMP Inspection:

- Perform BMP inspection, taking care to complete as much information as possible on the form entitled "BMP Periodic Maintenance Inspection". Use the "Notes" section of the form to provide further detail of any items checked in the "General Problems" section of the form.
- Use the inspection guidelines for the appropriate type of BMP to review a list of typical items that need to be inspected.
- Refer to the form entitled "BMP Periodic Maintenance Inspection Guidance" for explanation of inspection criteria.

BMP Periodic Maintenance Inspection SOP - Page 1 of 3

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DEPARTMENT OF PUBLIC WORKS BMP PERIODIC MAINTENANCE/MS4 OUTFALL INSPECTION STANDARD OPERATING PROCEDURE

- Take general pictures of the BMP and detailed pictures of any problem areas.
- Evaluate all outfalls into (*these are noted as inlets on the inspection form*) and out of the basin. If there is any flow from the pipes that appears to be something other than stormwater, note it on the form and contact Jennifer Welch (349-3204).

Outfall Inspection:

- Perform outfall inspection, taking care to complete as much information as possible on the form entitled "Stormwater Outfall Inspection Report." Use the "Notes" section of the form to provide any additional details or comments.
- If there is debris affecting the function or performance of the outfall, check the "Needs Cleaning" box and provide details concerning the problem.
- Take pictures of the outfall to include at least one looking downstream and one looking upstream, as well as pictures of any problems or concerns noted on the inspection report.
- If there is a discharge from the outfall and it has an odor, gather a sample of the discharge and deliver it to John Fowler.
- If there is a discharge from the outfall and you suspect it is something other than stormwater runoff (a strange odor, color, foam, oily sheen, etc.), notify Jennifer Welch immediately (349-3204).

BACK AT THE OFFICE

BMP Inspection:

- Locate the appropriate BMP folder from the EESD BMP Inspections folder on the PWSHare network (<\\Wcd310\pwshare\EESD BMP Inspections>).
- Within the appropriate BMP folder, create a subfolder using the date of the inspection as the name. Use the following naming format YYYY-MM-DD (ie., 2010-06-30 for June 30, 2010).
- The pathname to the folder should resemble the following:

\\Wcd310\pwshare\EESD BMP Inspections\Project Name\2010-06-30

- Copy the pictures associated with each BMP into the appropriate PM Inspection folder.
- Convert the inspection form to a .pdf and save it in the PM Inspection folder. Include the BMP identification and date in the filename (*BMP ID – YYYY-MM-DD.pdf*).
- If the BMP is in need of repair, contact the Environmental Engineer to pursue enforcement of the BMP Maintenance Agreement.
- Notify (via e-mail) the Environmental Engineer once the inspections are complete and the inspection report and pictures are saved in the inspection folder so that the Environmental Engineer can log the inspection into the database.
- Return the BMP folder to the storage area outside of Keith's office.

HENRICO COUNTY MS4 PROGRAM PLAN



DEPARTMENT OF PUBLIC WORKS BMP PERIODIC MAINTENANCE/MS4 OUTFALL INSPECTION STANDARD OPERATING PROCEDURE

Outfall Inspection:

- Inspection reports and pictures are to be stored on the network in the EESD Stormwater Conveyance Inspection folder located at \\Wcd310\pwshare\EESD Stormwater Conveyance Inspections. Within this folder are subfolders for each type of stormwater conveyance facility (End Treatments, Mains, Inlets, Junction Boxes, and Manholes). Navigate to the appropriate stormwater conveyance facility folder within the appropriate subfolder. If a folder does not exist for the stormwater conveyance facility within the appropriate subfolder, create a folder using the two letters and the last six numbers of the Facility ID number as the folder name (ie. EN003194).
- Within the stormwater facility folder, create a subfolder using the date of the inspection as the name. Use the following naming format YYYY-MM-DD (ie., 2010-06-30 for June 30, 2010)
- The pathname to the folder should resemble the following:

\\Wcd310\pwshare\EESD Stormwater Conveyance Inspections\End_Treatments\003194\2010-06-30

- Convert the inspection form to a .pdf and save it in the newly created inspection date folder. Include the stormwater conveyance facility ID (the two letters and the last six numbers) and the inspection date in the name of the .pdf (ie., EN003194-2010-06-30.pdf)
- Save all pictures taken at the outfall to the newly created inspection date folder (the photos do not need to be renamed).

PART I.B.2.i
MS4 PROGRAM IMPLEMENTATION
COUNTY FACILITIES

PERMIT LANGUAGE

Facilities owned or operated by the permittee shall be operated and maintained as follows:

1) Good Housekeeping

- (a) The discharge of permittee vehicle wash water into the MS4 at permittee facilities without authorization from a separate VPDES permit shall be prohibited.
- (b) The discharge of wastewater into the MS4 at permittee facilities without authorization by a separate VPDES permit shall be prohibited.
- (c) The dumping of collected yard waste and grass clippings into the MS4 shall be prohibited.
- (d) Fluids leaked from permittee vehicles shall be prevented from entering the storm sewer system. Leaked fluids shall be cleaned up and disposed of properly, as soon as possible but no later than 24-hours after discovery.
- (e) No later than the expiration date of this state permit, the permittee shall install and 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.

2) High Priority Municipal Facilities

- (a) The permittee shall identify all high priority municipal facilities that do not require a separate VPDES industrial stormwater permit no later than 12-months after the effective date of this state permit;
- (b) Within 12 months of state permit coverage, the operator shall identify which of the high priority municipal facilities have a high potential of discharging pollutants. High priority municipal facilities that have a high potential for discharging pollutants are those facilities identified in subsection (a) above that

HENRICO COUNTY MS4 PROGRAM PLAN

are not covered under a separate VPDES permit and which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff:

- (1) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;
 - (2) Materials or residuals on the ground or in stormwater inlets from spills or leaks;
 - (3) Material handling equipment (except adequately maintained vehicles);
 - (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);
 - (5) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);
 - (6) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
 - (7) Waste material except waste in covered, non-leaking containers (e.g., dumpsters);
 - (8) Application or disposal of process wastewater (unless otherwise permitted);
or
 - (9) Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.
- (c) 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)(b) no later than 36-months after the effective date of this state permit. Stormwater pollution prevention plans (SWPPP) shall include:
- (1) A site description that includes a site map identifying all outfalls, direction of flows, existing source controls, and receiving water bodies;

HENRICO COUNTY MS4 PROGRAM PLAN

- (2) A discussion and checklist of potential pollutants and pollutant sources;
 - (3) A discussion of all potential non-stormwater discharges;
 - (4) A maintenance schedule for all existing source controls;
 - (5) All policies and procedures implemented at the facility to ensure source reduction;
 - (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;
 - (7) Appropriate training as required in Part I.B.2.k);
 - (8) Procedures to conduct an annual comprehensive site compliance evaluation;
 - (9) Procedures to conduct dry weather screening; and
 - (10) All modifications made as the result of any release or spill.
- (d) A copy of each SWPPP shall be kept at each high-priority municipal facility and be kept updated.

SPECIFIC REPORTING REQUIREMENTS

- The Initial annual report shall include a list of all high priority municipal facilities.

MS4 PROGRAM ELEMENTS

To be developed.

HENRICO COUNTY MS4 PROGRAM PLAN

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.i of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

Quarterly environmental meetings have been established to address good municipal site housekeeping. A Stormwater Inspection Team was established in 2013 to educate County staff regarding good municipal site housekeeping. The team is comprised of representatives from Recreation and Parks, General Services, Public Utilities, Fire, Public Works and Public Schools. The Stormwater Inspection Team will meet monthly and inspect one municipal facility each month. The inspections will also serve as a learning experience so team members become familiar with what is expected on all municipal facilities. Team members then conduct the needed inspections of the required facilities for which their Department or Division is responsible.

PART I.B.2.j
MS4 PROGRAM IMPLEMENTATION
PUBLIC EDUCATION / PARTICIPATION

PERMIT LANGUAGE

The permittee shall 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

- 1) The permittee shall identify, schedule, implement, evaluate and modify, as necessary, public outreach activities designed to meet the following public education and outreach goals:
 - (a) Promote, publicize, and facilitate public reporting of the presence of illicit discharges or improper disposal of materials into the MS4;
 - (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;
 - (c) Develop an outreach program with public and private golf courses located within Henrico 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;
 - (d) Promote, publicize, and facilitate the proper management and disposal of used oil and household hazardous wastes;
 - (e) Promote and publicize the proper disposal of pet waste and household yard waste;
 - (f) Promote and publicize the use of the permittee's litter prevention program;
 - (g) Promote and publicize methods for residential car washing that minimize water quality impacts;

HENRICO COUNTY MS4 PROGRAM PLAN

- (h) Promote and publicize the proper use, application, and disposal of pesticides, herbicides, and fertilizers by public, commercial, and private applicators and distributors;
 - (i) Encourage private property owners to implement voluntary stormwater management techniques and/or retrofits; and
 - (j) Target strategies towards local groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts.
- 2) 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.
 - 3) 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.
 - 4) 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.

SPECIFIC REPORTING REQUIREMENTS

- **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.**
- **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.**
- **Each annual report shall provide a summary of voluntary stormwater management techniques encouraged on private property.**

HENRICO COUNTY MS4 PROGRAM PLAN

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.j of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

The Henrico County Extension Service has developed several fact sheets and booklets, which help to educate citizens regarding ways to reduce the use of pesticides and how to use them safely. In addition, the Extension Service has a program to educate citizens on the proper use of pesticides and fertilizers in the establishment and maintenance of home lawns, known as the "SMART Lawns" program.

Public awareness and participation are vital to the success of the management program, particularly in the case of illicit or improper discharges. An active education and outreach program greatly increases the success of the management program.

Currently, the County has developed a brochure outlining reporting procedures for illicit discharges and improper discharge activities (see attachments). Residents are encouraged to become more aware of their own activities that may impact water quality in the storm sewer system and the surrounding natural waterways in their own neighborhoods.

Trained County personnel are available for speaking engagements, presentations or

HENRICO COUNTY MS4 PROGRAM PLAN

lectures on environmental topics throughout the region. Interagency cooperation is used to provide timely information to school groups, clubs, civic organizations, homeowners, industries and any other interested groups. Attendance, participation and hosting of conferences is stressed to County personnel in order to stay up-to-date on changing issues and to inform peers of programs and policies in Henrico County, the Commonwealth of Virginia, and at the Federal level.

Our website contains a spill report form which allows our citizens to anonymously report storm water violations.

Currently, the two County-owned landfills accept used motor oil for recycling. Multiple private oil collection sites exist throughout Henrico County and the Richmond City area. These sites have been included on the County's Stormwater Internet site. A list of area oil collection sites is provided in Table 1-1.

Table 1-1: Used Oil Collection Sites

Company/Facility Name	Address	City	Zip	Phone
<i>Advance Auto Parts</i>	<i>3031 Mechanicsville Turnpike</i>	<i>Richmond</i>	<i>23223</i>	<i>(804) 329-1042</i>
<i>Advance Auto Parts</i>	<i>2801 Williamsburg Road</i>	<i>Richmond</i>	<i>23231</i>	<i>(804)236-1483</i>
<i>Advance Auto Parts</i>	<i>6300 W. Broad Street</i>	<i>Richmond</i>	<i>23230</i>	<i>(804)288-3655</i>
<i>Advance Auto Parts</i>	<i>7051 Brook Road</i>	<i>Richmond</i>	<i>23227</i>	<i>(804)264-3433</i>
<i>Advance Auto Parts</i>	<i>1306 Nine Mile Road</i>	<i>Highland Springs</i>	<i>23075</i>	<i>(804) 328-1087</i>
<i>Advance Auto Parts</i>	<i>9900 W. Broad Street</i>	<i>Glen Allen</i>	<i>23060</i>	<i>(804)270-0325</i>
<i>All Tune & Lube</i>	<i>4545 Pouncey Tract Road</i>	<i>Glen Allen</i>	<i>23059</i>	<i>(804) 360-3262</i>
<i>Auto Zone</i>	<i>4001 Mechanicsville Turnpike</i>	<i>Richmond</i>	<i>23223</i>	<i>(804) 321-5020</i>
<i>Auto Zone</i>	<i>5138 Nine Mile Road</i>	<i>Richmond</i>	<i>23223</i>	<i>(804) 737-0292</i>
<i>Auto Zone</i>	<i>7207 Brook Road</i>	<i>Richmond</i>	<i>23227</i>	<i>(804)262-5944</i>

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<i>Auto Zone</i>	<i>7150 W. Broad Street</i>	<i>Richmond</i>	<i>23294</i>	<i>(804) 672-8551</i>
<i>Auto Zone</i>	<i>9450 W. Broad Street</i>	<i>Richmond</i>	<i>23294</i>	<i>(804) 270-4067</i>
<i>Broad Street Auto Service</i>	<i>2120 Lake Avenue</i>	<i>Richmond</i>	<i>23230</i>	<i>(804) 285-8707</i>
<i>Broyles Auto & Wrecker Service, Inc.</i>	<i>1601 Mountain Rd.</i>	<i>Glen Allen</i>	<i>23060</i>	<i>(804) 266-4931</i>
<i>Dr. Motorworx</i>	<i>2106 Spencer Road</i>	<i>Richmond</i>	<i>23230</i>	<i>(804) 285-2891</i>
<i>Firestone Complete Auto Care</i>	<i>4000 Mechanicsville Turnpike</i>	<i>Richmond</i>	<i>23223</i>	<i>(804) 321-5020</i>
<i>Firestone Complete Auto Care</i>	<i>4910 W. Broad Street</i>	<i>Richmond</i>	<i>23230</i>	<i>(804) 358-6743</i>
<i>Firestone Complete Auto Care</i>	<i>4401 Williamsburg Road</i>	<i>Henrico</i>	<i>23231</i>	<i>(804) 226-4545</i>
<i>Firestone Complete Auto Care</i>	<i>1414 N. Parham Road</i>	<i>Henrico</i>	<i>23229</i>	<i>(804) 740-0549</i>
<i>Firestone Complete Auto Care</i>	<i>11002 W. Broad Street</i>	<i>Glen Allen</i>	<i>23060</i>	<i>(804) 270-6300</i>
<i>Firestone Complete Auto Care</i>	<i>10095 Brook Road</i>	<i>Glen Allen</i>	<i>23059</i>	<i>(804) 262-4411</i>
<i>Glen Allen Service Center</i>	<i>3011 Mountain Road</i>	<i>Glen Allen</i>	<i>23060</i>	<i>(804) 672-2939</i>
<i>Grease Monkey Service Center</i>	<i>8509 Staples Mill Road</i>	<i>Richmond</i>	<i>23228</i>	<i>(804) 264-8789</i>
<i>Hanover Tire East</i>	<i>4013 Williamsburg Road</i>	<i>Richmond</i>	<i>23231</i>	<i>(804) 222-0156</i>
<i>Henrico County - East End Landfill</i>	<i>2075 Charles City Road</i>	<i>Richmond</i>	<i>23231</i>	<i>(804) 261-8774</i>
<i>Henrico County - Springfield Landfill</i>	<i>10600 Ford's Country Lane</i>	<i>Glen Allen</i>	<i>23060</i>	<i>(804) 261-8774</i>
<i>Jiffy Lube</i>	<i>1190 N. Laburnum Avenue</i>	<i>Richmond</i>	<i>23223</i>	<i>(804) 344-5300</i>
<i>Jiffy Lube</i>	<i>5710 W. Broad Street</i>	<i>Richmond</i>	<i>23230</i>	<i>(804) 282-8522</i>
<i>Jiffy Lube</i>	<i>4700 Williamsburg Road</i>	<i>Richmond</i>	<i>23231</i>	<i>(804) 226-0999</i>


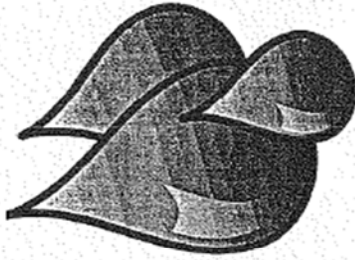
HENRICO COUNTY MS4 PROGRAM PLAN

<i>Jiffy Lube</i>	<i>8025 W. Broad Street</i>	<i>Richmond</i>	<i>23294</i>	<i>(804) 346-0999</i>
<i>Jiffy Lube</i>	<i>3820 Stillman Parkway</i>	<i>Richmond</i>	<i>23060</i>	<i>(804) 346-1888</i>
<i>McGeorge Toyota</i>	<i>7705 W. Broad St.</i>	<i>Richmond</i>	<i>23294</i>	<i>(804) 755-9234</i>
<i>Miles Auto Service Center</i>	<i>7501 Staples Mill Road</i>	<i>Richmond</i>	<i>23228</i>	<i>(804) 262-2787</i>
<i>O' Reilly Auto Parts</i>	<i>4016 Glenside Drive</i>	<i>Henrico</i>	<i>23228</i>	<i>(804) 627-0026</i>
<i>O' Reilly Auto Parts</i>	<i>3707 Mechanicsville Turnpike</i>	<i>Richmond</i>	<i>23223</i>	<i>(804) 228-1532</i>
<i>Pep Boys Auto</i>	<i>4507 Nine Mile Road</i>	<i>Richmond</i>	<i>23223</i>	<i>(804) 222-8105</i>
<i>Pep Boys Auto</i>	<i>4728 Wistar Road</i>	<i>Richmond</i>	<i>23228</i>	<i>(804) 737-2697</i>
<i>The Lube Center</i>	<i>8919 Patterson Avenue</i>	<i>Henrico</i>	<i>23229</i>	<i>(804) 741-9870</i>
<i>Town & Country Assoc., Inc.</i>	<i>404 B. W. Williamsburg Road</i>	<i>Sandston</i>	<i>23150</i>	<i>(804) 737-9059</i>
<i>Tuckahoe Village Exxon</i>	<i>11192 Patterson Avenue</i>	<i>Richmond</i>	<i>23233</i>	<i>(804) 740-4346</i>
<i>Varina Automotive Service, Inc.</i>	<i>1611 Darbytown Road</i>	<i>Richmond</i>	<i>23231</i>	<i>(804) 222-2676</i>
<i>Village Exxon</i>	<i>7100 Patterson Avenue</i>	<i>Richmond</i>	<i>23229</i>	<i>(804) 288-4065</i>
<i>Walmart Tire & Lube Express</i>	<i>7901 Brook Road</i>	<i>Richmond</i>	<i>23227</i>	<i>(804) 553-8432</i>

The County of Henrico Department of Public Utilities manages an additional program for toxic household waste. Most toxic household waste can be disposed of at the County-owned landfills. The Central Virginia Waste Management Authority also accepts toxic household wastes. This information is also available on the County's Stormwater Internet site.

STORMWATER BROCHURE



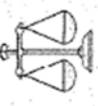
HENRICO COUNTY MS4 PROGRAM PLAN

<p>INTRODUCTION</p> <p>The Henrico County ordinance restricts anything other than stormwater from entering the County's storm sewer system.</p> <p>WHAT IS STORMWATER?</p>  <p>Stormwater is any water which results from rain, snow or other forms of precipitation which filters into the ground, puddles and/or runs from the surface or is captured by a storm sewer system.</p> <p>WHERE IS THE COUNTY'S STORM SEWER SYSTEM?</p> <p>The County's storm sewer system includes roads, streets, catch basins, curbs, gutters, ditches, pipes, lakes, ponds, channels, storm-drains and other facilities located within the County of Henrico which are designed or used for collecting, storing or conveying stormwater or through which stormwater is collected, stored or conveyed.</p>	<p>THE STORMWATER ORDINANCE</p>  <p>COUNTY OF HENRICO, VIRGINIA</p> <p>Environmental Division, The Department Of Public Works, County of Henrico P.O. Box 27032 Richmond, Va. 23273</p>
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HENRICO COUNTY MS4 PROGRAM PLAN

PART I.B.2.j ATTACHMENTS

HENRICO COUNTY MS4 PROGRAM PLAN

<p>WHERE DOES THE STORMWATER GO AFTER IT DRAINS INTO THE STORM SEWERS?</p>  <p>Stormwater that drains into the storm sewer goes to a point of discharge. A point of discharge is the end of a pipe or a ditch. At this point the stormwater enters a stream or river. All streams and rivers located in Central Virginia flow to the Chesapeake Bay.</p>	<p>WHAT ARE SOME OF THE EFFECTS OF STORMWATER POLLUTION?</p> <p>When polluted stormwater reaches our streams and rivers it can have many adverse effects on the aquatic plant and animal life. Many pollutants become attached to sediment particles and these particles clog fish gills, damage fish habitat and block the light needed for submerged aquatic vegetation (SAV) to survive. SAV is essential food and habitat for many aquatic animals that help cleanse our water.</p> <p>Polluted stormwater can directly effect our way of life, because many of us drink water that comes from our streams and rivers and eat a variety of aquatic animals. Additionally, many of our recreational activities, fishing, boating and swimming can only be safely enjoyed when our streams and rivers are clean and healthy.</p>	<p>WHAT CAN I DO TO HELP?</p> <p>Become more aware of what may be causing stormwater pollution in your area.</p> <p>Report any dumping of inappropriate materials into stormwater drains (such as oil & antifreeze)</p> <p>Clean up spilled brake fluid, oil, grease and antifreeze. Do not hose them into the street where they can eventually reach streams and lakes.</p> <p>Apply lawn and garden chemicals sparingly and according to directions.</p> <p>Keep litter, pet wastes, leaves and debris out of street gutters and storm drains.</p> <p>Report any suspect leaking sanitary sewer lines.</p>
<p>WHAT IS POLLUTED STORMWATER?</p> <p>Stormwater can become polluted when:</p> <ul style="list-style-type: none"> * Oil, antifreeze, paint and other automobile and household chemical based products are dumped, spilled, or leaked into a storm sewer system. * Fertilizers and pesticides applied to lawns and gardens runoff into the stormwater system (curb inlets, storm sewers, paved ditches, etc.) during watering or when a storm occurs. * Leaky sanitary sewer lines can contribute harmful bacteria, parasites and viruses to the storm sewer and waterways. 	<p>PENALTIES</p>  <p>Violators of the stormwater ordinance can face a fine up to \$1,000 or up to thirty days imprisonment for each violation or both.</p> <p>HOW DO I REPORT A VIOLATION OF THE STORMWATER ORDINANCE?</p> <p>Illicit discharges or illegal dumping of inappropriate materials into the county storm sewer system should be reported to the Environmental Division of the Department of Public Works by calling (804) 261-8323</p>	<p>Participate in Henrico County's Household Hazardous Waste, used Oil and Antifreeze Recycling Program. For more information Call (804) 270-6151</p> <p>Tell others about pollution from stormwater runoff and what they can do.</p> <p>For more information call the Environmental Division of Public Works (804) 261-8323</p>

HENRICO COUNTY MS4 PROGRAM PLAN

PART I.B.2.j ATTACHMENTS

PART I.B.2.k
MS4 PROGRAM IMPLEMENTATION
TRAINING

PERMIT LANGUAGE

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:

- 1) The permittee shall provide biennial training to appropriate field personnel in the recognition and reporting of illicit discharges.
- 2) 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.
- 3) 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.
- 4) 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.
- 5) 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.
- 6) The permittee shall have a program to ensure that the applicable County employees obtain the appropriate certifications as required under the Virginia Erosion and

HENRICO COUNTY MS4 PROGRAM PLAN

Sediment control Law and its attendant regulations to implement the modified stormwater management design criteria.

- 7) 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.
- 8) The appropriate emergency response employees shall have training in spill response. A summary of the training or certification program provided to emergency response employees shall be included in the first annual report.
- 9) 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.

SPECIFIC REPORTING REQUIREMENTS

- Each annual report shall include a list of training events, the date and the estimated number of individuals attending each event.
- The annual report due March 31, 2016 shall include documentation of employee emergency spill response training and/or certification.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.k of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

Construction site operators often need training and education about the sources, control, and impacts of pollutants in run-off from construction sites. As required by the SWCD, all Environmental Inspectors and Plan Reviewers within the Department of Public Works' Environmental Section have been certified.

In addition to erosion and sediment control training, Henrico County environmental inspectors receive training in wetlands delineation, Chesapeake Bay Act requirements and stormwater management. Training is done "in-house" as well as at public and private seminars. Various educational manuals are available for environmental inspectors at all times, among them are: Virginia

Erosion and Sediment Handbook; Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs by the Metropolitan Washington Council of Governments; the Federal Manual for Delineating Jurisdictional Wetlands, as well as several manuals by the EPA concerning the development of Pollution Prevention Plans and best management practices.

PART I.B.2.I
MS4 PROGRAM IMPLEMENTATION
WATER QUALITY SCREENING PROGRAMS

PERMIT LANGUAGE

The following screening programs shall be implemented in addition to the monitoring required by Part I.C:

- 1) ***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.
 - (a) 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, 100 of the County's MS4 outfalls each year.
 - (b) 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:
 - (1) List of sites requiring further investigation, as previously identified;
 - (2) Age and density of development with the likelihood of illicit connections such as older residential, commercial and industrial areas;
 - (3) Outfalls representing the general land uses of Henrico County;
 - (4) Poorly maintained gas stations, service stations, and shopping centers;
 - (5) Presence of environmentally sensitive features downstream; and
 - (6) History of complaints received on illicit discharges.
- 2) ***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. No later than 12 months after the effective date of this permit, the permittee

HENRICO COUNTY MS4 PROGRAM PLAN

shall develop written procedures for a wet weather screening program which shall include the 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.

SPECIFIC REPORTING REQUIREMENTS

- Each annual report shall include the total number of outfalls included as part of the permittee's MS4, the number of outfalls screened during the reporting period, 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.
- The annual report due March 31, 2016 shall include the written procedures for wet weather screening.
- 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.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.I of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

HENRICO COUNTY MS4 PROGRAM PLAN

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.B.2.m
MS4 PROGRAM IMPLEMENTATION
INFRASTRUCTURE COORDINATION

PERMIT LANGUAGE

The permittee shall coordinate with the Virginia Department of Transportation (VDOT) regarding issues of MS4 physical-interconnectivity as described below.

- 1) 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.
- 2) 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.
- 3) 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.

- 4) 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

HENRICO COUNTY MS4 PROGRAM PLAN

be accelerated or improved by mutual cooperation.

- 5) Credit for TMDL Implementation – Permit specific BMP retrofit requirements shall not be double-counted 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.
- 6) 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.
- 7) 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.
- 8) 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.

SPECIFIC REPORTING REQUIREMENTS

None specified.

MS4 PROGRAM ELEMENTS

To be developed.

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ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.B.2.m of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.C.1
MONITORING REQUIREMENTS
BIOLOGICAL STREAM MONITORING

PERMIT LANGUAGE

The permittee shall continue to implement a biological stream monitoring program to evaluate the condition of select stream sites within the county as follows:

- a) Five (5) stream sites within the county shall be selected for monitoring during the term of this permit.
- b) 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.
- c) The permittee shall use a biological stream monitoring approach based on the "USEPA's Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers" or other method approved by the Department, and shall include an assessment of the benthic macroinvertebrate community and habitat assessment.

SPECIFIC REPORTING REQUIREMENTS

- The annual report due March 31, 2016 shall include the list of sites to be monitored during the term of the state permit and monitoring protocols.
- Each annual report shall include a summary of the monitoring results, analyses, and an interpretation of that data with respect to long-term patterns/trends.

MS4 PROGRAM ELEMENTS

To be developed.

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ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.C.1 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.C.2
MONITORING REQUIREMENTS
IN-STREAM MONITORING

PERMIT LANGUAGE

The permittee shall continue to implement an in-stream monitoring program to evaluate the condition of select streams within the county as follows:

- a) Five (5) stream sites within the county shall be selected for monitoring during the term of this permit.
- b) Monitoring shall be conducted once per two months between January 1st and December 31st at each monitoring location.
- c) 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*

HENRICO COUNTY MS4 PROGRAM PLAN

- d) Monitoring for the parameters listed in Part I.C.2.c) shall be in accordance with Part II.A. of this state permit.
- e) 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.

SPECIFIC REPORTING REQUIREMENTS

- The initial annual report, due March 31, 2016, shall include the list of sites to be monitored during the term of the state permit and monitoring protocols.
- Beginning with the annual report due March 31, 2017, 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.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.C.2 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.C.3
MONITORING REQUIREMENTS
STRUCTURAL AND SOURCE CONTROLS COMPLIANCE
MONITORING AND TRACKING

PERMIT LANGUAGE

- a) The permittee shall maintain an updated electronic database of all known permittee and privately maintained stormwater management (SWM) facilities. The database shall include the following:
- 1) The SWM facility type, address, and latitude, and longitude (in decimal degrees);
 - 2) The total pervious and impervious acres treated;
 - 3) The date brought online (MMYYYY). If the date is unknown, the permittee shall use June 2005 as the date brought online for all previously existing SWM facilities;
 - 4) The hydrologic unit code (HUC 6) in which the SWM facility is located;
 - 5) The name of any impaired water segments within each HUC listed on the most recent 305(b)/303(d) Water Quality Assessment Integrated Report to which the SWM facility discharges;
 - 6) Whether the SWM facility is permittee or privately maintained;
 - 7) Whether the SWM facility discharges into the permittee's MS4;
 - 8) Whether a maintenance agreement exists if the SWM is privately maintained; and
 - 9) The date of last inspection by permittee authorities.

All SWM facilities brought on line during each reporting year shall be submitted with the appropriate annual report as an electronic file in one or the following formats: shapefile, geodatabase, .xls, .xlsx, .csv, .mdx, .dbf, delimited text, XML, or other file approved by the Department.

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No later than 36-months of the effective date of this state permit, the list shall be updated to include the required information for SWM facilities known to exist prior to the effective date of this state permit. The updated information shall be submitted with the fourth annual report.

- b) Facilities that solely provide peak flow control as required by the Henrico County Code are excluded from the requirements of this section. Inspection and maintenance requirements for these facilities shall be in accordance with all applicable state and local ordinances, regulations, and statutes.

REPORTING REQUIREMENTS

- Each annual report shall include a copy of the updated database in electronic format.
- Each annual report shall include a summary of the program to ensure maintenance of private stormwater management facilities.
- Each annual report shall include a summary of the program to ensure maintenance of stormwater management facilities maintained by the permittee.
- The annual report due March 31, 2019 under this permit shall include an updated list of stormwater management facilities existing prior to the effective date of this permit.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.C.3 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.D.1

TMDL ACTION PLAN AND IMPLEMENTATION
CHESAPEAKE BAY SPECIAL CONDITION

PERMIT LANGUAGE

The Commonwealth in its Phase I and Phase II Chesapeake Bay TMDL Watershed Implementation Plans (WIP) committed to a phased approach for MS4s permittees to implement necessary reductions. This state permit is consistent with the Chesapeake Bay TMDL and the Virginia Phase I and II WIPs to meet the Level 2 (L2) scoping run for existing developed lands as it represents an implementation of 5% of L2 as specified in the 2010 Phase I WIP. Conditions of future permits will be consistent with the TMDL or WIP conditions in place at the time of permit issuance.

a) Definitions

The following definitions apply to this state permit for the purpose of the Special Condition for Discharges in the Chesapeake Bay Watershed:

- 1) "Existing Sources" means pervious and impervious urban land uses served by the MS4 as of June 30, 2009.
- 2) "New Sources" means pervious and impervious urban land uses served by the MS4 developed or redeveloped on or after July 1, 2009.
- 3) "Transitional Sources" means regulated land disturbing activities which are temporary in nature and discharge through the MS4.
- 4) "Pollutants of concern" or "POC" means total nitrogen, total phosphorus and total suspended solids.

b) Chesapeake Bay Watershed TMDL Planning

- 1) No later than 24-months after the effective date of this state permit, the permittee shall develop and submit to the Department for its review and acceptance an approvable phased Chesapeake Bay TMDL Action Plan that includes:
 - (a) A review of the current MS4 Program Plan including existing legal authorities and the permittee's ability to ensure compliance with this special

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condition;

- (b) Identifies any new or modified legal authorities, such as ordinances, permits, orders, contracts and inter-jurisdictional agreements, implemented or needing to be implemented to meet the requirements of this special condition;
- (c) The means and methods utilized to address discharges into the MS4 from new sources.
- (d) An estimate of the annual POC loads discharged from the existing sources as of June 30, 2009 based on the 2009 progress run. The permittee shall utilize Table 1 and multiply the total existing acres served by the MS4 on June 30, 2009 and the 2009 Edge of Stream (EOS) Loading Rate.

Table 1: Calculation Sheet for Estimating Existing Source Loads for the James River Basin (Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)				
Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	2009 EOS Loading Rate (lbs/ac/yr)	Estimated Total POC Load Based on 2009 Progress Run (lb/yr)
Regulated Urban Impervious	Nitrogen		9.39	
Regulated Urban Pervious			6.99	
Regulated Urban Impervious	Phosphorus		1.76	
Regulated Urban Pervious			0.5	
Regulated Urban Impervious	Total Suspended Solids		676.94	
Regulated Urban Pervious			101.08	

- (e) A determination of the total pollutant load reductions necessary to reduce the annual POC existing loads using Table 2 by multiplying the *Total*

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Existing Acres Served by MS4 by the First Permit Cycle Required Reduction in Loading Rate.

Table 2: Calculation Sheet for Determining Total POC Reductions Required During this State Permit Cycle for the James River Basin (Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)				
Subsource	Pollutant	Total Existing Acres Served by MS4 (6/30/09)	First Permit Cycle Required Reduction in Loading Rate (lbs/ac/yr)	Total Reduction Required During First Permit Cycle (lbs/yr)
Regulated Urban Impervious	Nitrogen		0.04	
Regulated Urban Pervious			0.02	
Regulated Urban Impervious	Phosphorus		0.01	
Regulated Urban Pervious			0.002	
Regulated Urban Impervious	Total Suspended Solids		6.67	
Regulated Urban Pervious			0.44	

- (f) The means and methods, such as the management practices and retrofit programs that will be utilized to meet the required reductions identified in Part I.D.1.b)(1)(e) and a schedule to achieve those reductions. The schedule should include annual benchmarks to demonstrate the on-going progress in meeting the reductions.
- (g) The means and methods to offset the increased loads from new sources initiating construction between July 1, 2009 and June 30, 2014 that disturb one acre or greater as a result of the utilization of an average land cover condition greater than 16% impervious cover for the design of post development stormwater management facilities. The permittee shall utilize Table 3 to develop the equivalent pollutant load for nitrogen and total suspended solids. The permittee shall offset 5% of the calculated increased

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load from these new sources during the permit cycle.

- (h) The means and methods to offset the increased loads from grandfathered projects in accordance with 9VAC25-870-48, that disturb one acre or greater that begin construction after July 1, 2014 where the project utilized an average land cover condition greater than 16% impervious cover in the design of post development stormwater management facilities. The permittee shall utilize Table 3 to develop the equivalent pollutant load for nitrogen and total suspended solids.

Table 3: Ratio of Phosphorus Loading Rate to Nitrogen and Total Suspended Solids Loading Rates for Chesapeake Bay Basins (Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)			
<u>Ratio of Phosphorus to Other POCs (Based on All Land Uses 2009 Progress Run)</u>	<u>Phosphorus Loading Rate (lbs/ac/yr)</u>	<u>Nitrogen Loading Rate (lbs/ac/yr)</u>	<u>Total Suspended Solids Loading Rate (lbs/ac/yr)</u>
James River Basin	1.0	5.2	420.9

- (i) A list of future projects and associated acreage that qualify as grandfathered in accordance with 9VAC25-870-48.
- (j) An estimate of the expected cost to implement the necessary reductions during the permit cycle;
- (k) An opportunity for receipt and consideration of public comment on the draft Chesapeake Bay TMDL Action Plan; and,
- (l) A list of all comments received as a result of public comment and any modifications made to the draft Chesapeake Bay TMDL Action Plan as a result of the public comments.
- 2) As part of development of the Chesapeake Bay TMDL Action Plan, the permittee shall consider use of the following:
- (a) Implementation of BMPs on unregulated lands provided the baseline reduction is subtracted from the total reduction prior to application of the reduction towards meeting the required reductions.
- (b) Utilization of stream restoration projects provided the baseline reduction from the unregulated acreage treated by the stream restoration project is subtracted from the total reduction prior to application of the reduction

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- towards meeting the required reductions.
- (c) 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.
 - (d) Utilization of any pollutant trading or offset program in accordance with §62.1-44.19:20 through 62.1-44.19:23 et seq. of the Code of Virginia governing trading and offsetting.
 - (e) A more stringent average land cover condition based on less than 16% impervious cover for new sources initiating construction between July 1, 2009, and June 30, 2014, and all grandfathered projects where allowed by law; and
 - (f) Any BMPs installed after June 30, 2009, as part of a retrofit program may be applied towards meeting the required load reductions provided any necessary baseline reductions are not included.
- 3) The permittee shall address any modification to the TMDL or watershed implementation plan that occurs during the term of this state permit as part of its permit reapplication as required in Part II.M of this state permit.
 - 4) The Chesapeake Bay TMDL Action Plan shall become effective and enforceable upon written approval from the Department.
- c) Chesapeake Bay TMDL Action Plan Implementation
- 1) The permittee shall implement the TMDL action plan required in Part I.D.1.b)1) of this state permit according to the schedule therein. Compliance with this requirement represents adequate progress for this state permit term towards achieving TMDL wasteload allocations consistent with the assumptions and requirements of the TMDL.
 - 2) For the purposes of this state permit, the implementation of the following represents implementation to the maximum extent practicable and demonstrates adequate progress:
 - (a) Implementation of turf and landscape nutrient management plans in

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accordance Part I.B.2.d);

- (b) Implementation of construction site runoff controls in Part I.B.2.a) in accordance with this state permit shall address discharges from transitional sources;
- (c) Implementation of the means and methods to address discharges from new sources in accordance with requirements in Part I.B.2.a) for post-construction runoff from areas of new development and development on prior developed lands to offset 5% of the total increase in POC loads between July 1, 2009 and June 30, 2014 required in Part I.D.1.b)1)(g) and to offset increases in the POC load from grandfathered projects initiating construction after July 1, 2014 prior to completion of the project as required in Part I.D.1.b)1)(h); and,
- (d) Implementation of means and methods sufficient to meet 5% required reductions of POC loads from existing sources defined in this state permit in accordance with the Chesapeake Bay TMDL Watershed Implementation Plan as required in Part I.D.1.b)1)(e).

d) Annual Reporting Requirements

- 1) In accordance with Part I D.1.b)1), the permittee shall submit the Chesapeake Bay TMDL Action Plan with the annual report due March 31, 2017.
- 2) Beginning with the annual report due March 31, 2018, 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.
- 3) Beginning with the annual report due March 31, 2018, 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.3.a) and shall include whether an existing stormwater management control was retrofitted, and if so, the existing stormwater management control type retrofit used.
- 4) Beginning with the annual report due March 31, 2018, each annual report shall include a list of control measures that are expected to be implemented during the next reporting period and the expected progress toward meeting the compliance targets for total nitrogen, total phosphorus, and total suspended

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solids.

- 5) The permittee shall include the following as part of its reapplication package due in accordance with Part II.M:
 - (a) Documentation that sufficient control measures have been implemented (or documentation detailing that implementation will be complete by the expiration date of this state permit) to meet the compliance target identified in this Special Condition. If temporary credits or offsets have been purchased in order to meet the compliance target, the list of temporary reductions utilized to meet the 5% reduction in this state permit and a schedule of implementation to ensure a permanent 5% reduction shall be provided; and
 - (b) A draft second phase Chesapeake Bay TMDL Action Plan designed to reduce the existing POC loads by an additional seven times the required reductions in loading rates using Table 2 of Part I.D.1.b) of this state permit unless alternative calculations have been provided by the Commonwealth;
 - (c) An additional 35% reduction in new sources developed between 2009 and 2014 and for which the land use cover condition was greater than 16%; and
 - (d) Accounting for any modification to the applicable loading rate provided to the permittee as a result of TMDL modification.

MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.D.1 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

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There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.D.2
TMDL ACTION PLAN AND IMPLEMENTATION
TMDL ACTION PLANS OTHER THAN
THE CHESAPEAKE BAY TMDL

PERMIT LANGUAGE

a) TMDL Action Plan Development

The permittee shall maintain an updated MS4 Program Plan that includes TMDL Action Plans for pollutants in which wasteloads have been allocated to the MS4 in approved TMDLs. Approved TMDLs as of the effective date of this state permit are included in Attachment A of this state permit. TMDL Action Plans may be implemented in multiple phases over more than one permit cycle using the adaptive iterative approach provided adequate progress is made to reduce pollutant discharges in a manner that is consistent with the assumptions and requirements of the applicable TMDL. Progress shall be demonstrated by representative and adequate monitoring or other methods (e.g. modeling) as described in Part I.D.2.b)5) below. These TMDL Actions Plans shall identify the best management practices and other interim milestone activities to be implemented during the remaining term of this state permit. The plan shall include an estimated end date for achieving the applicable wasteload allocations and, for planning purposes, a projection of BMPs and other implementation steps expected to address the WLA, outside of the permit term, as applicable.

- 1) No later than 24 months after the effective date of this state permit, the permittee shall submit to the Department TMDL Action Plans to address any new or modified requirements established under this Special Condition for pollutants identified in TMDL wasteload allocations approved prior to the effective date of this state permit.
- 2) The TMDL Action Plans shall become effective and enforceable upon written notification from the Department.
- 3) The TMDL Action Plans shall be incorporated by reference into this state permit.

b) TMDL Action Plan content

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The permittee shall:

- 1) Develop and maintain a list of its legal authorities such as ordinances, permits, order, specific contract language, and inter-jurisdictional agreements applicable to reducing the pollutant identified in a WLA;
- 2) Identify and maintain an updated list of all additional management practices, control techniques and system design and engineering methods, beyond those identified in Part I.B of this state permit, that have been implemented as part of the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA;
- 3) Enhance the public education and outreach and employee training programs to also promote methods to eliminate and reduce discharges of the pollutants identified in the WLA;
- 4) Assess all significant sources of pollutant(s) from facilities of concern owned or operated by the MS4 operator that are not covered under a separate VPDES industrial stormwater permit and identify all municipal facilities that may be a significant source of the identified pollutant. For the purpose of this assessment, a significant source of pollutant(s) from a facility of concern means a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL. (For example, a significant source of pollutant from a facility of concern for a bacterial TMDL would be expected to be greater at a dog park than at other recreational facilities where dogs are prohibited);
- 5) Develop and implement a method to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs. The evaluation shall use any newly available information, representative and adequate water quality monitoring results, or modeling tools to estimate pollutant reductions for the pollutant(s) of concern from implementation of the MS4 Program Plan. Monitoring may include BMP, outfall, or in-stream monitoring, as appropriate, to estimate pollutant reductions. The permittee may conduct monitoring, utilize existing data, establish partnerships, or collaborate with other MS4 permittees or other third parties, as appropriate. This evaluation shall include assessment of the facilities identified in Part I.D.2.b)4) above. The methodology used for assessment shall be described in the TMDL Action Plan.

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- 6) Solicit public input on the draft TMDL Action Plan and consider public comments in development of the final TMDL Action Plan that is submitted to the Department for review and approval.
- c) This state permit shall be modified or alternatively revoked and reissued if any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the treatment works that are not consistent with the permit requirements.
- d) Analytical methods for any monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the Environmental Protection Agency (EPA). Where an approved 40 CFR Part 136 method does not exist, the permittee shall use a method consistent with the TMDL.
- e) The permittee is encouraged to participate as a stakeholder in the development of any TMDL implementation plans applicable to their discharge. The permittee may incorporate applicable best management practices identified in the TMDL implementation plan in the MS4 Program Plan.
- f) Annual Reporting Requirements
 - 1) The permittee shall submit the required TMDL Action Plans to the Department for review and acceptance with the annual report due March 31, 2017.
 - 2) Beginning with the annual report due on March 31, 2018, the permittee shall report on the implementation of the TMDL Action Plans and associated evaluation including the results of any monitoring conducted as part of the evaluation.
- g) The permittee shall identify the best management practices and other steps that will be implemented during the next permit term as part of the permittee's reapplication for coverage as required under Part II.M. The permittee shall also evaluate and modify the estimated end date for achieving the applicable wasteload based on information acquired during the permit cycle.

MS4 PROGRAM ELEMENTS

To be developed.

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ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.D.1 of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

The following language was taken from the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015). This language may be changed and/or be relocated as the MS4 Program Plan is completed over the course of the current permit.

The Environmental Health section of the Henrico County Health Department currently coordinates the septic system program in the County. Responses to a septic system malfunction include:

- a. *A property owner with a malfunctioning septic system with the potential for health and environmental contamination is required to apply for an application to contract repairs through the Health Department. Citizen complaints are investigated by the Health Department who then advises property owners of actions which need to be taken:*
 - i. *The applicant may be required to pump the system if it is imposing an immediate threat; or*
 - ii. *The applicant may be required to hook up to the sanitary sewer system, or,*
 - iii. *The applicant may be required to repair the septic system through contracting with a private company after obtaining a permit from the County Health Department.*
- b. *In situations where a property owner refuses to warrant the request for action for repair, the Health Department may initiate legal proceedings that may lead to requiring the property owner to vacate until requested repairs have been completed.*

All new development proposed to have septic systems is required to provide a reserve drain field. The Health Department also strongly recommends that septic systems (existing and proposed) be pumped out every five years. A brochure is available to

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residents that educate them on how to maintain a septic system (see attachments).

As part of the Chesapeake Bay Program, Henrico County is required to ensure that septic systems are pumped out every 5 years. The Department of Public Works administers this program.

MAINTAINING YOUR SEPTIC SYSTEM BROCHURE

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Alternative Septic Systems

Alternative septic systems are engineered systems often utilized when soil conditions on a property do not allow for adequate treatment of sewage with a conventional septic system.

Alternative septic systems require additional maintenance beyond what is required for conventional septic systems. These systems should be maintained according to the manufacturer's specifications and documentation submitted as required by the Henrico Health Department.

Based on their maintenance requirements, these systems are not required to comply with Henrico County's Septic Pump-out & Inspection Program. If you have questions regarding an alternative septic system, please contact the Henrico Health Department at 804-501-4530.

What are the benefits of routine maintenance?

Having your septic system either inspected or pumped out every five years helps protect the health of your family, community and the environment. Maintaining your septic system makes good economical sense because failed systems can cost thousands of dollars to repair or replace. Failing systems can also cause property values to decline.

Questions?

For information regarding the maintenance of your septic system, please contact us at:

Phone: 804-501-5846

Fax: 804-501-7470

E-mail: Septic-Systems@henrico.us

County of Henrico
Department of Public Works
Engineering & Environmental Services
Division
PO Box 90075

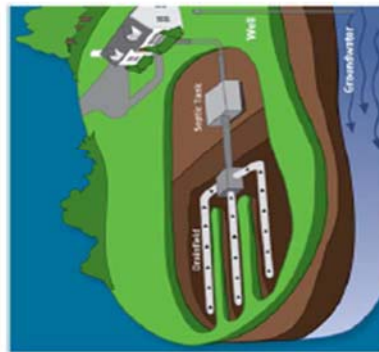
Maintaining Your Septic System...

to keep our waterways clean.



What is a septic system?

A septic system is designed to collect, treat and release wastewater from your home. Wastewater flows into your septic tank and separates; heavier solids collect on the bottom and lighter liquids like soap scum, float to the top. The separated water flows out of the tank and into the drainfield where it is eventually absorbed and filtered by the soil. This water is then used by plants or re-introduced into the groundwater table.



(Source: U.S. EPA)

Why should I maintain my septic system?

An improperly functioning septic tank can allow contaminated wastewater to enter surface and groundwater supplies. Failing septic systems can degrade water quality in streams and lakes through bacterial and viral contamination or nutrient overload. Groundwater is the source of drinking water for many people with septic tanks. Preventing drinking water contamination protects your health and the environment.

It's the law

Henrico County's Chesapeake Bay Preservation Ordinance (Chapter 24-106.3) requires all on-site septic system owners located within a Chesapeake Bay Preservation Area to do one of the following once every five years:

- 1) pump-out the septic system and submit documentation of the pump-out.

OR...

- 2) Have a certified operator or on-site soil evaluator inspect the system and submit documentation that the system has been inspected, is functioning properly, and does not need to be pumped out. A list of certified operators and on-site soil evaluators can be obtained from the Virginia Department of Professional and Occupational Regulation's (DPOR) website: <http://www.dpor.virginia.gov/licenselookup/>.

What should I keep out of my drain?

- Do not put grease or chemicals down the drain. They can clog the system or eventually get into the groundwater.
- Avoid septic tank additives. These products are not necessary and may harm your system.
- Conserve water to avoid overloading the septic system. Repair any leaky faucets or toilets.
- Avoid using the garbage disposal. These devices quickly fill your septic system with solids, decrease their efficiency and you will have to pump out your tank more frequently.

Protect your drainfield

- Do not drive, park or build on top of your drainfield, this could reduce its ability to treat wastewater and may damage drain pipes within the field.
- Avoid planting shrubs with deep root systems or trees near the drainfield as their roots can damage pipes.

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PART I.E ANNUAL REPORTING

PERMIT LANGUAGE

1. The permittee shall submit the annual report to the Department in accordance with the following schedule:

Reporting Period	Annual Report Due Date
April 1, 2015 through December 31, 2015	March 31, 2016
January 1, 2016 through December 31, 2016	March 31, 2017
January 1, 2017 through December 31, 2017	March 31, 2018
January 1, 2018 through December 31, 2018	March 31, 2019
January 1, 2019 through December 31, 2019	March 31, 2020
January 1, 2020 through March 31, 2020	March 31, 2021

2. Each annual report shall include the following background information:
 - a) The permittee and permit number of the program submitting the annual report;
 - b) Any modifications to the MS4 Program Plan as a result of the annual report;
 - c) The reporting dates for which the annual report is being submitted; and,
 - d) Certification as per Part II.K.
3. A summary of the implementation of each of the components established under Part I.B. and an evaluation of the effectiveness of each component. The permittee should attempt to limit any component's narrative summary to no longer than two-pages plus any necessary tables and figures.
4. A summary report of the monitoring programs listed under Part I.C.
5. A summary of the implementation of each component listed under Part I.D.
6. The Specific Reporting Requirements identified in this state permit.

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MS4 PROGRAM ELEMENTS

To be developed.

ROLES AND RESPONSIBILITIES

In accordance with Part I.A.2 of the MS4 Permit, responsibility for the various tasks and programs necessary to demonstrate compliance with Part I.E of the MS4 Permit are assigned to the following Departments / Divisions of the County:

To be developed.

STORMWATER MANAGEMENT MASTER PLAN COMPONENTS

There is no language in the Stormwater Management Master Plan developed as required by the County's previous MS4 Permit (the previous permit expired on March 31, 2015) that is applicable to this section of the MS4 Program Plan.

PART I.F DEFINITIONS

Definitions contained in the Virginia Stormwater Management Act, Part I (9VAC25-870-10) and Federal NPDES rules, 40 CFR Part 122, apply where a definition is not specified below. Unless otherwise specified in this state permit, additional definitions or words or phrases used in this state permit are as follows:

1. "Best management practice" or "BMP" means schedules of activities, prohibitions of practices, including both structural and nonstructural practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters and groundwater systems from the impacts of land-disturbing activities.
2. "Board" means the State Water Control Board.
3. "Date brought on line" means the date when the permittee determines that a new stormwater management facility is properly functioning to meet its designed pollutant load reduction.
4. "Department" means the Department of Environmental Quality.
5. "High priority municipal facility" means any facility owned and operated by the permittee or regulated under this state permit includes composting facilities, equipment storage and maintenance facilities, materials storage yards, pesticide storage facilities, public works yards, recycling facilities, salt storage facilities, solid waste handling and transfer facilities, and vehicle storage and maintenance yards.
6. "Industrial land use" means land utilized in connection with manufacturing, processing, or raw materials storage at facilities identified under 40 CFR Part 122.26(b)(14).
7. "Maintenance" means maintenance on the MS4 and associated structural stormwater controls including, but not limited to, activities such as inspections of basins and ponds; repair and replacement of failed controls, mowing grass filter strips; regular removal of litter and debris from dry ponds, forebays and water quality inlets; periodic stabilization and revegetation of eroded areas; periodic removal and replacement of filter media from infiltration trenches and filtration ponds; periodic removal of trash and sediment; deep tilling of infiltration basins to maintain capacity;

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vacuuming or jet hosing of porous pavement or concrete grid pavements; and, removal of litter and debris from wet weather conveyances.

8. "Permittee" means Henrico County.
9. "Physically interconnected" means that one MS4 is connected to a second MS4 in such a manner that it allows for direct discharges to the second system.
10. "Retrofit" means the modification of existing stormwater management facilities, as defined herein, including flood control structures, through construction and/or enhancement in order to address water quality improvements. Retrofit also means the installation or implementation of source reductions to provide water quality improvements on previously developed land where no stormwater source reductions previously existed.

PART II

CONDITIONS APPLICABLE TO ALL VSMP MS4 PERMITS

A. MONITORING

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. Monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this state permit.
3. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will ensure accuracy of measurements.
4. Samples taken as required by this state permit shall be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

B. RECORDS

1. Monitoring records/reports shall include:
 - a) The date, exact place, and time of sampling or measurements;
 - b) The individual(s) who performed the sampling or measurements;
 - c) The date(s) and time(s) analyses were performed;
 - d) The individual(s) who performed the analyses;
 - e) The analytical techniques or methods used; and
 - f) The results of such analyses.

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2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation; copies of all reports required by this state permit; and records of all data used to complete the registration statement for this state permit, for a period of at least 3 years from the date of the sample, measurement, report or request for coverage. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

C. REPORTING MONITORING RESULTS

1. The permittee shall submit the results of the monitoring required by this state permit with the annual report unless another reporting schedule is specified elsewhere in this state permit.
2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved or specified by the Department; or in any format provided that the date, location, parameter, method, and result of the monitoring activity are included.
3. If the permittee monitors any pollutant specifically addressed by this state permit more frequently than required by this state permit using test procedures approved under 40 CFR Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using procedures specified in this state permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Department.
4. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this state permit.

D. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Department, within a reasonable time, any information that the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this state permit or to determine

compliance with this state permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from its discharge on the quality of surface waters, or such other information as may be necessary to accomplish the purposes of the Clean Water Act and Virginia Stormwater Management Act. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this state permit.

E. COMPLIANCE SCHEDULE REPORTS

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

F. UNAUTHORIZED STORMWATER DISCHARGES

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

G. REPORTS OF UNAUTHORIZED DISCHARGES

Any operator of a regulated MS4 who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance or a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302 that occurs during a 24-hour period into or upon surface waters; or who discharges or causes or allows a discharge that may reasonably be expected to enter surface waters, shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than within 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;

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3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this state permit.

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

H. REPORTS OF UNUSUAL OR EXTRAORDINARY DISCHARGES

If any unusual or extraordinary discharge including “bypass” or “upset”, as defined herein, should occur from a facility and the discharge enters or could be expected to enter surface waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse affects on aquatic life and the known number of fish killed. The permittee shall produce a written report and submit it to the Department within five days of discovery of the discharge in accordance with Part II.1.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the facilities; and
4. Flooding or other acts of nature.

I. REPORTS OF NONCOMPLIANCE

The permittee shall report any noncompliance, which may adversely affect surface waters or may endanger public health.

1. An oral report shall be provided within 24 hours to the Department from the time the permittee becomes aware of the circumstances. The following shall be included as information, which shall be reported within 24 hours under this paragraph:
 - a) Any unanticipated bypass; and
 - b) Any upset which causes a discharge to surface waters.
2. A written report shall be submitted within 5 days and shall contain:
 - a) A description of the noncompliance and its cause;
 - b) The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
 - c) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

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

3. The permittee shall report all instances of noncompliance not reported under Part II.I.2, in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.O.

NOTE: The immediate (within 24 hours) reports required in Parts II G, H and I may be made to the Department's Regional Office. Pollution Response Program as found at <http://deq.virginia.gov/Programs/PollutionResponsePreparedness.aspx>. Reports may be made by telephone or by fax. For reports outside normal working hours, leave a message and this shall fulfill the immediate

reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24 hour telephone service at 1-800-468-8892.

4. Whenever the permittee becomes aware of a failure to submit any relevant facts, or submitted incorrect information in any report to the Department, it shall promptly submit such facts or information.

J. NOTICE OF PLANNED CHANGES

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - a) The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
 - 1) After promulgation of standards of performance under § 306 of the Clean Water Act that are applicable to such source; or
 - 2) After proposal of standards of performance in accordance with § 306 of the Clean Water Act that are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.
 - b) The permittee plans alteration or addition that would significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are not subject to effluent limitations in this state permit; or
2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

K. SIGNATORY REQUIREMENTS

1. Permit Applications. All permit applications shall be signed as follows:

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- a) For a corporation: by a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - c) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a public agency includes:
 - 1) The chief executive officer of the agency, or
 - 2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
2. Reports, etc. All reports required by permits, and other information requested by the Board shall be signed by a person described in Part II.K.1, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- a) The authorization is made in writing by a person described in Part II.K.1;

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- b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the operator. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and
 - c) The written authorization is submitted to the Department.
- 3. Changes to authorization. If an authorization under Part II.K.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part II.K.2 shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.
 - 4. Certification. Any person signing a document under Parts II.K.1 or 2 shall make the following certification:

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

L. DUTY TO COMPLY

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

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

M. DUTY TO REAPPLY

If the permittee wishes to continue an activity regulated by this state permit after the expiration date of this state permit, the permittee shall submit a completed EPA Form 1, an updated MS4 Program Plan including benchmarks and milestones for the next permit cycle and the second phase of the Chesapeake Bay TMDL action plan, at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Board. The Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

N. EFFECT OF A PERMIT

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

O. STATE LAW

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

P. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this state permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law or section 311 of the Clean Water Act.

Q. PROPER OPERATION AND MAINTENANCE

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

R. DISPOSAL OF SOLIDS OR SLUDGES

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

S. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this state permit, which has a reasonable likelihood of adversely affecting human health or the environment.

T. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

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

U. BYPASS

1. "Bypass", as defined in 9VAC25-870-10, means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II.U.2 and U.3.
2. Notice
 - a) Anticipated Bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
 - b) Unanticipated Bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II.I.
3. Prohibition of bypass.
 - a) Bypass is prohibited, and the Board or its designee may take enforcement action against a permittee for bypass, unless:
 - 1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - 2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
 - 3) The permittee submitted notices as required under Part II.U.2.
 - b) The Board or its designee may approve an anticipated bypass, after considering its adverse effects, if the Board determines that it

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will meet the three conditions listed above in Part II.U.3 a.

V. UPSET

1. An upset, as defined in 9VAC25-870-10, constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II.V.2 are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.
2. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
3. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

An upset occurred and that the permittee can identify the cause(s) of the upset;

- a) The permitted facility was at the time being properly operated;
 - b) The permittee submitted notice of the upset as required in Part II.I; and
 - c) The permittee complied with any remedial measures required under Part II.S.
4. In any enforcement preceding the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. INSPECTION AND ENTRY

The permittee shall allow the Director as the Board's designee, or an authorized representative (including an authorized contractor acting as a representative of

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the administrator) upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this state permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this state permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this state permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and the Virginia Stormwater Management Act, any substances or parameters at any location.

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

X. PERMIT ACTIONS

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

Y. TRANSFER OF PERMITS

1. Permits are not transferable to any person except after notice to the Department. Except as provided in Part II.Y.2, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under the Virginia Stormwater Management Act and

the Clean Water Act.

2. As an alternative to transfers under Part II.Y.1., this state permit may be automatically transferred to a new permittee if:
 - a) The current permittee notifies the Department at least two days in advance of the proposed transfer of the title to the facility or property;
 - b) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
 - c) The Board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part II.Y.2.b.

Z. SEVERABILITY

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