



City of Hopewell

Municipal Separate Storm Sewer System Program Plan & Annual Report

For

General Permit No. VAR040015

And

Annual Reporting through

July 1, 2014 through June 30, 2015

This plan and annual report is submitted in accordance with 9VAC25-890-30 and 9VAC25-890-40 as part of the registration statement for permit coverage to discharge stormwater to surface waters of the Commonwealth of Virginia consistent with the VAR04 General Permit, effective July 1, 2013.

Submitted: October 1, 2015

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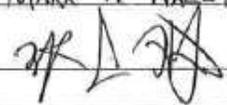
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CERTIFICATION

"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 ensure 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."

Printed Name: MARK A HALEY Title: City Manager
Signature:  Date: 10-1-2015

DEFINITIONS

Definitions provided herein do not supersede those within the City of Hopewell's City Code, but are solely intended to supplement interpretation of the City's MS4 Program Plan and Annual Report.

"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.

"Chesapeake Bay Preservation Act land-disturbing activity" means a land-disturbing activity including clearing, grading, or excavation that results in a land disturbance equal to or greater than 2,500 square feet and less than one acre in all areas of jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations (4VAC50-90) adopted pursuant to the Chesapeake Bay Preservation Act.

"Chesapeake Bay watershed" means all land areas draining to the following Virginia river basins: Potomac River Basin, James River Basin, Rappahannock River Basin, Chesapeake Bay and its small coastal basins, and York River Basin.

"Construction activity" means any clearing, grading or excavation associated with large construction activity or associated with small construction activity.

"Department" means the Department of Environmental Quality.

"Discharge," when used without qualification, means the discharge of a pollutant.

"Drainage area" means a land area, water area, or both from which runoff flows to a common point.

"Hydrologic Unit Code" or "HUC" means a watershed unit established in the most recent version of Virginia's 6th Order National Watershed Boundary Dataset.

"Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges resulting from firefighting and the following discharges, unless identified by the MS4 operator as significant contributors of pollutants: water line flushing, landscape irrigation, diverted stream flows, rising groundwaters, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water.

"Impervious cover" means a surface composed of material that significantly impedes or prevents natural infiltration of water into soil.

"Land disturbance" or "land-disturbing activity" means a man-made change to the land surface that potentially changes its runoff characteristics including clearing, grading, or excavation except that the term shall not include those exemptions specified in Section 1-3) of the City of Hopewell's Stormwater Management Ordinance.

"Municipal separate storm sewer" or "MS4" means a conveyance or system of conveyances otherwise known as a municipal separate storm sewer system, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains.

"MS4 Program Plan" means the completed registration statement and all approved additions, changes and modifications detailing the comprehensive program implemented by the operator under this state permit to reduce the pollutants in the stormwater discharged from its municipal separate storm sewer system (MS4) that has been submitted and accepted by the department.

"Outfall" means, when used in reference to municipal separate storm sewers, a point source at the point where a municipal separate storm sewer discharges to surface waters and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other surface waters and are used to convey surface waters.

"Public" means, for the purpose of this Program Plan, the general population who work and/or live within the City's limits

"State waters" means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands.

"Stormwater" means precipitation that is discharged across the land surface or through conveyances to one or more waterways and that may include stormwater runoff, snow melt runoff, and surface runoff and drainage.

"Stormwater management plan" means a document(s) containing material for describing methods for complying with the requirements of the Virginia Stormwater Management Program

"Total maximum daily load" or "TMDL" means the sum of the individual wasteload allocations for point sources, load allocations (LAs) for nonpoint sources, natural background loading and a margin of safety. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. The TMDL process provides for point versus nonpoint source trade-offs.

"Virginia Stormwater Management Handbook" means a collection of pertinent information that provides general guidance for compliance with the Act and associated regulations and is developed by the department with advice from a stakeholder advisory committee.

"Wasteload allocation" or "wasteload" or "WLA" means the portion of receiving surface water's loading or assimilative capacity allocated to one of its existing or future point sources of pollution. WLAs are a type of water quality-based effluent limitation.

"Watershed" means a defined land area drained by a river or stream, karst system, or system of connecting rivers or streams such that all surface water within the area flows through a single outlet.

1.0 PROGRAM PLAN STRUCTURE

The City of Hopewell's Program Plan is structured to serve as a stand-alone document that, when implemented, meets the requirements of the VAR04 *General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s)*, referred to in the remainder of this Plan as the General Permit. The Program Plan is intended to be subject to modifications as part of an iterative process that seeks to improve the effectiveness of best management practices (BMPs). To facilitate the iterative process, measure(s) of effectiveness are incorporated in each BMP and annual reporting form provided in Section 3.

1.1 Minimum Control Measures

The General Permit requires the City's Program Plan to include BMPs to address the requirements of six minimum control measures (MCMs) described in Section II of the General Permit. The MCMs are summarized as:

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

Section 3.0 of the Plan includes BMPs developed to explicitly address each General Permit requirement for each MCM. The title of each BMP is followed with a reference to the corresponding permit section. Each BMP included in the Program Plan includes the following information:

- A description of the BMP.
- A list of the necessary documentation to implement the BMP. This information is considered part of the Program and is readily available and updated, as necessary, and developed consistent with the BMP's implementation schedule.
- The identification of the individual(s) responsible for implementation of the BMP.
- The objective of the BMP and the result expected from implementation of the BMP.
- An implementation schedule consistent with the General Permit.
- A description of the method(s) to be used to assess the effectiveness of the BMP.

1.2 Special Conditions for TMDLs

The City of Hopewell is subject to the Special Conditions for the Chesapeake Bay TMDL that requires the development and submission to DEQ (the Department), for its review and acceptance, an approvable TMDL Action Plan. A BMP is provided in Section 3.2 for development of the Action Plan, and a second BMP is reserved to be developed for implementation of the Action Plan. BMPs are also provided to

ensure the City annually determines if a WLA has been assigned during the reporting year and to provide public opportunity for participation in development of new TMDLs.

The City of Hopewell is also subject to the TMDL Special Conditions for the following approved local TMDLs where a waste load allocation (WLA) has been assigned to the City:

- Appomattox River Watershed for *E. coli*, approved December 20, 2005
- James River-Hopewell to Westover Watershed for *E. coli*, approved April 28, 2009

The Special Conditions require the City to update this Program Plan to incorporate implementation of TMDL Action Plans that identify best management practices and milestones to be implemented during the remaining term of this permit cycle which concludes July 1, 2018. BMPs are provided in Section 3.3 for development and implementation of the *E. coli* TMDLs listed above.

1.3 Annual Reporting

The City will submit an Annual Report to the Department of Environmental Quality (DEQ) by October 1st of each year with the reporting period spanning from July 1st through June 30th. This Program Plan includes annual reporting forms in “fillable form” format. The completion of these forms require all information necessary to explicitly satisfy the reporting requirements of the General Permit and include the:

- Cover sheet, which will be updated with the specific reporting year;
- Certification, that follows the table of contents and will be signed each year;
- “Annual Reporting – General Information Form” on the following page, completed annually;
- The “Annual Reporting Form” following each BMP in Section 3, completed annually; and
- The Measure(s) of Effectiveness Form following each BMP in Section 3.

Information compiled for effectiveness for each BMP in Section 3.0 will be utilized to evaluate and, if necessary, modify the respective BMP. Any modifications will be reported in the “Annual Reporting – General Information Form.” Modifications to the Program made by the City will be done in accordance with the General Permit requirements described in Section 1.5.

The General Permit requires certification of the annual report which is provided immediately after the table of contents of this document. Certification is required by a principle executive officer or a duly authorized representative. The duly authorized representative must have overall responsibility of the City operations and written authorization must be provided to the Department.

1.4 Annual Reporting – General Information Form	
<ul style="list-style-type: none"> ➤ The BMPs described in Section 3 of this Program Plan/Annual Report are the stormwater activities that the City plans to undertake during the remainder of the permit cycle. ➤ The City does not rely on another entity to implement portions of their MS4 Program Plan ➤ Completed Annual Reporting Forms for each BMP in Section 3 provide an assessment of the appropriateness of each BMP, progress towards achieving each measurable goal, and results of collected information analyzed for appropriate assessments and effectiveness of the BMP. ➤ See the updated Outfall Inventory in Appendix B for new MS4 outfalls that came online during the reporting year and their associated drainage area by HUC. 	
<ul style="list-style-type: none"> ➤ Did modifications to the responsible individual of any program role or responsibility or specific BMP included in the Program occur during the reporting year? (yes/no) 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, list modifications (provide BMP # to reference modification rationale): _____	
<ul style="list-style-type: none"> ➤ Based on a review of the reporting forms completed for the reporting year within Section 3 of this Program Plan, does the City find itself compliant with the permit conditions (yes/no): 	<input checked="" type="checkbox"/> Yes, the City is compliant <input type="checkbox"/> No (see below)
<p>If no, listed below are additional BMPs and/or changes made to BMPs or measurable goals for any of the MCMs, including steps to address any deficiencies (Refer to Section 1.5): Hopewell will complete web postings as described in BMPs 1.2, 2.1, 3.4, and 4.2 and develop contract language for municipal contractors as described in BMP 6.5.</p>	
<ul style="list-style-type: none"> ➤ Does the City's MS4 directly discharge to waters that are identified as impaired in the 2010 § 305(b)/303(d) Water Quality Assessment Integrated Report? (yes/no) 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If yes, list the impaired waters and pollutant impairment: Bailey Creek & Southerly Run	
<ul style="list-style-type: none"> ➤ Based on the water quality issues identified in BMP 1.2 and impairments identified above, does a review of the effectiveness of the BMPs listed in the program indicate they are appropriate? (yes/no) 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Explain why they are effective for the water quality issues identified in BMP 1.2 and listed impairments or identify potential modifications if not effective: _____	

1.5 Program Modifications

Modifications to the MS4 Program may occur throughout the life of this Program Plan as part of an iterative process to reduce the pollutant loadings and to protect water quality. Modifications will most often be made when a BMP is deemed ineffective, based on reporting for the “Measure of Effectiveness Forms” for each BMP in Section 3. When a BMP is determined ineffective, updates and modifications to the MS4 Program must be made in accordance with the following procedures:

- Adding (but not eliminating or replacing) BMPs may be made by the City at any time. Additions shall be reported as part of the annual report in the “Annual Reporting – General Information Form” in Section 1.4.
- Updates and modifications to specific standards and specifications, schedules, operating procedures, manuals, checklists, and other documents routinely evaluated and modified are permitted provided that the updates and modifications are done in a manner that:
 - Is consistent with the conditions of the General Permit;
 - Follow any public notice and participation requirements established in the General Permit; and
 - Are documented in the annual report in the “Annual Reporting – General Information Form” in Section 1.4.
- Replacing, or eliminating without replacement, any ineffective or infeasible strategies, policies, and BMPs with alternate strategies, policies, and BMPs may be requested at any time. Such requests must include the following:
 - An analysis of how or why the BMPs, strategies, or policies are ineffective or infeasible, including cost prohibitive;
 - Expectations on the effectiveness of the replacement BMPs, strategies, or policies;
 - An analysis of how the replacement BMPs are expected to achieve the goals of the BMP's to be replaced;
 - A schedule for implementing the replacement BMPs, strategies, and policies;
 - An analysis of how the replacement strategies and policies are expected to improve the City's ability to meet the goals of the strategies and policies being replaced;
 - Requests or notifications made in writing to the Department and signed by a principle executive officer or a duly authorized representative; and
 - The City follows the public involvement requirements identified in the General Permit.

2.0 SCHEDULE

As discussed in Section 1, each BMP described in Section 3 of the Program Plan includes an implementation schedule. Some of the BMPs require supplemental actions to be taken to assist in the development or implementation of the BMP. Table 1 lists some of these actions with a summary of dates critical for assuring compliance with the permit. The Table is not intended to provide schedules for Program BMP implementation; but only to assist with Program Plan implementation.

Table 1. Summary of critical items and deadlines for program implementation.

BMP	Necessary Action	Due date
2.2	Public participation activities	4x annually
2.1	Post Annual Report on website	30 days after submittal annually
6.3a	Staff training on pollution prevention	Complete
1.1, 1.2	Provide for public participation for education and outreach plan	Complete
1.2	Public Education/Outreach Plan	Complete
3.1	Notification of MS4 Interconnections	Complete
3.3	Develop IDDE Program Manual	Complete
6.3a	Written Training Program (see IDDE and Good Housekeeping/Pollution Prevention Manuals)	Complete
6.2	Identify high priority areas (see BMP 6.2)	Complete
5.3	Post-construction SWM Inspection/Maintenance Program Manual	Complete
3.4, 6.1	Good Housekeeping/Pollution Prevention Program Manual	Complete
1.2, 3.4, 4.2	Website postings (see BMPs for details)	July 1, 2016
6.3b, 6.5	Good housekeeping contract language for municipal contractors	July 1, 2016
3.3	Methodology for prioritizing outfalls	July 1, 2016
3.1	Storm sewer mapping/information table	July 1, 2016
5.2	Update BMP database attributes	Complete
6.2	High-priority facility SWPPP implementation	July 1, 2017
CB-SC.1	Chesapeake Bay Action Plan	Complete
SC.1	Appomattox River E. Coli Action Plan	Complete
SC.2	James River-Hopewell E. Coli Action Plan	Complete

3.0 PROGRAM PLAN BEST MANAGEMENT PRACTICES

Section 3 includes the BMPs that the City will implement to meet the requirements for each MCM and the applicable Special Conditions described in the General Permit.

3.1 Minimum Control Measure BMPs

BMP 1.1 Public Participation for Public Education and Outreach Plan (Section II B.1.c.4)
<p>Description: Public participation was based on feedback derived from City Engineering Staff, suggestions from MS4 Consultants with their experience from public education surveys taken from other MS4s, local Total Maximum Daily Loads (TMDLs), and general knowledge of City operations.</p>
<p>Necessary documentation for implementation: (1) Public Education & Outreach Plan</p>
<p>Responsible individuals for implementation: Stormwater Systems Management Engineer</p>
<p>Objectives and expected results in meeting measurable goals: The objective is to include the public in the selection of water quality issues identified in the City's Public Education and Outreach Plan.</p>
<p>Implementation schedule: Opportunity for select individual public participation was provided in the Fall of 2015 for incorporation into the Public Education and Outreach Plan (BMP 1.2).</p>
<p>Method to determine effectiveness: Effectiveness will be measured by the relevancy of the Public Education and Outreach Plan issues to improving water quality.</p>

BMP 1.1 Annual Reporting Form (Completed once during the development of the Public Education and Outreach Plan)	
Date of latest version of the Public Education and Outreach Plan developed:	June 30, 2015 (latest version)

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

BMP 1.2 Develop Public Education and Outreach Program (Section II B.1.c.1-6)

Description: Identify three (3) high priority water quality issues contributed to by the discharge of stormwater. For each issue identified, provide

- Rationale for the selection of each issue;
- An identification and estimate of population size of the target audience who is most likely to have significant impacts on the water quality issue; and
- A relevant message and educational and outreach materials to convey the message for distribution to the target audience.

Necessary documentation for implementation: (1) Written Public Education and Outreach Plan describing the rationale of the selection of each water quality issue, identification of target audience and estimated population, and relevant message; (2) Materials described in the Public Education and Outreach Plan such as pamphlets and training materials.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: Objectives are to convey relevant information to target audiences regarding water quality issues. The expected result is that the target audiences will have an increased knowledge of the water quality issues over time.

Implementation schedule: Outreach will be conducted a minimum of once a year to at least 20% of each target audience for each water quality issue identified in the Public Education and Outreach Plan.

Method to determine effectiveness: Effectiveness will be measured by determining the relevancy of the high priority water quality issues to improving water quality and by determining the number of people reached.

BMP 1.2 Annual Reporting Form				
Has a written Public Education and Outreach Plan been developed?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If no, explain, is yes, summarize below: N/A since plan developed				
Water quality Issue #	List of educational and outreach activities identified in Public Education and Outreach Plan Update	Target Audience	# people reached for permit cycle	% of target audience reached in permit cycle
1	Apartment Rental Properties Waste Management	10 apartment complexes	See Measure of Effectiveness	See Measure of Effectiveness
2	Automotive Repair Shops Activities & Waste Management	Automotive shops	See Measure of Effectiveness	See Measure of Effectiveness
3	Good housekeeping/pollution prevention practices	Staff	35	100
Water quality Issue #	List of educational and outreach activities that will be conducted during the <i>next</i> reporting year	Target Audience	# people to be reached for reporting year	Minimum % of target audience to be reached
1	Public education on stormwater impacts	General public	4,400	20
2	Education on special water quality concerns (E.coli)	General public	1,980	20
3	Good housekeeping/pollution prevention practices	Staff	35	100

Necessary documents for implementation are not provided in the annual report, but will be retained for a minimum of 3 years and are available upon request.

Measure of Effectiveness Form	
Were the high priority water quality issues determined to be related to improving water quality?	<input type="checkbox"/> Yes (BMP effective; rationale in Public Education & Outreach Plan) <input checked="" type="checkbox"/> No (See below)
Was at least 20% of the target audience reached?	<input type="checkbox"/> Yes (BMP effective) <input checked="" type="checkbox"/> No (See below)
<p>If no to any of the above, discuss potential ineffectiveness of the BMP (outreach materials, training approach, etc.). Water quality issues #1 and #2 were ineffective due to inability to effectively reach out to the target audiences and deemed to not target areas of highest potential sources of pollutants of concern.</p>	
<p>If no to any of the above, Suggest BMP modifications to the Program Plan with rationale to increase effectiveness: Hopewell has developed a revised Public Education and Outreach Plan to address the ineffectiveness of the previous Plan with new WQ Issues #1 and #2.</p>	

BMP 2.1 Public Involvement through web posting of MS4 Program information (Section II B.2.a.1-2)

Description: The following documentation will be maintained on the City’s stormwater website:

- The latest version of this MS4 Program Plan
- The latest MS4 Annual Reports.

Public education and outreach materials developed for BMP 1.2 will include links to the Program Plan and Annual Reports.

Necessary documentation for implementation: (1) City of Hopewell MS4 Program Plan; (2) City of Hopewell MS4 Annual Reports; (3) Web address of posted materials; (4) Educational and outreach material from BMP 1.2

Responsible individual for implementation: Communications Director and Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: Objectives are to provide an opportunity to the public to review the City’s MS4 Program documentation. Expected results are an increase in public knowledge of the effects of stormwater runoff on water quality and BMPs implemented by the City to improve water quality from stormwater runoff.

Implementation schedule: The City’s Program Plan and Annual Report are included in this single document. This document will be posted on the web page within 30 days of submittal to DEQ, or by November 1st of each year.

Method to determine effectiveness: Same as BMP 1.2.

BMP 2.1 Annual Reporting Form

Web link to the City’s Program Plan/Annual Report is provided below:

<http://www.hopewellva.gov/community-services/storm-water-management/>

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

BMP 2.2 Public participation (Section II B.1.b)

Description: The City of Hopewell will participate, through promotion, sponsorship, or other involvement, in a minimum of four local activities annually.

Necessary documentation for implementation: (1) A list of public participation opportunities; (2) Documentation of participation for each activity.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to increase public participation to reduce stormwater pollutant loads; improve water quality; and support local restoration and clean-up projects, programs, groups, meetings, or other opportunities for public involvement. Measurable goals include a measure or estimation of the number of people that participate in each local activity.

Implementation schedule: Public participation will be conducted a minimum of four times a year.

Method to determine effectiveness: Effectiveness will be determined by successful public turn-out or exposure at each event. Selection of specific events may be modified from year to year based on opportunity, the potential impact of the audience that can be reached, and anticipated public turn-out.

BMP 2.2 Annual Reporting Form			
Local activity	Type of participation (e.g. promotion, sponsorship, other)	Estimated # of people reached	Summary of documentation* that demonstrates participation
9/23/14 City Council Meeting Topic: Stormwater and Fee Proposal Rates Aired on Comcast Channel 3 for Virginia Tri-City Area on 9/24/14 at 8 PM	Promotion	8,000+ Households	PowerPoint
Topic: Stormwater and Fee Proposal Rates Aired on Comcast Channel 3 for Virginia Tri-City Area on 10/29/14 at 8 PM	Promotion	8,000+ Households	PowerPoint
1/13/15 City Council Meeting Topic: Stormwater and Fee Proposal Rates Aired on Comcast Channel 3 for Virginia Tri-City Area on 1/14/15 at 8 PM	Promotion	8,000+ Households	PowerPoint

* Documentation is attached in Appendix A

Measure of Effectiveness Form	
Local Activity (same as above)	Rationalization of effectiveness or ineffectiveness
9/23/14 City Council Meeting	Effective due to an audience critical for guiding City policy.
10/28/14 City Council Meeting	Effective due to an audience critical for guiding City policy.

1/13/15 City Council Meeting	Effective due to an audience critical for guiding City policy.
For an ineffective activity identified above, describe modifications to be made for next reporting year (e.g. different activity or different approach): N/A since activities were considered effective	

BMP 3.1 Storm Sewer Map and Outfall Information Table (Section II B.3.a.1-5)

Description: The City of Hopewell will maintain an accurate storm sewer system map and update the associated information table per Section II.B.3.a (1-5) of the General Permit. The map, at a minimum, will:

- Continue to include the mapped location of all MS4 outfalls with a unique identifier that corresponds to the information table;
- Continue to include the name and location of all waters receiving discharges from City’s MS4 outfalls and the associated sixth order hydrologic unit code (HUC) from Virginia's 6th Order National Watershed Boundary Dataset; and
- Continue to be updated in the case of installation of new outfalls.

The information table, at a minimum, will:

- Continue to include a unique identifier for each outfall;
- Will be updated to estimate acreage served by each outfall;
- Will be updated to include the name of the receiving surface water and indication as to whether the receiving water is listed as impaired on the Virginia 2010 303(d)/305(b) list; and
- Be updated to name any applicable TMDL or TMDLs into which the outfall discharges.

The information table will be updated as new outfalls come on-line. The City will notify downstream MS4s where applicable and in writing of any new or newly discovered interconnections that occur with new development.

Necessary documentation for implementation: (1) Storm sewer system map; (2) Outfall information table; (3) Written notification of new physical interconnections to the downstream MS4, where applicable.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to maintain an up-to-date map of the storm sewer outfalls that provides a tool for the City’s Illicit Discharge Detection and Elimination Program (see BMP 3.3). Expected results are that the mapping and the information table will serve as a useful tool for tracking potential illicit discharges.

Implementation schedule: The information table will be updated in accordance with the current general permit and as described above by July 1, 2016.

Method to determine effectiveness: Effectiveness will be determined based on its use as a tool for identifying illicit discharges.

BMP 3.1 Annual Reporting Form	
Storm Sewer System Information Table is available in Appendix B	
Has the Information Table been updated per the current General Permit and as described in this BMP? (yes/no)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If no, explain: See schedule	
Notifications to interconnected MS4s	
➤ During the reporting year, were any new outfalls installed or identified that physically interconnect to another MS4? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If yes, has the interconnected MS4 received written notification from the City regarding the interconnection? (yes/no or not applicable)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
If yes, list the notified MS4 written notifications by providing the MS4: VDOT & Fort Lee were notified.	
If an interconnected MS4 was not notified of a new interconnection, please explain why and indicate when the notification will be provided: VDOT & Fort Lee were notified	
Estimated drainage acreage to each HUC	
JL07=4,203 Acres	JA45=2,787 Acres

Necessary documents for implementation, including the outfall mapping, are not provided in the annual report, but will be retained for a minimum of 3 years and are available upon request.

Measure of Effectiveness Form
If any potential illicit discharges were identified or reported (refer to reporting for BMP 3.2 and 3.3), was outfall mapping used to address the issue: No, unidentifiable sources from illicit discharges were occurred and therefore use of mapping was not necessary.

BMP 3.2 Prohibit non-stormwater discharges (Section II B.3.b)

Description: The City of Hopewell prohibits non-stormwater discharges, including illegal dumping, into the storm sewer system through Chapter 31 Article I and VI of the City Code (Illicit Storm Sewer Discharges). Article V prohibits illicit connections and discharges to the storm sewer system and establishes legal authority to inspect, conduct surveillance, and monitor to ensure compliance. The Article also gives the City the authority to initiate enforcement actions and establishes enforcement penalties and for violations.

Necessary documentation for implementation: (1) Chapter 31 of the City Code; (2) A list of any instances of violation and summary of actions taken by the City; (3) Completed IDDE Tracking Forms, as provided in Appendix C of the City's IDDE Program Manual.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to effectively prohibit non-stormwater discharge to the extent allowable under federal, state, or local law, regulation, or ordinance. Expected result is the appropriate use of enforcement actions to eliminate an illicit discharge, when necessary.

Implementation schedule: Implementation of Chapter 31 of the City Code will continue with implementation consistent with the methods described in BMP 3.3. Standardized IDDE Tracking forms will begin being used July 1, 2014.

Method to determine effectiveness: Effectiveness will be determined based on the elimination of reported or observed non-stormwater discharges. Effectiveness will also be based on implementation of the inspections, surveillance, monitoring, and enforcement procedures in response to reports.

BMP 3.2 Annual Reporting Form

Reported or observed non-stormwater discharges are provided in Appendix C.

Information in Appendix C includes a memo for each reported or observed discharge, including:

- Date of violation the potential illicit non-stormwater discharge
- Location of the potential illicit non-stormwater discharge
- Description of the potential illicit non-stormwater discharge
- Necessary corrective or disciplinary action taken

* Note that subsequent reporting will utilize the IDDE Tracking Form in Appendix C of the City's IDDE Program Manual instead of the memo format provided in Appendix C of this annual report.

Necessary documents for implementation are not provided in the annual report, but will be retained for a minimum of 3 years and are available upon request.

Measure of Effectiveness Form	
Number of potential illicit non-stormwater discharges reported or observed, as described in Appendix C:	1
Number of potential illicit non-stormwater discharges resolved, as described in Appendix C:	1
➤ Is the number in the two boxes above is the same? (yes/no)	<input checked="" type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below)
<p>If no, based on information provided for non-resolved potential illicit non-stormwater discharges, describe any necessary modifications to the BMP to improve effectiveness in resolving potential illicit non-stormwater discharges: N/A since potential illicit discharge resolved</p>	

BMP 3.3 Develop Illicit Discharge Detection and Elimination Procedures (Section II B.3.c, e)

Description: The City of Hopewell will develop and implement an Illicit Discharge Detection and Elimination (IDDE) Program Manual that includes written procedures to detect, identify, and address non-stormwater discharges, including illegal dumping, to the small MS4. Procedures will include written dry weather field screening methodologies that incorporate field monitoring that provide:

- A schedule of field screening activities to ensure at least 50 outfalls are screened annually with outfalls selected for screening based on a prioritization based on land use, age of infrastructure, historical issues, or other appropriate characterization;
- Methodologies to collect information such as time since the last rain, the quantity of the last rain, site descriptions (e.g., conveyance type and dominant watershed land uses), estimated discharge, and visual observations (e.g., order, color, clarity, floatables, deposits or stains, vegetation condition, structural condition, and biology);
- A time frame upon which to conduct an investigation to identify and locate the source of any observed continuous or intermittent non-stormwater discharge prioritized based on potential hazard to human health;
- Methodologies to determine the source of all illicit discharges;
- Mechanisms to eliminate identified sources of illicit discharges including a description of the policies and procedures for when and how to use legal authorities;
- Methods for conducting a follow-up investigation in order to verify that the discharge has been eliminated; and
- A mechanism to track all investigations to document, at a minimum, the date(s) that the illicit discharge was observed and reported; the results of the investigation; any follow-up of the investigation; resolution of the investigation; and the date that the investigation was closed.

Necessary documentation for implementation: (1) Illicit Discharge Detection and Elimination (IDDE) Manual; (2) Outfall information table; (3) Completed outfall screening field forms, (4) Completed IDDE Tracking Forms, as provided in Appendix C of the City's IDDE Program Manual.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to establish effective methods and procedures for detecting, identifying, and addressing non-stormwater discharges, including illegal dumping, into the storm sewer. Expected results are effective identification and response to illicit discharges identified during screening activities and those reported by the public.

Implementation schedule: The City will screen at least 50 outfalls each year. Starting July 1, 2015, methods in the City's IDDE Program Manual will be used to identify and follow-up from screening results. Methodology for prioritizing outfalls will be developed and implemented by July 1, 2016.

Method to determine effectiveness: Effectiveness will be determined based on the percentage of the reported and identified non-stormwater discharges that are eliminated.

BMP 3.3 Annual Reporting Form	
Outfall Screening Record Summary	
Total number of outfalls (refer to BMP 3.1):	97
Total number of outfalls screened during the reporting year:	97
Were at least 50 outfalls screened during the reporting year? (yes/no)	<input checked="" type="checkbox"/> Yes (Objective achieved) <input type="checkbox"/> No (Objective not achieved)
If 50 outfalls were not screened during the reporting year, explain why with a schedule to screen additional outfalls the following reporting year: N/A since required # of outfalls screened	
Were the outfalls screened selected based on prioritization criteria (land use, age of infrastructure, historical issues, etc.)? (yes/no)	<input type="checkbox"/> Yes (Objective achieved) <input checked="" type="checkbox"/> No (Objective not achieved)
If no, explain why with a schedule for prioritizing outfalls: All outfalls screened. Prioritization criteria not necessary since all outfalls are screened.	
Were follow up investigations performed for all outfalls where screening characterized the outfall as potential, suspected or obviously having an illicit discharge? (yes/no)	<input checked="" type="checkbox"/> Yes (Objective achieved) <input type="checkbox"/> No (See below) <input type="checkbox"/> Partially (See below)
If no, explain why with a schedule for investigating outfalls characterized as potential, suspect or obvious for being subject to an illicit discharge: N/A since objective achieved	
Screening results are summarized in Appendix D.	
Refer to Appendix C for detail of any follow-up actions necessary based on screening results.	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness Form	
Number of outfalls characterized as potential, suspect or obvious for an illicit discharge that received a follow up investigations:	1
Number of investigations that were closed:	1
Based on the percentage of investigations closed, provide rationale for the effectiveness or ineffectiveness of the BMP. If ineffective, describe modifications to the BMP to improve efficiency: BMP effective since 100% of potential illicit discharges were resolved.	

BMP 3.4 Facilitate public reporting of illicit discharges and provide response (Section II B.3.d)

Description: The City will promote, publicize, and facilitate public reporting of illicit discharges into or from the City's MS4 with information describing an illicit discharge and contact information on the City's stormwater website and with inclusion of educational material described in BMP 1.2. The City will investigate all reports using methods and procedures described in the City's IDDE Program Manual described in BMP 3.3. Tracking of reports will be recorded in the IDDE Tracking form in Appendix C of the IDDE Program Manual.

Necessary documentation for implementation: (1) Web address of posted material; (2) Educational material with illicit discharge reporting information; (3) Completed IDDE Tracking Form for each incident.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to first educate the public to recognize an illicit discharge and provide contact information that allows for the reporting of an observed illicit discharge. The ultimate objective is to investigate and eliminate reported illicit discharges.

Implementation schedule: Illicit discharge material and contact information will be placed on the website by July 1, 2015. Response to illicit discharge reports will be on-going, occurring in response to reports per the IDDE Manual.

Method to determine effectiveness: Effectiveness will be measured by the percentage of illicit discharge reports that are closed (as will be documented in the IDDE Tracking Forms).

BMP 3.4 Annual Reporting Form	
Illicit Discharge Reports	
Refer to reporting for BMP 3.2 for follow-up actions necessary based on reported illicit discharges.	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness Form	
Total # of potential illicit discharges reported by the public for the reporting year:	0
Total # of potential illicit discharge reported by the public for the reporting year:	0
Percentage of reported illicit discharge instances that have been closed:	N/A
Were all potential illicit discharge reports resolved? (yes/no)	<input checked="" type="checkbox"/> Yes (BMP Effective) <input type="checkbox"/> No (See below)
If no, provide explanation of why reports were not resolved and, if necessary, modifications needed for the BMP to improve effectiveness: N/A since no reports.	

BMP 4.1 ESC compliance for land disturbance activities (Section II B.4.a-c3, c5 c6, e1-6)

Description: Regulated land disturbance activity in the City of Hopewell is subject to Chapter 14, Article II of the City Code (Erosion and Sediment Control). Regulated land disturbance activities are those defined in §62.1-44.15:51 of the Code of Virginia that result in the disturbance of 5,000 square feet or greater and those on individual residential lots or sections of residential developments being developed by different property owners and where the total land disturbance of the residential development is 5,000 square feet or greater. The City utilizes an agreement in lieu of a plan as provided in §62.1-44.15:55 of the Code of Virginia for this category of land disturbances.

Section 14-26 of Article II requires a land disturbance permit from the City prior to engaging in land disturbance activity that is conditioned on an approved erosion and sediment control plan or an agreement in lieu of a plan in accordance with the Erosion and Sediment Control Law (§62.1-44.15:51 et seq. of the Code of Virginia). Plans shall be compliant with the minimum standards identified in 9VAC25-840-40 of the Erosion and Sediment Control Regulations.

Section 14-5 of Article II provides legal authority for the City to conduct inspections with an inspector holding an ESC Inspector's Certification from DCR/DEQ. Inspections will be conducted:

- ✓ Upon initial installation of erosion and sediment controls;
- ✓ At least once during every two-week period;
- ✓ Within 48 hours of any runoff-producing storm event; and
- ✓ Upon completion of the project and prior to the release of any applicable performance bonds.

Section 14-5 of Article II also provides legal authority for the City to require compliance with the approved plan and require changes to an approved plan when an inspection finds that the approved plan is inadequate.

Necessary documentation for implementation: (1) Chapter 14 of the City Code; (2) ESC Plan(s) approved by the City, including procedures and documents used in plan review (e.g. checklists); (3) Documentation of ESC Inspector Certification; (4) Completed ESC Inspection Forms for each regulated project; (5) Notice to Comply and/or Stop Work Orders documentation and documentation of follow-up actions.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to ensure ESC plans are prepared and approved according to ESC Laws and Regulations, inspections are performed as specified in the regulations, and that correction or enforcement, when appropriate, occurs when inspections find deficiencies. The expected result is that ESC is effective at all regulated land disturbance activities in the City.

Implementation schedule: The implementation of this BMP will be on-going with all regulated land disturbance activities in the City that disturb greater than 5,000 square feet.

Method to determine effectiveness: Effectiveness will be measured by the number of enforcement actions (notice to comply or stop-work order).

BMP 4.1 Annual Reporting Form				
Total sites for reporting year subject to ESC Ordinance (Exceeding 2,500 sf) other than those issues an agreement in lieu of a plan =				
Regulated ESC Land Disturbance			Construction Site Inspection Forms	
Activity Description	Approved and bonded ESC plan (yes/no)	Total disturbed acreage	Number of inspections	# of enforcement actions taken
Hopewell Dementia, LLC (VAR 10F792)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.7	4	2 Notices to Comply
Evonik Phase 1 (VAR 10F879)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6.12	4	1 Stop Work 3 Notices to Comply
Evonik Phase 2 (VAR 10H126)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.21	4	1 Stop Work 3 Notices to Comply
Ashland (No VSMP Permit Exempt/CSO)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9	4 100% Complete	None
Regional WWTP	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11.89	10	3 Notices to Comply
Langston Park Apartments (VAR 10E973)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.6	29 90% Stabilized	7 Notices to Comply
Parkview (VAR 10C838)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.6	4 90% Stabilized	2 Notices to Comply

Necessary documents for implementation are not provided in the annual report, but will be retained for a minimum of 3 year and are available upon request.

Measure of Effectiveness Form	
For the sites listed above, do the number of enforcement actions (notice to comply or stop work orders) seem excessive?	<input checked="" type="checkbox"/> No (BMP effective) <input type="checkbox"/> Yes (See below) <input type="checkbox"/> N/A (No activities)
Discuss the nature of excessive enforcement action issues. Provide rationale that determines if the BMP is effective or ineffective. If ineffective, what modifications could improve effectiveness? _____	

BMP 4.2 Receive and respond to complaints regarding land disturbing activity (Section II B.4.c4)

Description: The City will promote to the public through the stormwater webpage information on land disturbance erosion and sediment controls and provide a contact number for reporting complaints regarding regulated land disturbing activities. The City will initiate investigation of all reports within 72-hours and address the issue with the construction site operator by requiring maintenance to ESC controls, or plan modifications, as necessary, in accordance with BMP 4.1.

Necessary documentation for implementation: (1) Web address of posted material; (2) Land disturbance complaint/report tracking record with date, description, and resolution for each complaint (the City will utilize the IDDE Tracking Form in Appendix C of the City's IDDE Program Manual for documentation) .

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to educate the public to understand the purpose of ESC controls on a land disturbance activity, recognize the off-site impacts resulting from potential failure of ESC controls, and provide contact information that allows for the reporting of an off-site impact and ultimately the resolution of a reported issue.

Implementation schedule: Information regarding ESC controls for land disturbance activities and for reporting complaints will be placed on the website by July 1, 2015.

Method to determine effectiveness: Effectiveness will be measured by the percentage of resolved complaints that are reported by the public.

BMP 4.2 Annual Reporting Form			
The total number of complaints from the public related to land disturbance activity during the reporting year:			0
Complaint #	Date of complaint	Description of complaint	Resolution of the investigation
N/A, no complaints	N/A	N/A	N/A
N/A, no complaint	N/A	N/A	N/A
N/A, no complaints	N/A	N/A	N/A

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness Form	
Were all complaints resolved?	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (no complaints)
Describe the reason for any unresolved complaint and any necessary program modifications to ensure complaints are resolved in the future. If no modifications are needed, provide rationale: N/A, no complaints	

BMP 4.3 Ensure land disturbance activities secure VSMP General Permit (Section II B.4.c.7, d)

Description: Regulated land disturbance activities are subject to the City of Hopewell's Stormwater Management Ordinance. Section 1-4 requires evidence that the General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR 10 General Permit) is obtained prior to the issuance of a land disturbance permit. The VAR10 General Permit and Section 1-7 of Hopewell's Stormwater Management Ordinance requires a Pollution Prevention Plan for regulated land disturbances equal to or greater than an acre. Through the development and implementation of the Pollution Prevention Plan, appropriate controls to prevent non-stormwater discharges such as wastewater, concrete washout, fuels and oils, and other illicit discharges will be implemented. ESC inspections described in BMP 4.1 will include inspection components that ensure implementation of Pollution Prevention Plans.

Necessary documentation for implementation: (1) Stormwater Management Ordinance; (2) Project-specific Pollution Prevention Plan (maintained within SWPPPS on construction sites by the site operator); (3) Record of evidence of General Permit coverage for regulated construction activity.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objectives are: (1) To provide a mechanism for assuring that VSMP General Permit coverage is obtained for all land disturbances exceeding 1-acre. The expected result is that coverage is obtained for all applicable land disturbances prior to commencement of the activity; (2) Ensure development and implementation of Pollution Prevention Plans through the contractor's requirement to develop and implement the Stormwater Pollution Prevention Plan (SWPPP) per the VAR10.

Implementation schedule: The City will continue verifying regulated land disturbances greater than or equal to 1-acre will obtain a VAR10 General Permit prior to commencement of land disturbance activity.

Method to determine effectiveness: Effectiveness will be determined based on: (1) all regulated land disturbance activity operating under VSMP General Permit coverage and a SWPPP, (2) the number of violations related to pollution prevention from construction activity as identified in the reporting for BMP 3.2, 3.3, 3.4, and 4.2.

BMP 4.3 Annual Reporting Form			
The total number of regulated land disturbance activities during the reporting year requiring a VAR10 General permit (greater than or equal to 1-acre):			5
1	2	3	4
Regulated Land Disturbance Activity Description	Was VSMP General Permit coverage obtained? (yes/no)	Is a SWPPP available on site for the project? (yes/no)	Any illicit discharge reports from the activity? (see reporting for BMPs 3.2, 3.3, 3.4, and 4.2) (yes/no)
Hopewell Dementia, LLC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Evonik Phase 1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Evonik Phase 2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<u>Ashland</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Regional WWTP	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness Form	
If no is answered in columns 2 or 3 above, explain why and actions to be taken to address the issue. Include rationale that describes if the BMP is ineffective, and if so, modification to the BMP to improve effectiveness: Ashland Hercules was exempt per DEQ because they drain to a combined sewer system.	
Is yes answered in any row in column 4? (yes/no)	<input type="checkbox"/> Yes (See below) <input checked="" type="checkbox"/> No (Effective BMP) <input type="checkbox"/> N/A (No activity)
If yes in the question above, describe the instance(s) and provide rationale if BMP modification is necessary to improve the effectiveness of the BMP? If not necessary, provide rationale for no modification. N/A since the BMP is effective	

BMP 5.1 Compliance to post-construction stormwater management regulation (Section II B.5.a, b. d.1,2)

Description: New development and development on prior developed lands in the City of Hopewell is subject to the City Stormwater Management Ordinance that ensures post-construction stormwater management (SWM) for all regulated land disturbance activities over 2,500 square feet through plan approval by the City. Approval from the City will ensure the SWM Plan has been prepared per the VSMP Regulations that, in part, require that stormwater runoff controls:

- Are designed and installed in accordance with the appropriate water quality and water quantity design criteria as required in Part II (9VAC25-870-40 et seq.) of 9VAC25-870; and
- Have an inspection and maintenance plan recorded at the local courthouse.

The City will retain a copy of each SWM facility inspection and maintenance plan from the approved stormwater management plan for proposed stormwater management facilities to be used with the implementation of BMP 5.3. A stormwater facility maintenance agreement will be required to be recorded prior to plan approval.

Necessary documentation for implementation: (1) City approved SWM Plans and Calculations (maintained on active construction sites); (2) Material used for plan review (e.g. checklists, BMP Clearinghouse Standards and Specifications); (3) SWM Facility Inspection and Maintenance Plans for approved projects with SWM facilities; (4) Proof of recordation of inspection and maintenance agreements.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to ensure regulated projects are in compliance with the VSMP Stormwater Management Regulations. The expected goal is that all regulated projects have City approved SWM Plans with recorded SWM facility inspection and maintenance plans.

Implementation schedule: The implementation of this BMP began July 1, 2014 with the adoption of the Stormwater Management Ordinance.

Method to determine effectiveness: Effectiveness will be measured by: (1) all regulated land disturbance activities having a City approved SWM Plan; and (2) all stormwater management facilities with recorded inspection and maintenance plans and/or agreements, where applicable.

BMP 5.1 Annual Reporting Form

The total number of land disturbance activities subject to the SW Ordinance other than those issued an agreement in lieu of a plan (>2,500 sf): 5

1	2	3	4
Land Disturbance Activity subject to SWM (same as BMP 4.1)	Does it have an approved SWM plan? (yes/no)	Does it have an inspection and maintenance plan? (yes/no/no facility required)	Maintenance agreement recorded? (yes/no/no facility)
Hopewell Dementia, LLC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> No Facility
Evonik Phase 1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> No Facility
Evonik Phase 2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> No Facility
Ashland Hercules	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No Facility
Regional WWTP	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> No Facility
_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility
_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility
_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility
_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility
_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility
_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility
_____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Facility

BMP 5.1 Annual Reporting Form cont.

The total number of agreements in lieu of plans for single family home projects issued during the reporting year:	42
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Measure of Effectiveness Form

➤ Was yes answered for all activities in Column 2 in the Annual Reporting Form on the previous page?

- Yes (BMP effective)
- No (See below)
- N/A (No activity)

Describe the reason for any activity that does not have an approved SWM plan and any necessary program modifications to the BMP to ensure an approved plan is obtained. If no modifications are needed, provide rationale: N/A since all projects have approved plans

➤ Was “yes” or “no facility” answered for all activities in Columns 3 or 4 in the Annual Reporting Form?

- Yes (BMP effective)
- No (See below)
- N/A (No activity)

Describe the reason for any activity that does not have an approved inspection and maintenance plan or agreement. Provide any necessary program modifications to ensure plans are obtained and agreements are recorded. If no modifications are needed, provide rationale: Projects are still active. Maintenance agreement will be recorded once projects are complete.

BMP 5.2 Stormwater management facility tracking and reporting (Section II B.5.e)

Description: The City will maintain an updated electronic database in Excel format of all known stormwater management (SWM) facilities that discharge into the MS4. The database will include:

- The unique SWM facility ID #;
- The stormwater management facility type;
- A general description of the facility's location, including the address or latitude and longitude;
- The acres treated by the facility, including total acres, as well as the breakdown of pervious and impervious acres;
- The date the facility was brought online (MMYYYY);
- The sixth order hydrologic unit code (HUC) in which the stormwater management facility is located;
- The name of any impaired water segments within each HUC listed on the 2010 § 305(b)/303(d) Water Quality Assessment Integrate Report to which the stormwater management facility discharges;
- Whether the stormwater management facility is operator-owned or privately-owned;
- The date of the last inspection.

Upon acceptance of a newly constructed stormwater management facility, the facility will be included within the database.

Necessary documentation for implementation: (1) Updated SWM Tracking and Reporting Excel database; (2) Completed inspection checklist forms (see BMP 5.3)

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to maintain an updated record of all of the SWM facilities. The expected result is that the list will be utilized to assist with implementation of BMP 5.3 and will be maintained as new SWM facilities come online.

Implementation schedule: The maintenance of a BMP database will be on-going. Additional information required by the current MS4 General Permit, such as the impervious/pervious breakout of the drainage area to each BMP, will be completed by July 1, 2016.

Method to determine effectiveness: Effectiveness will be measured by the completeness of the annually reported database.

BMP 5.2 Annual Reporting Form	
➤ The Stormwater Management Facility database is provided electronically in Excel as an enclosure with this annual report and also provided in Appendix E.	
Did any new SWM facilities come online during the reporting year? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If yes, was the electronic database updated? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A (No new facilities)
If the database was not updated, explain why and describe any necessary modification to ensure the database is update when new facilities come online: N/A since database was updated	

Measure of Effectiveness Form	
Is the database complete to include all of the attributes for each new BMP described in this BMP and as required by the MS4 General Permit?	<input checked="" type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input type="checkbox"/> N/A (No facilities)
Describe the reason for that the database is incomplete and provide rationale that determines whether or not the BMP needs to be modified to ensure completion of the data base: N/A since database was updated	

**BMP 5.3a Inspection, operation, and maintenance of City-owned SWM facilities
(Section II B.5.c.2, d.3, 5)**

Description: The City will perform long-term inspections and maintenance on all City-owned stormwater facilities utilizing the inspection and maintenance plans obtained from implementation of BMP 5.1. Where inspection and maintenance plans are not available from approved SWM plans, the City will utilize BMP-specific inspection and maintenance instruction from the City's Post-Construction Stormwater Management Program Manual. Inspections will be performed either:

- As dictated on the schedule provided on the inspection and maintenance plans; or
- A minimum of once annually, whichever are the more frequent criteria.

Inspections will be performed using the written procedures in the City's Post-Construction Stormwater Management Program Manual. BMP-type specific inspection and maintenance checklists provided in the Program Manual lists potential issues and methods to address each issue. Necessary maintenance identified during inspections will be conducted in a timely manner as indicated on the checklist or no later than the next scheduled inspection.

Necessary documentation for implementation: (1) BMP Database described in BMP 5.2; (2) BMP-specific Inspection and Maintenance Plan, if available; (3) The City of Hopewell Post-Construction Stormwater Management Program Manual; (4) Completed BMP Inspection Forms; (5) Documentation of maintenance performed, where necessary.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to ensure the intended function of all City-owned SWM facilities is maintained through long-term inspections and maintenance. The expected result is completed inspection forms and timely maintenance, when necessary.

Implementation schedule: The implementation of this BMP will be on-going, with the procedures specified in this BMP and the City's Post-Construction Stormwater Management Program Manual beginning July 1, 2015.

Method to determine effectiveness: Effectiveness will be measured by: (1) completion of required inspections, as scheduled, and (2) timely maintenance once a maintenance issue is identified during inspections.

BMP 5.3 Annual Reporting Form	
Stormwater Management Facility Inspection Record*	
<p>The following information is provided in the SWM Facility database described in BMP 5.2:</p> <ul style="list-style-type: none"> • SWM Facility ID • Inspection Schedule (e.g. monthly, quarterly, annually) • Dates of inspection(s) for the reporting year • If inspected, any identified necessary maintenance per inspection form • If maintenance is necessary, type and date the maintenance was performed 	

* Provided as electronic database with annual report in Excel format and hard copy as Appendix E. This BMP applies to those identified as “public” in the database.

Measure of Effectiveness Form	
<p>➤ Do dates in the database indicate that inspections were performed for City-owned (public) BMPs at least once within the reporting year?</p>	<input type="checkbox"/> Yes (BMP effective) <input checked="" type="checkbox"/> No (See below)
<p>Describe the reason for inspections that were not performed on City-owned BMPs and provide rationale that determines whether or not the BMP needs to be modified to ensure completion of inspections: During the reporting cycle, the City needed to determine which facilities were publically owned. The determination was not complete until near the end of the actual reporting year. However, once the determination was made, inspections were performed and have been completed prior to submittal of this annual report.</p>	
<p>➤ Do dates in the database indicate that maintenance was performed, where necessary and in a timely manner?</p>	<input type="checkbox"/> Yes (BMP effective) <input checked="" type="checkbox"/> No (See below)
<p>Describe the reason maintenance was not performed on City-owned BMPs in a timely manner (e.g. minor repair needed that does not affect function of the facility) and provide rationale that determines whether or not the BMP needs to be modified to ensure completion of inspections: Any necessary maintenance resulting from review of inspections will be scheduled appropriately based on the severity of the required maintenance. A prioritization schedule will be implemented.</p>	

**BMP 5.3b Inspection, operation, and maintenance of privately-owned SWM facilities
(Section II B.5.c.1, d.3, 5)**

Description: The City will ensure long-term operations and maintenance of all privately-owned stormwater facilities utilizing the maintenance agreements and inspection and maintenance plans obtained from the implementation of BMP 5.1. Where inspection and maintenance plans are not available from approved SWM plans, the City will utilize BMP-specific inspection and maintenance instructions from the City’s Post-Construction Stormwater Management Program Manual. Inspections of all privately owned stormwater BMPs will be performed by the City at least once during every permit cycle (once per 5-years). Inspection for each facility may be satisfied by either:

- A field inspection conducted by the City using the written procedures and checklists in the City’s Post Construction Stormwater Management Program Manual; or
- Documentation of an inspection conducted by the Owner or designee, provided the inspection was performed by a DEQ Certified SWM Inspector.

Section 1-10 of the City’s Stormwater Management Ordinance requires maintenance, inspection and repair of stormwater management facilities, where necessary.

Necessary documentation for implementation: (1) BMP Database described in BMP 5.2; (2) BMP-specific Inspection and Maintenance Plan, if available; (3) The City of Hopewell Post-Construction Stormwater Management Program Manual; (4) Documentation of inspections and maintenance performed, where necessary.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to ensure the intended function of all privately-owned SWM facilities is maintained through long-term inspections and maintenance. The expected result is completed inspection forms and timely maintenance, when necessary, in accordance with the schedule described in the description above.

Implementation schedule: The implementation of this BMP will be on-going, with the procedures specified in this BMP and the City’s Post-Construction Stormwater Management Program Manual beginning July 1, 2015.

Method to determine effectiveness: Effectiveness will be measured by: (1) Completion of required inspections, as scheduled, and (2) timely maintenance once a maintenance issue is identified during inspections.

BMP 5.3 Annual Reporting Form

Stormwater Management Facility Inspection Record*

The following information is provided in SWM Facility database described in BMP 5.2:

- SWM Facility ID
- Inspection Schedule (e.g. monthly, quarterly, annually)
- Dates of inspection(s) for the reporting year
- If inspected, any identified necessary maintenance per inspection form
- If maintenance is necessary, type and date the maintenance was performed

* Provided as electronic database with annual report in Excel format and hard copy as Appendix E. This BMP applies to those identified as “private” in the database.

Measure of Effectiveness Form	
➤ Do dates in the database indicate that inspections were performed for at least 20% of the privately owned BMPs as necessary for each for the reporting year to achieve the 5-year objective?	<input type="checkbox"/> Yes (BMP effective) <input checked="" type="checkbox"/> No (See below)
<p>If less than 20% of privately-owned BMPs were inspected during the reporting year, provide a schedule to ensure 100% can be inspected prior to the end of the permit cycle (July 1, 2018): Hopewell is only required to inspect privately owned BMPs once a permit cycle. Hopewell did not inspect any privately owned BMPs this reporting year, but will ensure all are inspected before the end of the Permit cycle.</p>	
➤ Where inspection resulted in the identification of required maintenance, has the City notified the entity responsible of the maintenance needs with reference to the Stormwater Management Ordinance and a specified timeframe for completing the maintenance?	<input type="checkbox"/> Yes (BMP effective) <input checked="" type="checkbox"/> No (See below)
<p>If the entity responsible for maintenance has not been notified, explain: Hopewell is only required to inspect privately owned BMPs once a permit cycle. Hopewell did not inspect any privately owned BMPs this reporting year but will ensure all are inspected before the end of the Permit cycle.</p>	
Have notified entities performed maintenance within the time period specified by the City?	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (No instances)
If yes to the previous question, was enforcement action taken?	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (No instances)
If enforcement action was taken, did it resolve the issue?	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (No instances)
<p>If the issue was not resolved from enforcement action, described necessary modifications to the BMP to improve effectiveness: _____</p>	

BMP 6.1 Pollution Prevention Procedures for Operations & Maintenance Activities (Section II B.6.a)

Description: The City will develop and implement comprehensive written procedures for good housekeeping and pollution prevention for daily operations and equipment maintenance as described within the City's Good Housekeeping and Pollution Prevention Program Manual. At a minimum the Program Manual includes procedures with the following goals:

- Prevent illicit discharge;
- Ensure the proper disposal of waste materials, including landscape waste;
- Prevent discharge of municipal vehicle wash water to the storm sewer without authorization under a separate VPDES permit;
- Prevent the discharge of wastewater to the storm sewer without authorization under a separate VPDES permit;
- Require BMPs to filter water pumped from utility construction and maintenance activities;
- Require BMPs to prevent pollutants in runoff from stored and stockpiled materials (e.g. soil stockpiles and salt storage);
- Prevent pollution discharge from leaking municipal automobiles and equipment;
- Ensure application of materials, such as pesticides, is conducted in accordance with manufacturer's specifications.

Effective implementation will be supported with site-specific SWPPPs for high-priority areas as described in BMP 6.2 and the employee training described in BMP 6.3.

Necessary documentation for implementation: (1) The City of Hopewell Good Housekeeping/Pollution Prevention Program Manual; (2) Site-specific SWPPPs; (3) Training documentation; (4) Completed SWPPP Site Evaluation forms (see BMP 6.2).

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to minimize or prevent pollutant discharges from City operations and maintenance activities. The expected result is City staff's adherence to the City's Good Housekeeping/Pollution Prevention Manual resulting in minimal or no illicit discharges from municipal facilities and activities.

Implementation schedule: The Good Housekeeping/Pollution Prevention Manual is complete. Training will be provided biennially (annually while water quality issue #3 in BMP 1.2 is in place), with the initial training performed by July 1, 2015. Site-specific evaluations will be performed with the schedule described in BMP 6.2.

Method to determine effectiveness: Effectiveness will be measured by the results of the annual comprehensive site-specific compliance evaluations for high-priority facilities that will begin in the spring of 2016, as described in BMP 6.2. Measure of effectiveness for this BMP will be based on recurring issues identified during the site-specific evaluations.

BMP 6.1 Annual Reporting Form	
Good Housekeeping/Pollution Prevention Manual	
Has a Good Housekeeping/Pollution Prevention Manual been developed? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
* See BMPs 6.2 and 6.3 for additional reporting. *	

Measure of Effectiveness Form
* See BMP 6.2 for measure of effectiveness information. *

BMP 6.2 Stormwater Pollution Prevention Plans (Section II B.6.b)

Description: The City will implement site-specific SWPPPs for City owned properties that have been identified as “high-priority” facilities according to Section II B.6.b.2 of the General Permit.

For each high-priority facility, a SWPPP will be developed to include:

- Mapping that identifies all outfalls, direction of flows, existing source controls, and receiving water bodies;
- A discussion and checklist of potential pollutants and pollutant sources;
- A discussion of all potential non-stormwater discharges;
- Written procedures, or reference to written procedures, designed to reduce and prevent pollutant discharge;
- A description of the applicable training described in BMP 6.3;
- Procedures to conduct an annual comprehensive site compliance evaluation; and
- An inspection and maintenance schedule for site specific source controls. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP.

The SWPPP will provide instruction for updates, as necessary, to reflect changes on the respective site, modifications to operations and maintenance procedures, or short-comings resulting in a reportable spill, as defined in the City’s Good Housekeeping/Pollution Program Manual. Inspection forms will be completed in accordance with the prescribed schedule within the SWPPP and maintained on file with the on-site SWPPP.

Necessary documentation for implementation: (1) The City’s Good Housekeeping/Pollution Prevention Manual; (2) Site-Specific SWPPPs for high-priority facilities; (3) Completed annual comprehensive site compliance evaluation.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective and expected result is to minimize or prevent pollutant discharges from the City’s high-priority facilities through adherence to the site-specific SWPPPs.

Implementation schedule: The City has identified high priority facilities that require SWPPPs. SWPPPs will be completed by July 1, 2015, prior to the General Permit requirement schedule so that the annual comprehensive site compliance evaluation can begin being completed in the spring of each year beginning in 2016.

Method to determine effectiveness: Effectiveness will be measured by the results of the annual comprehensive high priority facility compliance evaluation, specifically the number of recurring issues identified in the annual comprehensive site compliance evaluations. Effectiveness will also be evaluated based on the number of illicit discharges observed or reported that originate from high-priority facilities.

BMP 6.2 Annual Reporting Form	
Stormwater Pollution Prevention Plan	
➤ Have SWPPPs been completed for each high priority facility identified in the BMP?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If no, explain: See schedule. A SWPPP was developed for the Public Works facility.	
➤ Did any changes on high priority facilities that could potentially affect stormwater runoff occur during the reporting year (e.g. new outfalls, facilities)? (yes/no)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, are the changes reflected in the SWPPP? (yes/no)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If the changes were not reflected, explain why:	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness Form	
➤ Results from Comprehensive High Priority Site Compliance Evaluations	
Total number of recurring items originating from site-specific activities identified Spring 2017*:	N/A
Total number of recurring items originating from site-specific activities identified Spring 2018:	N/A
Total number of recurring items originating from site-specific activities identified Spring 2019:	N/A
Has the # of recurring items trended downward or remained at zero from year to year?	<input type="checkbox"/> Yes (BMP effective) <input checked="" type="checkbox"/> No (See below)
If no, discuss the specific recurring items and describe how the BMP can be modified to improve effectiveness to specifically address recurring items (e.g. improved training, improved inspection form) or describe why modification is not necessary: N/A since BMP schedule has not yet activated the BMP	
* Note that measure of effectiveness begins in 2017 since recurring items would not be available in 2016 with the first inspection.	
➤ Were any illicit discharges reported or identified in the reporting forms for BMPs 3.2 and 3.3 found to originate from high-priority facilities activities?	<input type="checkbox"/> Yes (See below) <input checked="" type="checkbox"/> No (BMP effective)
If yes, describe how the BMP can be modified to improve effectiveness to specifically address the cause of the illicit discharge(s) or describe why modification is not necessary: N/A since no illicit discharge occurrences from high priority facilities	

BMP 6.3a Employee Good Housekeeping/Pollution Prevention Training Plan (Section II B.6.d)

Description: The City will incorporate a written Training Plan into its Good Housekeeping/Pollution Prevention and IDDE Program Manuals, including a schedule of training events. The Program Manuals will serve as the training material and include Appendices to document training and list relevant staff for the following specific training:

- Annual training to relevant field personnel in the recognition and reporting of illicit discharges. Training will utilize the City's IDDE Manual described in BMP 3.3.
- Annual training to relevant employees in good housekeeping and pollution prevention practices that are to be employed during road and parking lot maintenance, around maintenance and operations facilities, and in and around recreational facilities. Training will utilize the City's Good Housekeeping/Pollution Prevention Manual described in BMP 6.1.

The plan will also require the following:

- Training or certification in spill response for emergency response employees.
- Training or certification for applying pesticides and herbicides in accordance with the Virginia Pesticide Control Act (§ 3.1-249.27 et seq. of the Code of Virginia) for employees performing applications.

For certifications as required under the Virginia Erosion & Sediment Control Law, see BMP 4.1.

Necessary documentation for implementation: (1) Training documentation or appropriate certifications for employees; (2) The City's IDDE Manual; (3) The City's Good Housekeeping/Pollution Prevention Program Manual.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to ensure effective training on the procedures provided in the Good Housekeeping/Pollution Prevention and IDDE Program Manuals and to have them carried out during employee daily operations. The expected result is well trained employees that minimize pollutant discharge through good housekeeping practices and IDDE screening and source identification and elimination.

Implementation schedule: The written training plan is complete and incorporated in the City's Good Housekeeping/Pollution Prevention and IDDE Program Manuals. Training and certification requirements will occur prior to July 1, 2015, with illicit discharge and good housekeeping training occurring once every two years thereafter.

Method to determine effectiveness: Effectiveness will be measured by the results of a "Knowledge Check" quiz that will be taken by each employee that takes the training. The "Knowledge Check" quiz is provided in the Appendix of the Program Manuals.

BMP 6.3a Annual Reporting Form	
Training Plan	
Has the City's Written Training Plan been developed? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Training & Certifications	
Has employee training been provided? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If no, explain: N/A since training occurred	
Date of latest training to relevant field personnel in the recognition and reporting of illicit discharges:	6/26/2015
Number of employees that participated in the latest training in the recognition and reporting of illicit discharges:	26
Date of last training to relevant employees in good housekeeping and pollution prevention practices:	6/26/2015
Number of employees that participated in the latest training in good housekeeping and pollution prevention practices:	26
Do the number of individuals reported above that participated in training represent all employees that conduct daily activities that could potentially affect stormwater runoff? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If no, explain: N/A since all applicable staff trained	
Did any employees apply pesticides and herbicides? (yes/no)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If yes, identify the employee and their certification: _____ Pesticide Applicator Certificate: Michele A. Corneau #81223-G, James R. Wooten JR #72056-T, Darius M. White #75230-G, Joseph W. Davis #126646-T	
Provide a summary of the training or certification program provided to emergency response employees that includes training in spill response: Employees are trained on Good Housekeeping procedure which incorporates contact information for emergency response.	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness Form	
Did scores from the "Knowledge Check" quiz improve from the previous training? (yes/no)	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A
If no, describe modifications to the BMP to increase effectiveness (e.g. training frequency, training material, etc.): N/A since only one year's worth of quiz results at this time. Will be compared to subsequent year's training quizzes.	

BMP 6.3b Contractor Certification for Pollution Prevention (Section II B.6.d.4)

Description: The City will require, through contract language, the certification for contractors applying pesticides and herbicides in accordance with the Virginia Pesticide Control Act (§ 3.1-249.27 et seq. of the Code of Virginia). Contract language will require contractors provide proof of the appropriate certification prior to contract execution.

Necessary documentation for implementation: (1) Contract language; (2) Proof of certifications.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to ensure the proper application of pesticides and herbicides. The expected result is that contractors used by the City will have appropriate certifications for application of pesticides and herbicides.

Implementation schedule: The City will develop and begin implementation of contract language by July 1, 2016.

Method to determine effectiveness: Effectiveness will be measured by evaluation of trends in confirmed reports of illicit discharge related to herbicides and pesticides.

BMP 6.3b Annual Reporting

Pesticides and Herbicides

Number of contracts executed during the reporting year that includes application of pesticides and herbicides?	0
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Was proof of certification provided for each contract that includes the application of pesticides and herbicides? (yes/no)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A (no contracts)
--	--

If no, explain:	
-----------------	--

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness

Were any illicit discharges related to herbicides and pesticides application by contractors reported or identified in the reporting forms for BMPs 3.2 and 3.3?	<input type="checkbox"/> Yes (See below) <input checked="" type="checkbox"/> No (BMP effective)
---	--

If yes, describe how the BMP can be modified to improve effectiveness to specifically address the cause of the illicit discharge(s) or describe why modification is not necessary: N/A since no illicit discharges related to pesticides or herbicides were reported.

BMP 6.4 Turf and Landscape Management (Section II B.6.c)

Description: The City will implement a turf and landscape nutrient management plan (NMPs) that has been developed by a certified turf and landscape nutrient management planner in accordance with §10.1-104.2 of the Code of Virginia on all lands owned or operated by the City where nutrients are applied to a contiguous area greater than one acre.

In addition, the City will not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.

Necessary documentation for implementation: (1) City of Hopewell Nutrient Management Plan; (2) Completed Fertilizer Application Record; (3) Ingredients of deicers used.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to avoid excessive application of nutrients where applied on City property subject to the NMP. The expected results are reduction of downstream impacts from nutrient loads through documented implementation of the NMP.

Implementation schedule: Applicable lands subject to the NMP, those being a contiguous acre or more, will be identified by July 1, 2015. Implementation will ensure that 15% of the applicable lands are covered initially, 40% of the applicable lands by July 1, 2016, and 75 % by July 1, 2017 with complete coverage by July 1, 2018.

Method to determine effectiveness: Effectiveness will be measured by the implementation of the NMP through completion of the application record and periodic updates to the NMP to make necessary adjustments based on soils conditions.

BMP 6.4 Annual Reporting Form		
Nutrient Management Plans		
Were nutrients used during the reporting year?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If no, no further reporting necessary for this BMP
Total acreage of lands where nutrient management plans are required:	N/A no application	
Acreage of lands upon which nutrient management plans have been implemented:	N/A no application	
Date of last NMP update:	N/A no application	
Total percentage of land where nutrient management plans are required and being implemented =	N/A no application	
Does the percentage meet the schedule described in the BMP? (yes/no)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A (no application)	
If no, explain and provide a schedule for achieving the require implementation requirement: N/A no application		

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness Form	
Was the NMP's fertilizer application record maintained and in adherence to the NMP? (yes/no)	<input type="checkbox"/> Yes (BMP effective) <input type="checkbox"/> No (See below) <input checked="" type="checkbox"/> N/A (No application)
If no, describe how the BMP can be modified to improve effectiveness. Provide rationalization for modification or if modification is deemed unnecessary: N/A no application	

BMP 6.5 Improved Contractor Safeguards to Ensure Program Consistent Measures and Procedures (Section II B.6.e)

Description: The City's current contract language will be enhanced to incorporate references to sections within the City's Good Housekeeping and Pollution Prevention Manual to require City contractors to use appropriate control measures and procedures for stormwater discharges, when applicable. Oversight will be provided through bi-weekly inspections using a contractor inspection form provided in the Manual. Contract language will require contractors address items identified during inspections within a time period appropriate to prevent the potential of non-stormwater discharges. The contract language will also allow the City to stop-work, address the problem, and recoup cost for the remedy from the contractor.

Contract language described in this BMP is not intended for regulated land disturbance activity addressed with BMPs 4.1, 4.2, and 4.3.

Necessary documentation for implementation: (1) City of Hopewell Good Housekeeping and Pollution Prevention Manual; (2) Completed inspection forms; (3) Contract language.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective and expected result is to minimize or prevent pollutant discharges from contractor activities.

Implementation schedule: By July 1, 2016, the City will have developed and begin execution of contract language to require contractors to use appropriate control measures and procedures for stormwater discharges.

Method to determine effectiveness: Effectiveness will be measured by the inspection results specific to work performed by contractors, the responsiveness of contractors to address observed issues, and reported illicit discharges originating from contracted municipal work in the City.

BMP 6.5 Annual Reporting Form	
Contractor Safeguards	
Has contract language, as described above, been included in contracts with all contractors where the work performed could require appropriate control measures and procedures for stormwater discharges? This does not include regulated land disturbance activity addressed with BMPs 4.1, 4.2, and 4.3 (yes/no)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If no, explain: The City's current contract language will be enhanced to reference the Good Housekeeping/Pollution Prevention Manual per the BMP schedule.	
Were bi-weekly inspections performed to ensure oversight? (yes/no)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A (no contracts)
If no, explain: The City's current contract language will be enhanced to reference the Good Housekeeping/Pollution Prevention Manual per the BMP schedule.	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness Form	
Were any illicit discharges related to municipal contracted work (other than regulated land disturbance activity) reported or identified in the reporting forms for BMPs 3.2 and 3.3?	<input type="checkbox"/> Yes (See below) <input checked="" type="checkbox"/> No (BMP effective)
If yes, describe how the BMP can be modified to improve effectiveness to specifically address the cause of the illicit discharge(s) or describe why modification is not necessary: N/A, no illicit discharges reported to occur from municipal contract activities.	

3.2 Special Conditions for the Chesapeake Bay TMDL

BMP CB-SC.1 Chesapeake Bay TMDL Action Plan (Section I C.2)

Description: The City will develop a phased Chesapeake Bay Action Plan that incorporates public comment and includes:

- A review of the Program Plan BMPs described in Section 3.1 for consistency with the TMDL and for the purpose of identifying necessary modifications;
- An estimate of the annual POC loads discharged from the existing sources as of June 30, 2008, based on the 2009 progress run;
- An estimate of the total reductions necessary to reduce the annual POC loads from existing sources to the L2 implementation level;
- The means and methods that will be utilized to implement sufficient reductions from existing sources equal to 5.0% of the estimated total reductions necessary;
- Mechanism to 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 and not during the term of this state permit;
- An estimate of the expected costs to implement the requirements of this special condition during the state permit cycle; and
- An opportunity for receipt and consideration of public comment regarding the draft Chesapeake Bay TMDL Action Plan.
- A draft second phase Chesapeake Bay TMDL Action Plan designed to reduce the existing pollutant load by an additional 35%

The Action Plan development will consider DEQ's Chesapeake Bay Action Plan Guidance. Additional BMPs will be included in this Section of the Program Plan to include the identified means and methods.

Necessary documentation for implementation: (1) Chesapeake Bay TMDL Action Plan; (2) Documentation of public participation; (3) City Program Plan Updates, as necessary.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to achieve reductions required by the Chesapeake Bay TMDL for sediment, phosphorus, and nitrogen. The expected result is the development and implementation of a TMDL Action Plan.

Implementation schedule: The Chesapeake Bay Action Plan will be developed by July 1, 2015. The schedule developed in the Action Plan will be implemented thereafter.

Method to determine effectiveness: Effectiveness will be determined by the selection of cost effective BMPs supported by model quantification to achieve the required pollutant reductions.

BMP CB-SC.1 Annual Reporting Form

Chesapeake Bay Action Plan

Method to receive and consider public comment, including dates: To be posted on website

Date of Action Plan submittal to DEQ: Consistent with DEQ guidance, on October 1, 2015

Has the City Chesapeake Bay Action Plan been developed? Yes
 No

If no, please explain and provide expected date of completion: N/A since developed

Does pollutant load reduction quantification demonstrate the selected means and methods in the completed Action Plan can achieve the required reductions? Yes
 No

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness

Does pollutant load reduction quantification demonstrate the selected means and methods in the completed Action Plan can achieve the required reductions in the required time frames? Yes
 No

If no, explain how the Action Plan can be modified to achieve the required reductions in the required time frames: N/A since plan demonstrates the required reductions achieved with the proposed means and methods in the Action Plan

3.3 Special Conditions for Approved TMDL other than the Chesapeake Bay TMDL

BMP SC.1 Appomattox River Watershed and James River - Hopewell to Westover TMDLs Action Plan (Section I B)

Description: Hopewell has been assigned a waste load allocation (WLA) for E. Coli in the Appomattox River Watershed TMDL approved on December 20, 2005 as well as in the James River – Hopewell to Westover TMDL approved in 2010. Hopewell will develop an action plan to address the WLAs that include:

- A list of legal authorities applicable to reducing E. coli;
- Identification and methods for maintaining a list of practices, methods, and controls implemented to reduce the E. Coli;
- Description of means for incorporation of identified practices, methods, and controls into the public education and outreach and employee training programs;
- Results of an assessment of facilities of concern for significant contribution of E. Coli;
- Develop methodology for assessing effectiveness of the TMDL Action Plan using modeling tools (in-lieu of water quality monitoring), specifically the Excel spreadsheet based Watershed Treatment Model (WTM). Assessment will also incorporate methodology for evaluation of facilities identified to significantly contribute to the POC;
- An annual reporting worksheet consistent with the TMDL Action Plan and the General Permit.

Additional BMPs will be included in this Section of the Program Plan, as necessary, to include implementation of the Action Plans.

Necessary documentation for implementation: (1) James River and Appomattox Watersheds TMDLs Action Plan; (2) Hopewell Program Plan Updates, as necessary.

Responsible individual for implementation: Stormwater Systems Management Engineer

Objectives and expected results in meeting measurable goals: The objective is to achieve reductions required by the Appomattox River Watershed and the James River TMDLs for E. Coli. The expected result is the development and implementation of a TMDL Action Plan.

Implementation schedule: The Action Plan was developed by July 1, 2015. The schedule developed in the Action Plan will be implemented thereafter.

Method to determine effectiveness: Effectiveness will be determined by the selection of cost effective BMPs supported by model quantification to achieve the required pollutant reductions.

BMP SC.1 Annual Reporting Form

Appomattox River Watershed and James River – Hopewell to Westover Action Plan

Has the Hopewell Action Plan been developed?

 Yes
 No

If no, please explain and provide expected date of completion: _____

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years.

Measure of Effectiveness Form

Does quantification demonstrate the selected means and methods in the completed Action Plan can achieve the required reductions in the required time frames?

 Yes
 No

If no, explain how the Action Plan can be modified to achieve the required reductions in the required time frames: _____

Appendix A – BMP 2.2 Documentation of Public Participation Activities

9/23/14 City Council Meeting

Topic: Stormwater and Fee Proposal Rates

Aired on Comcast Channel 3 for Virginia Tri-City Area on 9/24/14 at 8 PM

City of Hopewell's Stormwater Program

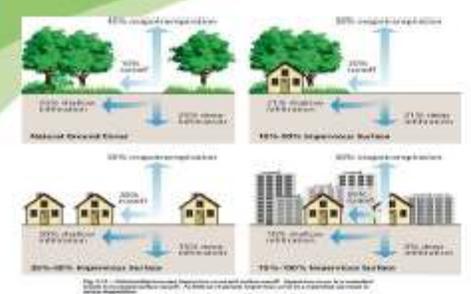
Stormwater Utility How to Pay for Compliance

Department of Public Works
Benjamin C. Leach
Stormwater Systems Engineer



What is Stormwater?

- Stormwater is precipitation from rain or snow that does not soak into the ground.
- An impervious surface area is considered driveways, parking lots, roads, sidewalks, streets and roofs that prevent stormwater from naturally soaking into the ground.
- Urban stormwater is the number one source of surface water pollution in the U.S. and causes public safety hazards, health risks and environmental threats.

The diagram illustrates four scenarios of stormwater runoff:

- Scenario 1:** 45% impervious (residential) with 55% runoff to a 2000 sq ft stormwater pond.
- Scenario 2:** 80% impervious (commercial) with 20% runoff to a 2000 sq ft stormwater pond.
- Scenario 3:** 80% impervious (residential) with 20% runoff to a 2000 sq ft stormwater pond.
- Scenario 4:** 75-100% impervious (commercial) with 25% runoff to a 2000 sq ft stormwater pond.



The Driving Issues

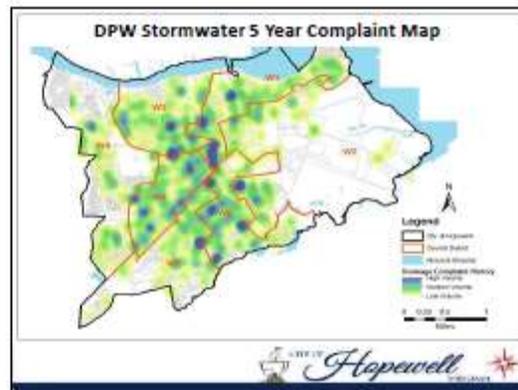
- Clean Water Act (Federal)
- MS4 Permit/NPDES Stormwater Regulations (Federal)
- Chesapeake Bay Total Maximum Daily Loads (TMDL) (Federal)
- Executive Order 13508: Chesapeake Bay Protection and Restoration (Federal)
- Virginia Stormwater Management Act (VSMP) (State)
- Chesapeake Bay Preservation Act (State)
- Other Pending Infrastructure Concerns (Local)

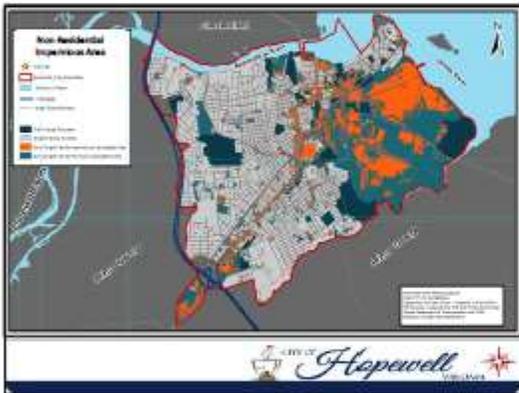
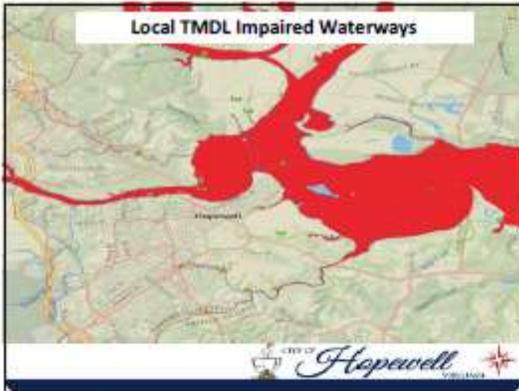


An Unfunded Regulatory Mandate

- That requires a comprehensive plan to treat and mitigate point source stormwater pollution through best management practices (BMPs)
- A 2025 Chesapeake Bay mandate that requires a fully implemented TMDL action plan
- By 2017 the City must achieve at least a 60 percent reduction of nitrogen, phosphorus and sediment compared to known 2009 measurements







An Unfunded Mandate

- The State puts the burden of stormwater planning and inspection enforcement on the City
- Creation and implementation of a comprehensive stormwater management ordinance
- Must perform a comprehensive GIS inventory and watershed analysis of existing City wide stormwater network
- Must inspect all BMP City owned and monitored features within 48 hours of major rain event

CITY OF Hopewell VIRGINIA

Those who have been penalized.....

- Henrico
- Chesterfield
- Newport News
- Richmond
- Petersburg
- Roanoke
- Colonial Heights
- Lynchburg

CITY OF Hopewell VIRGINIA

Key Stormwater Goals

- Protect people and property from flood hazards
- Improve water quality by reducing nonpoint source pollution
- Minimize stream bank erosion
- Collect, transport and treat stormwater at the point source

CITY OF Hopewell VIRGINIA

How to pay for it all?

- Estimate capital cost of the storm water system meeting compliance is
 ____ \$20 million dollars over the next 10 years
- System maintenance and operational cost is an estimated
 ____ One million dollars annually



Typical Uses of Different Funding Options




Create a Stormwater Fee

- A user fee (i.e. stormwater fee) is more equitable than a tax to fund stormwater management
- Utilize the Virginia Stormwater Fee Enabling Authority § 15.2-2114 to create an enterprise fund
- Over 400 municipalities nationwide use a stormwater fee system
- Over 30 Virginia municipalities are utilizing or creating a stormwater fee system
 ____ including neighboring localities of Colonial Heights, Petersburg, Richmond, Henrico and Prince George



Estimated Annual Fee Revenue

- Lynchburg: \$2.5 Million
- Petersburg: \$1.5 Million
- Richmond: \$3.5 Million
- Suffolk: \$3.5 Million




Sample of Virginia Localities With a Stormwater Utility

Locality	Year Established	Annual Rate (\$/lot)	CRU (sq)
Chesapeake, VA	1992	\$80.20	2,113
Henricus, VA	1994	\$63.88	2,249
Lynchburg, VA	2012	\$48.00	2,672
Newport News, VA	1993	\$96.00	1,777
Suffolk, VA	1996	\$99.96 (R)	2,905
		\$62.44 (NR)	
Petersburg	2013	\$45.00	2,116
Fort Belknap, VA	1995	\$99.00	1,877
Richmond, VA	2009	\$45.00	1,425
Suffolk, VA	2006	\$62.88	2,209



Levels of Service

Expense Categories	Level 1	Level 2	Level 3	Level 4	Level 5
Salaries + Benefits	\$161,216	\$360,644	\$482,772	\$504,901	\$721,287
Capital/Regulatory Cost	\$254,800	\$468,080	\$1,109,790	\$1,419,500	\$1,561,450
Other	\$15,300	\$18,770	\$38,275	\$18,350	\$21,500
TOTALS	\$731,316	\$1,247,494	\$1,560,797	\$1,942,751	\$2,304,237



Hopewell's Potential Costs of Stormwater Management for FY2015 - FY 2018

Expense Category	FY 2015*	FY 2016*	FY 2017*	FY 2018*	FY 2019*
Salaries & Benefits	\$162,276	\$171,287	\$175,287	\$171,287	\$171,287
Capital Costs	\$954,800	\$1,085,520	\$1,255,800	\$1,419,900	\$1,419,900
Other	\$15,506	\$21,900	\$21,500	\$21,500	\$21,500
TOTALS	\$732,582	\$1,269,707	\$1,452,587	\$1,612,687	\$1,612,687



Hopewell's Estimated ERU is....

-2106 sf

Proposed an ERU Rate of \$8 a month



Hopewell's Potential Annual Revenue from a Stormwater Utility

Classification Zone Type	Total Parcel's	Estimated Impervious Area (sq ft)	Annual Revenue
Single Family with Subtype Class II	6,576	110,776,000	180,000
Multi Family Zone II	301	1,024,000	150,000
Commercial and Industrial Zone II	771	41,369,375	71,000,000
Special Use District Zone III	124	1,882,000	10,000
Business Organizations Zone IV	19	11,000	100
Offices and Other Class III	33	1,400,000	10,000
Total Estimated Annual Revenue			\$1,981,815



What Discounts Can be given.....



Citizens/Owner Can Receive Up to a 50% discount

- Building rain gardens
- Utilization of rain barrels



- Increased use of permeable pavers



Industrial Property Owners Can receive Up to 90% by

- Having a DEQ Virginia Pollutant Discharge Elimination System Permit
- Maintaining a Stormwater Pollution Prevention Plan (SWPPP)
- Installing a DEQ Clearing House BMP



All Other Property Owners Can receive Up to 50% by

- Installing Grass Swales BMPs
- Street Scene Beautification
- Stormwater Friendly Curb and Gutter

CITY OF Hopewell

Single Family

Parcel Name	Monthly Charge	Yearly Charge	With 50% Discount
Total Parcel Area (sf) 34,875 (1.39 Acres)	\$1,380	\$16,560	\$8,280 a month \$99,360 a year

CITY OF Hopewell

Multi Family

Parcel Name	Monthly Charge	Yearly Charge	With 50% Discount
Total Parcel Area (sf) 482,548 (11.18 Acres)	\$1,380	\$16,560	\$8,280 a month \$99,360 a year

CITY OF Hopewell

First United Methodist Church

Parcel Name	Monthly Charge	Yearly Charge	With 50% Discount
Total Parcel Area (sf) 8,736 (0.20 Acres)	\$1,380	\$16,560	\$8,280 a month \$99,360 a year

CITY OF Hopewell

The Hopewell Lofts

Parcel Name	Monthly Charge	Yearly Charge	With 50% Discount
Total Parcel Area (sf) 161,962 (3.7 Acres)	\$1,380	\$16,560	\$8,280 a month \$99,360 a year

CITY OF Hopewell

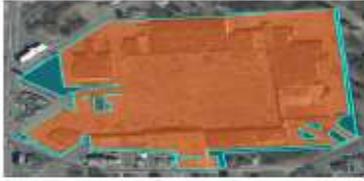
Honeywell

Parcel Name	Monthly Charge	Yearly Charge	With 50% Discount
Total Parcel Area (sf) 22,111,871 (507 Acres)	\$1,380	\$16,560	\$8,280 a month \$99,360 a year

CITY OF Hopewell

Cavalier Square

Bill Name	Monthly Charge	Yearly Charge	With 50% Discount
Total Parcel Area (SF) 1,000,001 (23 Acres)	\$ 15,000	\$180,000	\$1,275 a month \$15,300 a year



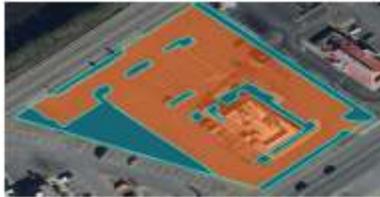
Stay-Over Suites

Bill Name	Monthly Charge	Yearly Charge	With 50% Discount
Total Parcel Area (SF) 15,884 (3.2 Acres)	\$ 1,000	\$12,000	\$600 a month \$7,200 a year



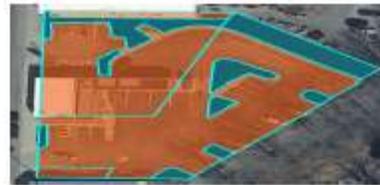
Ruby Tuesday

Bill Name	Monthly Charge	Yearly Charge	With 50% Discount
Total Parcel Area (SF) 46,423 (1.06 Acres)	\$ 1,000	\$12,000	\$600 a month \$7,200 a year



Wells Fargo Bank

Bill Name	Monthly Charge	Yearly Charge	With 50% Discount
Total Parcel Area (SF) 14,281 (.32 Acres)	\$ 1,000	\$12,000	\$600 a month \$7,200 a year



Actions Going Forward

Hire a Contractor to help with.....

Review and Development (Sept. and Oct. 2014)

Community Outreach (Sept. and Jan. 2014)

City Council Review, Creation and Passage (Sept. and Dec. 2014)

Finalize Data Collection (Billing & Database) (Nov. and Dec. 2014)

Finalize Revenue Scenarios and Rate (Nov. and Dec. 2014)

Ordinance Adoption and/or Updates to City Code pertaining to Stormwater Regulation (Nov. and Dec. 2014)

Final Documentation/Implementation (Jan. 2014)



Questions?



10/28/14 City Council Meeting

Topic: Stormwater and Fee Proposal Rates

Aired on Comcast Channel 3 for Virginia Tri-City Area on 10/29/14 at 8 PM

City of Hopewell's Stormwater Program

Stormwater Utility: Cost Coverage Effectiveness Analysis

Department of Public Works
Benjamin C. Leach
Stormwater Systems Engineer



The Driving Issues

- Clean Water Act (Federal)
- MSA Permit/NPDES Stormwater Regulations (Federal)
- Chesapeake Bay Total Maximum Daily Loads (TMDL) (Federal)
- Executive Order 13508: Chesapeake Bay Protection and Restoration (Federal)
- Virginia Stormwater Management Act (VSMA) (State)
- Chesapeake Bay Preservation Act (State)
- Other Pending Infrastructure Concerns (Local)



An Unfunded Regulatory Mandate

- That requires a comprehensive plan to treat and mitigate point source stormwater pollution through best management practices (BMPs)
- A 2025 Chesapeake Bay mandate that requires a fully implemented TMDL action plan
- By 2017 the City must achieve at least a 60 percent reduction of nitrogen, phosphorus and sediment compared to known 2009 measurements



How to pay for it all?

- Estimate capital cost of the stormwater system meeting compliance is **— \$20 million dollars over the next 10 years**
- Minimum system maintenance and operational cost is an estimated **— One million dollars annually**



Create a Stormwater Fee

- A user fee (i.e. stormwater fee) is more equitable than a tax to fund stormwater management
- Utilize the Virginia Stormwater Fee Enabling Authority § 15.2-2114 to create an enterprise fund
- Over 400 municipalities nationwide use a stormwater fee system
- Over 30 Virginia municipalities are utilizing or creating a stormwater fee system
— Including neighboring localities of Colonial Heights, Petersburg, Richmond, Henrico and Prince George



Estimated Annual Fee Revenue

- Lynchburg: \$2.5 Million
- Petersburg: \$1.5 Million
- Richmond: \$3.5 Million
- Staunton: \$725,000
- Suffolk: \$5.5 Million



Sample of Virginia Localities With a Stormwater Utility

Locality	Year Established	Annual Rate (\$/SDU)	SDU (M)
Chesapeake, VA	1992	\$68.20	2,112
Hampton, VA	1994	\$63.88	2,249
Lynchburg, VA	2012	\$48.00	2,672
Roanoke Rapids, VA	1993	\$90.00	1,777
Roanoke, VA	1995	\$98.90 (R) \$63.44 (NR)	2,000
Petersburg	2013	\$45.00	2,110
Portsmouth, VA	1995	\$99.00	1,877
Richmond, VA	2009	\$45.00	1,425
Suffolk, VA	2006	\$62.88	2,209



Estimated TMDL Cost Requirements

Locality	Population (2014)	Range (\$ in millions) by 2025
Stafford Co.	5,110,000	\$611 to \$945
Virginia Beach	447,000	\$323 to \$429
Roanoke	345,800	\$280 to \$318
Richmond City	210,200	\$159 to \$205
Galax	85,200	\$109 to \$211
Lynchburg	77,100	\$109 to \$201
James City Co.	68,907	\$87 to \$149
State of Wright Co.	35,300	\$40 to \$79
Surry Co.	8,844	\$7 to \$13

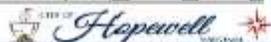
Note: 1. Estimated Capital Costs for select Localities for Chesapeake Bay TMDL Compliance



Hopewell's Potential Annual Revenue from a Stormwater Utility: (SDU Rate of 2,106 square feet)

Does not account for discounts

Classification/Zone Type	Total Parcel	Estimated Impervious Area (sq ft)	SDU Rate	\$10	\$20	\$30
				Annual Revenue	Annual Revenue	Annual Revenue
Single Family with Building Zone 1	673	10,000,000	100.00	\$673,000	\$1,346,000	\$2,019,000
Multi-Family Zone 2	88	2,100,000	100.00	\$88,000	\$176,000	\$264,000
Commercial and Industrial Zone 3	111	4,000,000	100.00	\$1,110,000	\$2,220,000	\$3,330,000
Public Works Zone 4	124	1,800,000	100.00	\$1,240,000	\$2,480,000	\$3,720,000
Special Use Zone 5	20	300,000	100.00	\$200,000	\$400,000	\$600,000
Other Zone 6	20	3,000,000	100.00	\$2,000,000	\$4,000,000	\$6,000,000
Total Estimated Annual Revenue =				\$1,480,900	\$2,716,900	\$2,881,815



Levels of Service

Expense Category	Level 1 Rate of \$4	Level 2 Rate of \$4.50	Level 3 Rate of \$5	Level 4 Rate of \$6	Level 5 Rate of \$8
Salaries + Benefits	\$200,000	\$200,000	\$400,000	\$500,000	\$700,000
Capital/Regulatory Cost/Other	\$800,000	\$1,000,000	\$1,400,000	\$1,600,000	\$2,200,000
TOTALS	\$1,000,000	\$1,200,000	\$1,800,000	\$2,100,000	\$2,700,000



Level 5:

\$2.7 Million Annually is needed for this Level of Coverage
Does not include 100% of the TMDL Obligations

- \$325k = Post Regulatory Compliance (1 time Cost)
- \$385k = 1st Annual Costs
- \$500k = Estimated Staffing Requirements Cost of 10 Employees (including new/old/retiree cost)
 - 1 Stormwater Division Manager
 - 2 Stormwater Analysts
 - 1 Stormwater Labor and Trade Supervisor
 - 2 Stormwater Heavy Equipment Operator
 - 4 Stormwater General Laborers
- \$100k = Technical Support 100k Annually (e.g. engineering drawings, designs, grant documentation support and technical services)
- \$1.5 Million = Chesapeake Bay TMDL Capital Projects (new/old Annual Revenue/Compliance Costs)
- \$100k = Non TMDL Capital Improvement Projects
- \$100k = Other (Equipment/Supplies)



Level 5 would not cover....

Most Capital Improvement Projects for non TMDL Compliance Issues
 25% of the remaining Estimated \$2 Million Annual TMDL Costs between now and 2025.



Level 4:
\$2.1 Million Annually is needed for this Level of Coverage
Does not include 100% of the TMDL Obligations

\$325k = Past Regulatory Compliance (1 time Cost)

\$385k = MS4 Annual Costs

\$500k = Estimated Staffing Requirements Cost of 10 Employees (including benefits/overhead cost)

- 1 Stormwater Division Manager
- 2 Stormwater Analyst
- 1 Stormwater Labor and Trade Supervisor
- 2 Stormwater Heavy Equipment Operator
- 4 Stormwater General Laborers

\$100k = Technical Support 100k Annually (e.g. engineering drawings, designs, grant documentation support and technical services)

\$1 Million = Chesapeake Bay TMDL Capital Projects (50% of the Annual Estimated Compliance Costs)

\$100k = Non TMDL Capital Improvement Projects

\$100k = Other (Equipment/Supplies)



Level 4 would not cover....

All Preventive General Stormwater Infrastructure Maintenance

Most Capital Improvement Projects for non TMDL Compliance Issues

50% of the remaining Estimated \$2 Million Annual TMDL Costs between now and 2025.



Level 3:
\$1.8 Million Annually is needed for this Level of Coverage
Does not include 100% of the TMDL Obligations

\$325k = Past Regulatory Compliance (1 time Cost)

\$385k = MS4 Annual Costs

\$400k = Estimated Staffing Requirements Cost of 7 Employees (including benefits/overhead cost)

- 1 Stormwater Division Manager
- 2 Stormwater Analyst
- 1 Stormwater Labor and Trade Supervisor
- 1 Stormwater Heavy Equipment Operator
- 2 Stormwater General Laborers

\$100k = Technical Support 100k Annually (e.g. engineering drawings, designs, grant documentation support and technical services)

\$825k = Chesapeake Bay TMDL Capital Projects (40% of the Annual Estimated Compliance Costs)

\$100k = Non TMDL Capital Improvement Projects



Level 3 would not cover....

All Preventive General Stormwater Infrastructure Maintenance and Will Focus Mainly on Reactionary Maintenance for the First Year of the Program

Most Capital Improvement Projects for Non TMDL Compliance Issues

60% of the remaining Estimated \$2 Million Annual TMDL Costs between now and 2025.



Level 2:
\$1.4 Million Annually is needed for this Level of Coverage
Does not include 100% of the TMDL Obligations

\$325k = Past Regulatory Compliance (1 time Cost)

\$385k = MS4 Annual Costs

\$200k = Estimated Staffing Requirements Cost of 3 Employees (including benefits/overhead cost)

- 1 Stormwater Division Manager
- 2 Stormwater Analyst

\$100k = Technical Support 100k Annually (e.g. engineering drawings, designs, grant documentation support and technical services)

\$625k = Chesapeake Bay TMDL Capital Projects (30% of the Annual Estimated Compliance Costs)

\$100k = Non TMDL Capital Improvement Projects



Level 2 would not cover....

General Stormwater Infrastructure Maintenance

Most Capital Improvement Projects for non TMDL Compliance Issues

70% of the remaining Estimated \$2 Million Annual TMDL Costs between now and 2025.



**Level 1:
Minimum Revenue Needed to Maintain Permits**

\$1 Million Annually is needed for Minimum Coverage
Does not include 100% of the TMDL Obligations

\$325k = Past Regulatory Compliance (1 time Cost)

\$385k = MS4 Annual Costs

\$200k = Estimated Staffing Requirements Cost of 3 Employees (including benefits/overhead cost)
1 Stormwater Division Manager
2 Stormwater Analyst

\$100k = Technical Support 100k Annually (e.g. engineering drawings, designs, grant documentation support and technical services)

\$325k = Chesapeake Bay TMDL Capital Projects (15% of the Annual Estimated Compliance Costs)



Level 1 would not cover....

General Stormwater Infrastructure Maintenance

Capital Improvement Projects for non TMDL Compliance Issues

85% of the remaining Estimated \$2 Million Annual TMDL Costs between now and 2025.



Actions Going Forward

Stormwater Utility Implementation Time Line: Moving Forward to Phase II

Review and Development & Meetings (Sept. and Nov. 2014)

Connectivity Outreach (Sept. 2014 through Jan. 2015)

City Council Review and Passage (Nov. and Dec. 2014)

Finalize Data Collection (Billing & Database) (Nov. and Dec. 2014)

Finalize Revenue Schedules and Rate (Nov. and Dec. 2014)

Ordinance Adoption and/or Update to City Code pertaining to Stormwater Regulation (Nov. and Dec. 2014)

Final Documentation/Implementation (Jan. and Feb. 2015)



Questions?



1/13/15 City Council Meeting

Topic: Stormwater and Fee Proposal Rates

Aired on Comcast Channel 3 for Virginia Tri-City Area on 1/14/15 at 8 PM

City of Hopewell's Stormwater Program

Stormwater Utility: Fee Coverage and Actions Needed

Department of Public Works
Benjamin C. Leach
Stormwater Systems Engineer



The Driving Issues

- Clean Water Act (Federal)
- MS4 Permits/MPDES Stormwater Regulations (Federal)
- Chesapeake Bay Total Maximum Daily Loads (TMDL) (Federal)
- Executive Order 13508: Chesapeake Bay Protection and Restoration (Federal)
- Virginia Stormwater Management Act (VSMP) (State)
- Chesapeake Bay Preservation Act (State)
- Other Pending Infrastructure Concerns (Local)



An Unfunded Regulatory Mandate

- That requires a comprehensive plan to treat and mitigate point source stormwater pollution through best management practices (BMPs)
- A 2023 Chesapeake Bay mandate that requires a fully implemented TMDL action plan
- By 2027 the City must achieve at least a 60 percent reduction of nitrogen, phosphorus and sediment compared to known 2009 measurements




Create a Stormwater Fee

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- Utilize the Virginia Stormwater Fee Enabling Authority § 15.2-2114 to create an enterprise fund
- Over 400 municipalities nationwide use a stormwater fee system
- Over 30 Virginia municipalities are utilizing or creating a stormwater fee system
 - Including neighboring localities of Colonial Heights, Petersburg, Richmond, Henrico and Prince George



Hopewell's Potential Annual Revenue from a Stormwater Utility: (CRU Rate of 2,106 square feet)

Does not account for discounts

Qualifying-Zone Type	Total Parcel(s)	Estimated Impervious Area (sq ft)	CRU rate of	\$6.00	\$8.00
				Annual Revenue	Annual Revenue
Single Family with Buildings Zone 1	6,076	120,254,991		\$60,072	\$80,036
Multi-Family Zone 2	80	2,428,042		\$12,140	\$16,184
Commercial and Industrial Zone 4	110	4,246,185		\$21,231	\$28,313
Recreation Zone 5	24	1,184,111		\$5,921	\$7,873
Research/Institutions Zone 6	26	12,824		\$641	\$864
Utility and Other Zone 9	21	4,482,918		\$22,415	\$29,863
Total Estimated Annual Revenue =				\$121,362	\$161,933



Rates

Expense Categories	\$6 a month	\$8 a month
Salaries + Benefits	\$500,000	\$500,000
Capital/Regulatory Cost/Other	\$1,600,000	\$2,200,000
TOTALS	\$2,100,000	\$2,700,000



Both Rates will Cover the Following

\$325k = Paid Regulatory Compliance (1 time Cost)

\$385k = NGA Annual Costs

\$500k = Estimated Staffing Requirements Cost of 10 Employees (including bene/retire/health)

- 1 Stormwater Division Manager
- 2 Stormwater Analyst
- 1 Stormwater Labor and Trade Supervisor
- 2 Stormwater Heavy Equipment Operator
- 4 Stormwater General Laborers

\$100k = Technical Support 100k Annually (e.g. engineering drawings, designs, grant documentation support and technical services)

\$1 Million = Chesapeake Bay TMDL Capital Projects (60% of the Annual Estimated Compliance Cost)

\$100k = Non TMDL Capital Improvement Projects

\$100k = Other (Equipment/Supplies)



11

At \$8 a month the City will have an extra \$500k annually to spend on Capital Improvement Projects...

This can equal to one of the following ...

- Two CDBG projects (e.g. Trenton St and Waverly St)
- A small stream restoration project
- 4 extensive street scape stormwater projects



12

Actions Needed ASAP

Funds to Cover the Stormwater Utility Fee Implementation Process

Supplemental Programmatic Funds Are Needed to Meet this Fiscal Years Federal/State Mandated Goals by July 2015



Actions Going Forward

Stormwater Utility Implementation Time Line: Moving Forward to Phase II

- Community Outreach (now through Feb. 2015)
- City Council Review and Passage (through March 2015)
- Finalize Data Collection (Billing & Database) (through Feb. 2015)
- Finalize Revenue Scenario and Rate (Jan. end Feb. 2015)
- Ordinance Adoption and/or Update to City Code pertaining to Stormwater Regulation (now through Feb. 2015)
- Final Documentation/Implementation (now through March 2015)
- Supplemental Programmatic Fund Transferal no later than March 2015
- Full Fee Program Implementation (July 2015)



Questions?




Appendix B – BMP 3.1 Outfall Inventory

(Attributes to be completed to address General Permit per BMP schedule)

Appendix C – BMP 3.2 IDDE Follow-up Information

BMP 3.2 Annual Reporting of IDDE Information Form			
The total number of complaints from the public related to IDDE activity during the reporting year:			1
Complaint #	Date of complaint	Description of complaint	Resolution of the investigation
1	3/2/2015	600-700 gallons of diesel fuel leaked into the Appomattox River via American Water of Virginia Company's intake facility.	<p>This IDDE was found to not occur within the City's MS4 jurisdiction and was transferred to VA DEQ and EPA.</p> <p>See the report below.</p> <p>No Action needed by the City.</p>
N/A, no complaint	N/A	N/A	N/A
N/A, no complaints	N/A	N/A	N/A

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Virginia American Water Company Hopewell Spill - Removal Polrep
Final Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III

Subject: POLREP #14
POLREP #14 AND FINAL
Virginia American Water Company Hopewell Spill

Hopewell, VA
Latitude: 37.3105970 Longitude: -77.2961610

To: John Spangler, VDEQ Piedmont Regional Office
R3 RRC, EPA
USCG NPFC, USCG
Benjamin Ruppert, City of Hopewell Emergency Management
Mr. Derek Q. Hardy, USCG

From: Christine Wagner, OSC

Date: 9/19/2015

Reporting Period: 5/5/15-9/19/15

1. Introduction

1.1 Background

Site Number:	Contract Number:
D.O. Number:	Action Memo Date:
Response Authority: OPA	Response Type: Emergency
Response Lead: EPA	Incident Category:
NPL Status: Non NPL	Operable Unit:
Mobilization Date:	Start Date: 3/3/2015
Demob Date:	Completion Date: 9/9/2015
CERCLIS ID:	RCRIS ID:
ERNS No.:	State Notification:
FPN#: E15307	Reimbursable Account #:

1.1.1 Incident Category - Oil Spill Response

1.1.2 Site Description - Diesel spill onto Appomattox River

1.1.2.1 Location - 915 Riverside Ave., Hopewell, VA

1.1.2.2 Description of Threat - Discharge to navigable waterway. Impact to drinking water intakes

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

EPA has determined that Virginia American Water has completed the requirements of the EPA Administrative Order CWA-03-201500107FC

2.1.2 Response Actions to Date

EPA and VDEQ visited the Site on May 1, 2015 and determined that the spill no longer presented a sheen that posed a threat to the navigable waters of the U.S. EPA and VDEQ gave VAW permission to remove all remaining boom.

VAW has continued to control discharge within the parameters of the VPDES permit.

VAW informed EPA and VDEQ that the company plans to connect to City sewer thus eliminating the need for the VPDES permit once all access agreements can be finalized.

EPA and VDEQ confirmed that the oil from the sump inside of the pump house has been removed.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties PRPs

Virginia American Water Company is the Responsible Party for the spill. Representatives from VAW cooperated fully with VDEQ and EPA representatives following the issuance of the EPA Administrative Order.

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>
Oil/Water Mix	Liquid	500 gal		Recycle	CM
Oil/Water Mix	Liquid	000 gal		Recycle	CM
Contaminated debris pads, boom, etc	Solid	0 cu. yds		Incineration	Clearfield MMG
Contaminated Soil	Solid	120 cu yds			
Contaminated water	Liquid	1200 gal		Recycle	Clean Harbors
Contaminated debris pads, booms, etc.	Solid	20 cu yds		Incineration	Clearfield MMG

2.2.1 Anticipated Activities

None, project is complete

2.2.1.2 Net Steps

EPA and VDEQ advised VAW that the company must report any additional sheen sightings to both the Virginia EOC and the National Response Center

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

EPA has determined that Virginia American Water has completed the requirements of the EPA Administrative Order CWA-03-201500107FC

2.1.2 Response Actions to Date

EPA and VDEQ visited the Site on May 1, 2015 and determined that the spill no longer presented a sheen that posed a threat to the navigable waters of the U.S. EPA and VDEQ gave VAW permission to remove all remaining boom.

VAW has continued to control discharge within the parameters of the VPDES permit.

VAW informed EPA and VDEQ that the company plans to connect to City sewer thus eliminating the need for the VPDES permit once all access agreements can be finalized.

EPA and VDEQ confirmed that the oil from the sump inside of the pump house has been removed.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties PRPs

Virginia American Water Company is the Responsible Party for the spill. Representatives from VAW cooperated fully with VDEQ and EPA representatives following the issuance of the EPA Administrative Order.

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>
Oil/Water Mix	Liquid	500 gal		Recycle	CM
Oil/Water Mix	Liquid	000 gal		Recycle	CM
Contaminated debris pads, boom, etc	Solid	0 cu. yds		Incineration	Clearfield MMG
Contaminated Soil	Solid	120 cu yds			
Contaminated water	Liquid	1200 gal		Recycle	Clean Harbors
Contaminated debris pads, booms, etc.	Solid	20 cu yds		Incineration	Clearfield MMG

2.2.1 Anticipated Activities

None, project is complete

2.2.1.2 Net Steps

EPA and VDEQ advised VAW that the company must report any additional sheen sightings to both the Virginia EOC and the National Response Center

2.5 Other Command Staff

Safety Officer Clean Harbors

Public Information Officer

City of Hopewell	Mr. Herbert Bragg
VDEQ	Mr. Bill Hayden
EPA	Ms. Bonnie Smith

3. Participating Entities

3.1 Unified Command

City of Hopewell Emergency Management Agency
Virginia Department of Environmental Quality
USEPA
Virginia American Water Company

4. Personnel On Site

No information available at this time.

5. Definition of Terms

AST - Aboveground Storage Tank
GAC - Granulated Activated Carbon System used to treat discharge water
NPFC - USCG National Pollution Funds Center
RP - Responsible Party Virginia American Water Company
USCG - United States Coast Guard Sector Hampton Roads
USEPA - United States Environmental Protection Agency Region III
UST - Underground Storage Tank
VDEM - Virginia Department of Emergency Management
VDEQ - Virginia Department of Environmental Quality
VDH - Virginia Department of Health

6. Additional sources of information

Additional information can be found on the webpage for this incident .
www.epaossc.org/virginia-american-water-hopewell

7. Situational Reference Materials

Please see the documents section of the website. Progress Report 10 has been added to the website

Appendix D – BMP 3.3 IDDE Screening Summary

Appendix E – BMP 5.2 SWM Facility Tracking Database

(Electronic Database Provided as Enclosure)

Appendix F – BMP 6.3a Employee Training Record

(Final reporting for expired training program. Future training reporting will be provided in the BMP 6.3a Annual Reporting Form)

Employee Training Record 6/26/15

City of Hopewell Annual Good Housekeeping/Pollution Prevention Training Form

THIS SECTION TO BE COMPLETE BY THE STORMWATER SYSTEMS MANAGEMENT ENGINEER OR APPOINTEE ONLY		THIS SECTION TO BE COMPLETED BY STAFF RECEIVING TRAINING	
Name (Printed)	Position	Staff Signature	Date of Training
James J. White	Sanctuary	[Signature]	6-26-15
David Thomas	Public Works	[Signature]	6-26-15
Charles Dunbar Jr	Concrete	[Signature]	6-26-15
Kevin Davenport	Tractor	[Signature]	6-26-15
Kevin Zenzel	Tractor	[Signature]	6-26-15
Edward E. Fischer	Tractor	[Signature]	6-26-15
Landscaper	Tractor	[Signature]	6-26-15
Environment	Tractor	[Signature]	6-26-15
David Kays	Tractor	[Signature]	6-26-15
Street Maintenance	Tractor	[Signature]	6-26-15
Shop Rec.	Tractor	[Signature]	6-26-15
Proff.	Tractor	[Signature]	6-26-15
Traffic	Tractor	[Signature]	6-26-15
Street Main	Tractor	[Signature]	6-26-15
Construction MGR	Tractor	[Signature]	6-26-15
Inspector	Tractor	[Signature]	6-26-15
CITY ENGINEER	Tractor	[Signature]	6-26-15
Public Works	Tractor	[Signature]	6-26-15