



**VIRGINIA TECH MS4 PROGRAM PLAN
(Includes Annual Report Submittal for Year 5)**

NPDES PHASE II: SMALL MS4 (Municipal Separate Storm Sewer System)

VPDES PERMIT NO. VAR 040049

EFFECTIVE DATE: JULY 1, 2013

EXPIRATION DATE: JUNE 30, 2018

CERTIFICATION STATEMENT AND SIGNATORY REQUIREMENTS FOR MS4 PERMIT APPLICATIONS AND REPORTS

As required by 9VAC25-870-370 B, all reports required by state permits, and other information requested by the State Water Control Board shall be signed by a responsible official or by a duly authorized representative of that person. A responsible official is:

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

A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above;
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and
3. The written authorization is submitted to the department.

CERTIFICATION

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

Dr. Christopher H. Kiwus
Associate Vice President & Chief Facilities Officer

Permit Number MS4 Name

SUBMITTAL DATE:

October 1, 2018

SUBMITTED TO:

Jay Roberts
Stormwater/VWP Programs Manager

Department of Environmental Quality
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SUBMITTED BY:

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INTRODUCTORY NOTE

Virginia Tech has held an MS4 General Permit since 2003. At the end of each five-year term, the University must submit a new program plan to the Virginia Department of Environmental Quality (DEQ). With approval from DEQ, this plan establishes guidelines for the Virginia Tech Stormwater Management Program for the next permit cycle. The following document is Virginia Tech's Program Plan submission for the 2013-2018 permit cycle. **Appendix A** of this document has been updated to reflect the accomplishments of the Virginia Tech Stormwater Management Program and acts as the annual report submission for each reporting year of the 2013-2018 permit cycle.

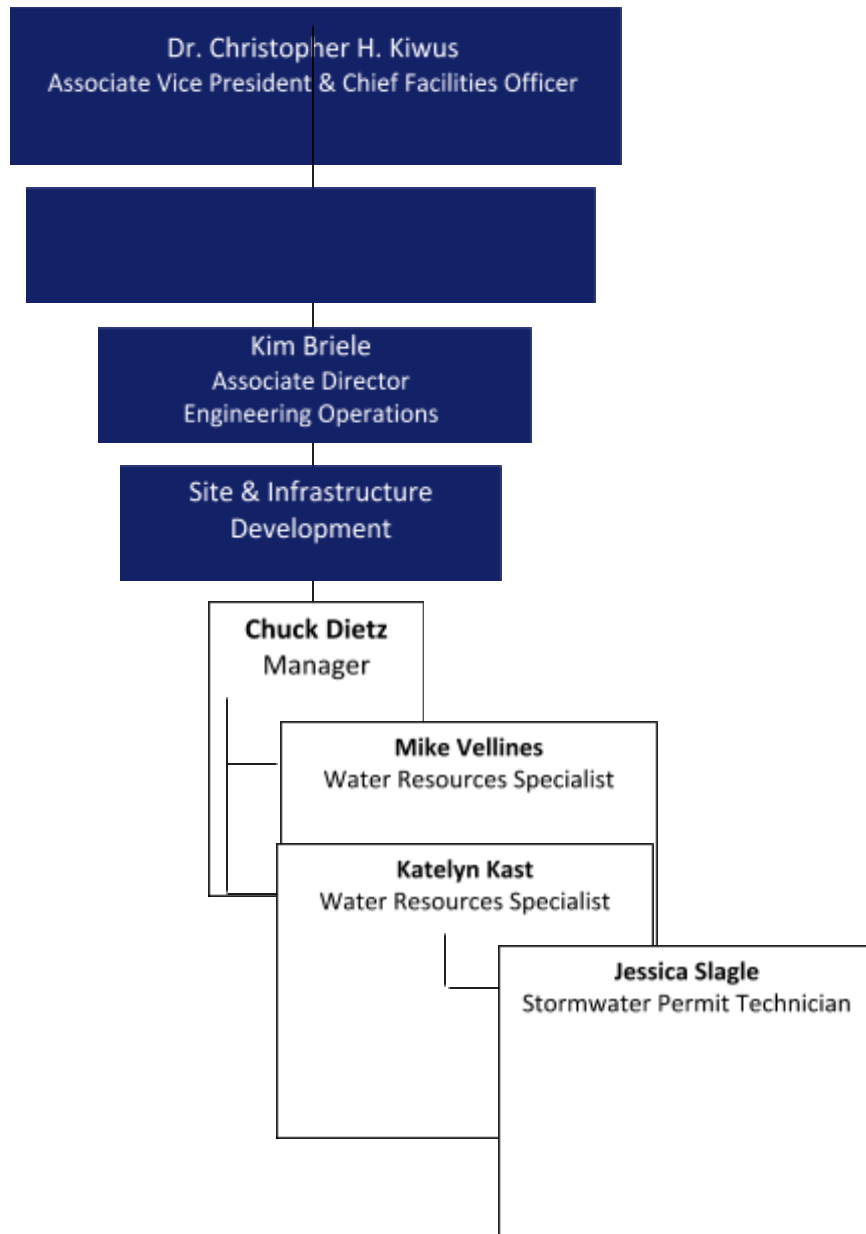
Permit requirements mandate six minimum control measures for the program (*Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post-Construction Stormwater Management, and Pollution Prevention and Good Housekeeping*). The Facilities – Site & Infrastructure Development (SID) Department has developed best management practices in order to comply with the minimum control measure requirements and all other requirements outlined in the permit.

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Site & Infrastructure Development Department



RESPONSIBLE PARTY CONTACT INFORMATION

During the 2013-2018 MS4 Permit Cycle, Virginia Tech will finalize its list of responsible parties and associated contact information. The updated responsible party and contact information list will be added to the MS4 Program Plan.

MS4 OVERVIEW

Introduction

This document serves as the Registration Statement for Virginia Tech per **9VAC25-890-40** General Permit for Discharges of Stormwater from Small MS4s. The Registration Statement serves as an overview of Virginia Tech's MS4 Program Plan for the duration of the 2013-2018 permit cycle. Any revisions to this plan will be justified in writing and submitted to DEQ for review. The document follows the sequencing established in the permit. Any italicized content refers to language taken directly from the permit. **Appendix A** of this document has been updated to reflect the accomplishments of the Virginia Tech Stormwater Management Program and acts as the annual report submission for each year of the 2013-2018 permit cycle.

General Registration Statement Information

Information pertaining to 9VAC25-890-30 B 1-6:

- **Name:** Virginia Polytechnic Institute and State University (Virginia Tech)
- **Type:** University
- **Address:** Virginia Tech – Sterrett Facilities Complex, 230 Sterrett Drive (0529), Blacksburg, VA 24061
- **HUCs currently receiving discharge:**
 - NE59 – New River Stroubles Creek
 - *IMPAIRED:* Stroubles Creek (Benthic) Pollutant – Sediment
- **Estimated Drainage Area discharging to any impaired surface waters:**
 - See Description of Drainage Area below for more information.
- **Physically Interconnected MS4s:**
 - Town of Blacksburg – VAR040019
 - Virginia Department of Transportation (VDOT) – VAR040016

9VAC25-890-30 B 9 *A list of all existing signed agreements between the operator and any applicable third parties where the operator has entered into an agreement in order to implement minimum control measures:*

- There are no signed agreements between the operator and any third parties in order to implement minimum control measures or portions of minimum control measures. Should this change, all necessary information will be added to the Virginia Tech MS4 Program Plan and future annual reports.

9VAC25-890-30 B 10 *The name, address, telephone number and email address of either the principal executive officer or ranking elected official as defined in 9VAC25-870-370:*

Principle Executive Officer:

Title: Associate Vice President and Chief Facilities Officer

Name: Dr. Christopher H. Kiwus

230 Sterrett Drive

Blacksburg, VA 24061

Phone: (540) 231-6291

Email: chkiwus@vt.edu

9VAC25890-30 B 11 *The name, position title, address, telephone number, and email address of any duly authorized representative as defined in 9VAC25-870-370:*

- At this time, Virginia Tech does not have a duly authorized representative. If one is ever appointed, it will be reflected in the Virginia Tech MS4 Program Plan and future annual reports.

Description of Drainage Area

Virginia Polytechnic Institute and State University (Virginia Tech) is located in Blacksburg, Virginia with approximately 31,000 full time students and 14,000 faculty/staff. The main campus includes approximately 135 buildings and 2,600 acres. Virginia Tech is part of a watershed that drains to Stroubles Creek. The overall watershed is approximately 3,500 acres, and the main campus of Virginia Tech is approximately 2,600 acres. Stroubles Creek is a tributary of the New River (VAW-N22R, HUC 05050001). The headwaters of the creek originate in the northeastern part of the Town of Blacksburg, flowing in a generally southwesterly direction. Upper Stroubles Creek is formed from two main tributaries – Central Branch and Webb Branch – and receives flow from a number of other unnamed perennial streams. The two named tributaries flow into the Duck Pond on the Virginia Tech campus, with the main Lower Stroubles Creek channel beginning at the pond’s outfall. The Upper Stroubles Creek watershed contains a significant urban area including the Town of Blacksburg and a majority of the main campus of Virginia Tech.

PROGRAM OVERVIEW

Total Maximum Daily Load

Virginia Tech currently has one stormwater-related Waste Load Allocation (WLA) and is accountable for specific pollutant reductions. The WLA assigned to Virginia Tech is:

- **Stroubles Creek:** 210.88 tons/year sediment

9VAC25-890-40 Section I B 1 *Maintain an updated MS4 Program Plan that includes a specific TMDL Action Plan for pollutants allocated to the MS4 in approved TMDLs*

- Virginia Tech will be teaming up with other Stroubles Creek TMDL Implementation Plan (IP) stakeholders in the development of a TMDL Action Plan for Stroubles Creek. A progress report for the TMDL Action Plan will be provided in the Year 1 Annual Report submission and updates will be provided in each additional annual report (See *TMDL Year 1 Response*).

9VAC25-890-40 Section I B 2 *Special conditions for approved TMDLs other than the Chesapeake Bay TMDL:*

- a)** *Develop and maintain a list of legal authorities such as ordinances, state and other permits, orders, specific contract language, and interjurisdictional agreements applicable to reducing the pollutant identified in each applicable WLA.*
- Virginia Tech has developed a preliminary list of legal authorities applicable to reducing the pollutant identified in the WLA for Stroubles Creek. The following list will be evaluated annually and updated as needed.
 - i. General Permit for Discharges of Stormwater from Municipal Separate Storm Sewer Systems (VAR04)
 - ii. Virginia Tech Annual Standards and Specifications for ESC and SWM
 - iii. General Permit for Discharges of Stormwater from Construction Activities (VAR10)
 - iv. Stormwater Management Policy (*under review*)
 - **Year 2 Response:** Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required to be completed within 24 months of permit coverage. A copy of the completed TMDL Action will be submitted to DEQ with this Annual report and is available upon request.
 - **Year 3 Response:** Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required by the MS4 Permit. A copy of the Action Plan was submitted with the Year 2 Annual Report and has since been approved by DEQ for implementation. Virginia Tech is currently in the data collection and evaluation stage of the Action Plan. Further information about the TMDL Action Plan is available upon request.
 - **Year 4 Response:** Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required by the MS4 Permit. A copy of the Action Plan was submitted with the Year 2 Annual Report and has since been approved by DEQ for implementation. Virginia Tech is currently in the data collection and evaluation stage of the Action Plan. Further information about the TMDL Action Plan is available upon request.
 - **Year 5 Response:** Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required by the MS4 Permit. A copy of the Action Plan was submitted with the Year 2 Annual Report and has since been approved by DEQ for implementation. Virginia Tech is currently in the data collection and evaluation stage of the Action Plan. Further information about the TMDL Action Plan is available upon request.
- b)** *Identify and maintain an updated list of all additional management practices, control techniques, and system design and engineering methods, beyond those identified in Section II B, that have been implemented as part of the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA.*
- Virginia will identify any additional practices, techniques, designs, and methods beyond those identified in Section II B that have been implemented and that are applicable to reducing the pollutant identified in the WLA for Stroubles Creek. Progress reports on this effort will be included in the appropriate annual reports.

- **Year 2 Response:** Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required to be completed within 24 months of permit coverage. A copy of the completed TMDL Action will be submitted to DEQ with this Annual report and is available upon request.
 - **Year 3 Response:** Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required by the MS4 Permit. A copy of the Action Plan was submitted with the Year 2 Annual Report and has since been approved by DEQ for implementation. Virginia Tech is currently in the data collection and evaluation stage of the Action Plan. Further information about the TMDL Action Plan is available upon request.
 - **Year 4 Response:** Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required by the MS4 Permit. A copy of the Action Plan was submitted with the Year 2 Annual Report and has since been approved by DEQ for implementation. Virginia Tech is currently in the data collection and evaluation stage of the Action Plan. Further information about the TMDL Action Plan is available upon request.
 - **Year 5 Response:** Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required by the MS4 Permit. A copy of the Action Plan was submitted with the Year 2 Annual Report and has since been approved by DEQ for implementation. Virginia Tech is currently in the data collection and evaluation stage of the Action Plan. Further information about the TMDL Action Plan is available upon request.
- c) *Enhance the public education and outreach and employee training programs to also promote methods to eliminate and reduce discharges of the pollutants identified in the WLA.***
- Virginia Tech has enhanced the public education and outreach and employee training programs to promote methods to eliminate and reduce discharges of the pollutant identified in the WLA. Each year, in conjunction with the annual reports, Virginia Tech will evaluate this effort and determine if any modifications are needed. Evaluations will be included with each annual report.
 - **Year 1 Response:** Sediment is a high priority water quality issue, as outlined in MCM1. Please see the MCM1 Evaluation in **Appendix G**.
 - **Year 2 Response:** Sediment is a high priority water quality issue, as outlined in MCM1. Please see the MCM1 Evaluation in **Appendix G**.
 - **Year 3 Response:** Sediment is a high priority water quality issue, as outlined in MCM1. Please see the MCM1 Evaluation in **Appendix G**.
 - **Year 4 Response:** Sediment is a high priority water quality issue, as outlined in MCM1. Please see the MCM1 Evaluation in **Appendix G**.
 - **Year 5 Response:** Sediment is a high priority water quality issue, as outlined in MCM1. Please see the MCM1 Evaluation in **Appendix F**.
- d) *Assess all significant sources of pollutants from facilities owned or operated by the MS4 operator that are not covered under a separate VPDES permit and identify all municipal facilities that may be a significant source of the identified pollutant.***

- Facility pollutant identification will be incorporated into the high priority facility investigations that will be done in accordance with **9VAC25-890-40 Section II B 6 b**. Please see **Appendix A** for more information.

e) *Develop and implement methods to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLA.*

- Methods to assess TMDL Action Plans will be considered during the development of any Action Plans that are required per **9VAC25-890-40 Section I B 1**. These methods will be addressed in the TMDL Action Plan and reported on in the appropriate annual reports.

9VAC25-890-40 Section I B 7 *Estimated end date for achieving the applicable WLA(s)*

- Any associated objectives and milestones for the WLA will be included in the TMDL Action Plan that will be developed within 24 months of permit coverage.

Annual Reporting Requirements

Per **9VAC25-890-40 Section I B 5**, each annual report shall include:

- Required TMDL Action Plan with appropriate annual report (Year 2).
- Report on the implementation of the TMDL Action Plans and associated evaluation including the results of any monitoring conducted as part of the evaluation.

Year 1 Response: A TMDL Implementation grant was awarded to Stroubles Creek stakeholders to aid in the advancement of goals and milestones in the current Stroubles Creek TMDL Implementation Plan. Throughout this process, the stakeholders have been assessing the progress of the goals and milestones specified in the current Stroubles Creek Implementation Plan. A scope of work and schedule have been developed to be implemented over the next 2 years. The assessment of progress will be utilized in the development of an action plan for Stroubles Creek.

Year 2 Response: Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required to be completed within 24 months of permit coverage. A copy of the completed TMDL Action will be submitted to DEQ with this Annual report and is available upon request.

Year 3 Response: Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required by the MS4 Permit. A copy of the Action Plan was submitted with the Year 2 Annual Report and has since been approved by DEQ for implementation. Virginia Tech is currently in the data collection and evaluation stage of the Action Plan. Further information about the TMDL Action Plan is available upon request.

Year 4 Response: Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required by the MS4 Permit. A copy of the Action Plan was submitted with the Year 2 Annual Report and has since been approved by DEQ for implementation. Virginia Tech is currently in the data collection and evaluation stage of the Action Plan. Further information about the TMDL Action Plan is available upon request.

Year 5 Response: Virginia Tech enlisted a consultant to help with the development of the TMDL Action Plan that is required by the MS4 Permit. A copy of the Action Plan was submitted with the Year 2 Annual Report and has since been approved by DEQ for implementation. Virginia Tech is currently in the data collection and evaluation stage of the Action Plan. Further information about the TMDL Action Plan is available upon request.

Minimum Control Measure 1 – Public Outreach and Education

For the 2013-2018 MS4 permit cycle, Virginia Tech has identified three initial target audiences and high priority water quality issues. These audiences and issues will be the focus of the Public Outreach and Education Program during the permit cycle. Please see Tables 1 and 2 for more information regarding Virginia Tech’s proposed target audiences and high priority water quality issues. Virginia Tech will strive to reach 20% of each target audience annually through a variety of mechanisms. At the end of each reporting year, Virginia Tech will evaluate the effectiveness of its public outreach and education efforts. Any observed weaknesses or shortcomings found during the evaluation will be appropriately addressed. This evaluation will be included in each MS4 Annual Report. See **Appendix F**.

Table 1: Target Audiences

Target Audience	Population	Rationale
On-Campus Students	~ 10,000	On-campus students are likely to impact stormwater in their everyday interaction with the campus community. Their greatest areas of impact are trash management, including the disposal of batteries, electronics, trash, cigarette butts, and food waste.
Off-Campus Students	~ 20,000	Off-campus Students frequent campus due to classes, sporting events, and activities. As a result, they have a great potential to impact stormwater. Some areas of concern are trash management and animal waste.
Faculty/Staff	~ 14,000	Faculty/Staff are most likely long-term members of the campus community and as such can be crucial advocates for stormwater management. Many employees deal with operations which use chemicals and equipment that have the potential to impact stormwater. Others are in a position to teach the student population about stormwater pollution prevention and facilitate research opportunities.

Table 2: High Priority Water Quality Issues

High Priority Water Quality Issue	Rationale
Sediment	Increased urbanization and runoff from impervious surfaces has high potential to damage the benthic ecosystem in Stroubles creek.
Animal Waste	Animal waste has high potential to cause bacterial pollutants in the creek.
Trash	Trash is the most common pollutant from the University community and has high potential to enter the creek.

9VAC25-890-40 Section II B 1 f *The MS4 Program Plan shall describe how the conditions of this permit shall be updated in accordance with Table 1.*

During Year 1, Virginia Tech will develop a Public Outreach and Education Plan for the 2013-2018 MS4 permit cycle. This plan will discuss how the aforementioned target audiences and high priority water quality issues will be addressed during the permit cycle. Virginia Tech will strive to complete the Public Outreach and Education Plan by the summer of 2014 and will give a progress update in the Year 1 annual report submission. The final copy of the Public Outreach and Education Plan will be available in the Virginia Tech Site & Infrastructure Development office.

Year 1 Response: Virginia Tech has developed a Public Outreach and Education Plan for the 2013-2018 permit cycle. The plan discusses the rationale for the target audiences and high priority water quality issues as well as how they will be addressed during the permit cycle. A copy of the Public Outreach and Education Plan is available by request in the Site & Infrastructure Development office.

Year 2 Response: During Year 2, Virginia Tech reviewed the Public Outreach and Education Plan and the rationale for target audiences and high priority water quality issues for consistency. A copy of the Public Outreach and Education Plan is available by request in the Site & Infrastructure Development office.

Year 3 Response: During Year 3, Virginia Tech reviewed the Public Outreach and Education Plan and the rationale for target audiences and high priority water quality issues for consistency. A copy of the Public Outreach and Education Plan is available by request in the Site & Infrastructure Development office.

Year 4 Response: During Year 4, Virginia Tech reviewed the Public Outreach and Education Plan and the rationale for target audiences and high priority water quality issues for consistency. A copy of the Public Outreach and Education Plan is available by request in the Site & Infrastructure Development office.

Year 5 Response: During Year 5, Virginia Tech reviewed the Public Outreach and Education Plan and the rationale for target audiences and high priority water quality issues for consistency. A copy of the Public Outreach and Education Plan is available by request in the Site & Infrastructure Development office.

Annual Reporting Requirements

Per **9VAC25-890-49 Section II B 1 g**, each annual report shall include:

- *List of education and outreach activities conducted during the reporting period for each high priority water quality issue, the estimated number of people reached, and an estimated percentage of the target audience or audiences reached.*
- *List of education and outreach activities that will be conducted during the next reporting period for each high priority water quality issue, the estimated number of people that will be reached, and an estimated percentage of the target audience or audiences that will be reached.*
- **Year 1 Response:** See BMP 1.1 and 1.2 in **Appendix A** for further information.
- **Year 2 Response:** See BMP 1.1 and 1.2 in **Appendix A** for further information.
- **Year 3 Response:** See BMP 1.1 and 1.2 in **Appendix A** for further information.
- **Year 4 Response:** See BMP 1.1 and 1.2 in **Appendix A** for further information.
- **Year 5 Response:** See BMP 1.1 and 1.2 in **Appendix A** for further information.

Minimum Control Measure 2 – Public Involvement/Participation

During the 2013-2018 permit cycle, Virginia Tech's MS4 Program Plan will be updated at least once a year in conjunction with annual reports. An updated MS4 Program Plan will be maintained on Virginia Tech's stormwater website. Copies of each annual report will be posted on Virginia Tech's stormwater website within 30 days of submittal and will remain online for the duration of the permit cycle. At the end of each reporting year, Virginia Tech will evaluate the effectiveness of its public outreach and education efforts. Any observed weaknesses or shortcomings found during the evaluation will be addressed and solutions will be proposed. This evaluation will be included in each MS4 Annual Report. See **Appendix F**.

9VAC25-890-40 Section II B 2 a (2) – Public Involvement:

- a) *Maintain an updated MS4 Program Plan on the Virginia Tech stormwater website.*
- Virginia Tech will annually evaluate and update its MS4 Program Plan in conjunction with each annual report. The updated MS4 Program Plan will be maintained on Virginia Tech's stormwater website.
- b) *Post Copies of each annual report on the Virginia Tech stormwater website.*
- A copy of each MS4 Annual Report will be posted on the Virginia Tech stormwater website within 30 days of submittal and will remain online for the duration of the MS4 permit cycle.
- c) *Notify the public and provide for receipt of comment of the proposed MS4 Program Plan that will be submitted with the registration statement.*
- Virginia Tech will post a copy of the proposed MS4 Program Plan on the Virginia Tech stormwater website. A campus notice will be sent out to the University community to notify them that the proposed plan is available online and open to public comment. The public comment period will last 2 weeks. Any comments received during the public comment period will be reviewed by SID and addressed in the appropriate annual report.
 - **Year 1 Response:** See BMP 2.1 and 2.2 in **Appendix A** for further information.
 - **Year 2 Response:** See BMP 2.1 and 2.2 in **Appendix A** for further information.
 - **Year 3 Response:** See BMP 2.1 and 2.2 in **Appendix A** for further information.
 - **Year 4 Response:** See BMP 2.1 and 2.2 in **Appendix A** for further information.
 - **Year 5 Response:** See BMP 2.1 and 2.2 in **Appendix A** for further information.

9VAC25-890-40 Section II B 2 b – Public Participation *Participate, through promotion, sponsorship, or other involvement, in a minimum of four local activities annually.*

- Virginia Tech will satisfy this requirement through a variety of activities on campus and in surrounding communities. These activities will be addressed in the Public Participation written procedures described in **9VAC25-890-40 Section II B 2 c** (below).
- **Year 1 Response:** See BMP 2.1 and 2.2 in **Appendix A** for further information.
- **Year 2 Response:** See BMP 2.1 and 2.2 in **Appendix A** for further information.
- **Year 3 Response:** See BMP 2.1 and 2.2 in **Appendix A** for further information.
- **Year 4 Response:** See BMP 2.1 and 2.2 in **Appendix A** for further information.
- **Year 5 Response:** See BMP 2.1 and 2.2 in **Appendix A** for further information.

9VAC25-890-40 Section II B 2 c *The MS4 Program Plan shall include written procedures for implementing this program.*

- During Year 1, Virginia Tech will develop written procedures for the Public Involvement and Participation portion of the Virginia Tech MS4 Program. These will be created in conjunction with the development of the Public Education and Outreach Plan. A progress update will be given in the Year 1 Annual Report. The final copy of the Public Involvement/Participation written procedures will be added to the Virginia Tech MS4 Program Plan.

Year 1 Response: Virginia Tech has developed written procedures for the Public Involvement/Participation portion for the 2013-2018 Virginia Tech MS4 Program. A copy is available by request in the Site & Infrastructure Development office.

Year 2 Response: During Year 2, Virginia Tech reviewed the written procedures for the Public Involvement/Participation portion of the 2013-2018 Virginia Tech MS4 Program. A copy is available by request in the Site & Infrastructure Development office.

Year 3 Response: During Year 3, Virginia Tech reviewed the written procedures for the Public Involvement/Participation portion of the 2013-2018 Virginia Tech MS4 Program. A copy is available by request in the Site & Infrastructure Development office.

Year 4 Response: During Year 4, Virginia Tech reviewed the written procedures for the Public Involvement/Participation portion of the 2013-2018 Virginia Tech MS4 Program. A copy is available by request in the Site & Infrastructure Development office.

Year 5 Response: During Year 5, Virginia Tech reviewed the written procedures for the Public Involvement/Participation portion of the 2013-2018 Virginia Tech MS4 Program. A copy is available by request in the Site & Infrastructure Development office.

Annual Reporting Requirements

Per **9VAC25-890-40 Section II B 2 d**, each MS4 Annual Report shall include:

- *A web link to the MS4 Program Plan and annual report.*
- *Documentation of compliance with the public participation requirements of this section.*

Year 1 Response: See BMP 2.1 and 2.2 in **Appendix A** for further information.

Year 2 Response: See BMP 2.1 and 2.2 in **Appendix A** for further information.

Year 3 Response: See BMP 2.1 and 2.2 in **Appendix A** for further information.

Year 4 Response: See BMP 2.1 and 2.2 in **Appendix A** for further information.

Year 5 Response: See BMP 2.1 and 2.2 in **Appendix A** for further information.

Minimum Control Measure 3 – Illicit Discharge Detection and Elimination (IDDE)

During the 2013-2018 MS4 permit cycle, Virginia Tech will update its current IDDE Program in order to meet the requirements stated in **9VAC25-890-40 Section II B 3**. In the interim, Virginia Tech will continue to implement its current IDDE Program until the program is updated to meet the conditions of the 2013-2018 MS4 Permit. At the end of each reporting year, Virginia Tech will evaluate the effectiveness of its IDDE public education efforts and response procedures. Any observed weaknesses or shortcomings found during the evaluation will be appropriately addressed. This evaluation will be included in each MS4 Annual Report. See **Appendix F**.

9VAC25-890-40 Section II B 3 a *Maintain an accurate storm sewer system map and information table and shall update it in accordance with Table 1.*

- Virginia Tech will update its storm sewer system map to meet the requirements set forth in the 2013-2018 MS4 permit. A progress report will be given in each annual report. Storm sewer system mapping is available upon request in the Virginia Tech Site & Infrastructure Development office.
- **Year 1 Response:** Please see **Appendix A**, BMP 3.1.1 – Storm Sewer System Map (Inventory Outfall Locations) for a status update.
- **Year 2 Response:** Please see **Appendix A**, BMP 3.1.1 – Storm Sewer System Map (Inventory Outfall Locations) for a status update.
- **Year 3 Response:** Please see **Appendix A**, BMP 3.1.1 – Storm Sewer System Map (Inventory Outfall Locations) for a status update.
- **Year 4 Response:** Please see **Appendix A**, BMP 3.1.1 – Storm Sewer System Map (Inventory Outfall Locations) for a status update.
- **Year 5 Response:** Please see **Appendix A**, BMP 3.1.1 – Storm Sewer System Map (Inventory Outfall Locations) for a status update.

9VAC25-890-40 Section II B 3 b *Effectively prohibit, through ordinance or other legal mechanism, non-stormwater discharges into the storm sewer system to the extent allowable under federal, state, or local law or regulation.*

- During the 2013-2018 MS4 permit cycle, Virginia Tech will evaluate its methods for prohibiting non-stormwater discharges for effectiveness. Once this evaluation is complete, Virginia Tech will set goals for modification and implementation. Progress updates for the evaluation and any necessary modifications will be given in future MS4 Annual Reports.
- **Year 1 Response:** Please see BMP 3.2.2 Prohibiting Illicit Discharges in Appendix A for a status update and the MCM3 Evaluation in **Appendix G**.
- **Year 2 Response:** Please see BMP 3.2.2 Prohibiting Illicit Discharges in Appendix A for a status update and the MCM3 Evaluation in **Appendix G**.
- **Year 3 Response:** Please see BMP 3.2.2 Prohibiting Illicit Discharges in Appendix A for a status update and the MCM3 Evaluation in **Appendix G**.
- **Year 4 Response:** Please see BMP 3.2.2 Prohibiting Illicit Discharges in Appendix A for a status update and the MCM3 Evaluation in **Appendix G**.
- **Year 5 Response:** Please see BMP 3.2.2 Prohibiting Illicit Discharges in Appendix A for a status update and the MCM3 Evaluation in **Appendix F**.

9VAC25-890-40 Section II B 3 c *Develop and implement written procedures to detect, identify, and address non-stormwater discharges, including illegal dumping, to the small MS4.*

- During Year 1, Virginia Tech will develop IDDE written procedures to be used during IDDE and Outfall Reconnaissance Inventory (ORI) investigations. These written procedures will satisfy the requirements set forth in **9VAC25-890-40 Section II B 3 c**. Virginia Tech will strive to complete the written procedures by the summer of 2014 and will give a progress update in the Year 1 Annual Report submission. The final copy of the IDDE written procedures will be added to Virginia Tech's IDDE Program and will be available upon request in the Virginia Tech Site & Infrastructure Development office.
- **Year 1 Response:** Virginia Tech has developed written procedures that are utilized during IDDE and ORI Investigations. These procedures have been added to the Virginia Tech IDDE Program and are available upon request in the Virginia Tech Site & Infrastructure Development office.
- **Year 2 Response:** Virginia Tech has developed written procedures that are utilized during IDDE and ORI Investigations. These procedures are reviewed and maintained by the Site & Infrastructure Development office as a part of the Virginia Tech IDDE Program and are available upon request in the Virginia Tech Site & Infrastructure Development office.
- **Year 3 Response:** Virginia Tech has developed written procedures that are utilized during IDDE and ORI Investigations. These procedures are reviewed and maintained by the Site & Infrastructure Development office as a part of the Virginia Tech IDDE Program and are available upon request in the Virginia Tech Site & Infrastructure Development office.
- **Year 4 Response:** Virginia Tech has developed written procedures that are utilized during IDDE and ORI Investigations. These procedures are reviewed and maintained by the Site & Infrastructure Development office as a part of the Virginia Tech IDDE Program and are available upon request in the Virginia Tech Site & Infrastructure Development office.
- **Year 5 Response:** Virginia Tech has developed written procedures that are utilized during IDDE and ORI Investigations. These procedures are reviewed and maintained by the Site & Infrastructure Development office as a part of the Virginia Tech IDDE Program and are available upon request in the Virginia Tech Site & Infrastructure Development office.

9VAC25-890-40 Section II B 3 d *Promote, publicize, and facilitate public reporting of illicit discharges into or from MS4s.*

- Currently, Virginia Tech staff and students are able to report spills and illicit discharges on the Anonymous Safety Complaint interface of the Virginia Tech Environmental Health and Safety webpage: www.ehss.vt.edu/report_issue. During the 2013-2018 MS4 permit cycle, Virginia Tech will evaluate the process of reporting spills and illicit discharges to determine if any modifications are needed to satisfy the new IDDE Program requirements set forth in the 2013-2018 MS4 Permit. Progress updates for any necessary IDDE reporting modifications will be given in future MS4 Annual Reports.
- **Year 1 Response:** See BMP 3.1, 3.2, and 3.3 in **Appendix A** for further information.
- **Year 2 Response:** See BMP 3.1, 3.2, and 3.3 in **Appendix A** for further information.
- **Year 3 Response:** See BMP 3.1, 3.2, and 3.3 in **Appendix A** for further information.
- **Year 4 Response:** See BMP 3.1, 3.2, and 3.3 in **Appendix A** for further information.
- **Year 5 Response:** See BMP 3.1, 3.2, and 3.3 in **Appendix A** for further information.

Annual Reporting Requirements

Per **9VAC25-890-40 Section II B 3 f**, each annual report shall include:

- *A list of any written notifications of physical interconnection given by the operator to other MS4s.*
- *The total number of outfalls screened during the reporting period, the screening results, and detail of any follow-up necessary based on screening results.*
- *Summary of each investigation conducted by the operator of any suspected illicit discharge. Each summary will include the following:*
 - *Date that the suspect discharge was observed or reported or both*
 - *How the investigation was resolved, including any follow-up*
 - *Resolution of the investigation and the date the investigation was closed*

Year 1 Response: See BMP 3.1, 3.2, and 3.3 in **Appendix A** for further information.

Year 2 Response: See BMP 3.1, 3.2, and 3.3 in **Appendix A** for further information.

Year 3 Response: See BMP 3.1, 3.2, and 3.3 in **Appendix A** for further information.

Year 4 Response: See BMP 3.1, 3.2, and 3.3 in **Appendix A** for further information.

Year 5 Response: See BMP 3.1, 3.2, and 3.3 in **Appendix A** for further information.

Minimum Control Measure 4 – Construction Site Runoff Control

The Virginia Tech Annual Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM) are integral components of Virginia Tech’s design, construction, and maintenance of the University’s facilities and campuses. The Virginia Tech Annual Standards and Specifications for ESC and SWM are administered by Virginia Tech Site & Infrastructure Development and apply to all design, construction, and maintenance activities on property owned by Virginia Tech, either by its internal workforce or contracted to external entities, where such activities are regulated by the Virginia ESC Law and Regulations or the Virginia SWM Act and VSMP Regulations. The Virginia Tech Annual Standards and Specifications for ESC and SWM are submitted to the Virginia Department of Environmental Quality (DEQ) for review and approval on an annual basis. Virginia Tech shall ensure that project-specific plans are developed and implemented in accordance with the Virginia Tech Annual Standards and Specifications for ESC and SWM. Please see **Appendix B** for a copy of the current Virginia Tech Annual Standards and Specifications for ESC and SWM. At the end of each reporting year, Virginia Tech will evaluate the effectiveness of its construction site runoff control efforts. Any observed weaknesses or shortcomings found during the evaluation will be appropriately addressed. This evaluation will be included in each MS4 Annual Report. See **Appendix F**.

9VAC25-890-40 Section II B 4 c (4) *Promote to the public a mechanism for receipt of public complaints regarding regulated land-disturbing activities and shall follow-up on any complaints regarding potential water quality and compliance issues.* All public comments for the Virginia Tech MS4 program are directed to stormwater@vt.edu via a comment box on Virginia Tech’s stormwater website. All public complaints regarding regulated land-disturbing activities will also be directed to the comment

box and its associated email address. Signs containing web address and email information for public complaints will be posted at construction sites.

Year 1 Response: See BMP 4.1 in **Appendix A** for a status update.

Year 2 Response: See BMP 4.1 in **Appendix A** for a status update.

Year 3 Response: See BMP 4.1 in **Appendix A** for a status update.

Year 4 Response: See BMP 4.1 in **Appendix A** for a status update.

Year 5 Response: See BMP 4.1 in **Appendix A** for a status update.

9VAC25-890-40 Section II B 4 e – MS4 Program Requirements for Construction Site Stormwater Runoff Control:

(1) Description of the legal authorities utilized to ensure compliance with the minimum control measures in Section II related to construction site stormwater runoff control such as ordinances, permits, orders, specific contract language, and multijurisdictional agreements.

- Virginia Tech currently utilizes the following to ensure compliance with Minimum Control Measure 4 – Construction Site Stormwater Runoff Control:
 - i. Virginia Tech Annual Standards and Specifications for ESC and SWM
 - ii. Virginia Tech MS4 Program
 - iii. General Permit for Discharges of Stormwater from Construction Activities (VAR10)
 - iv. Memorandums of Understanding (MOU): project-by-project basis
 - v. Memorandums of Agreement (MOA): project-by-project basis

*This list will be updated on an as-needed basis. Projects outside of Virginia Tech’s main campus may be subject to local ordinances.

(2) Written plan review procedures and all associated documents utilized in plan review

- During the 2013-2018 MS4 permit cycle, Virginia Tech will ensure that the established written plan review procedures are up-to-date. Progress updates on these procedures will be provided in future MS4 Annual Reports. Upon completion, the final plan review written procedures will be added to the MS4 Program Plan. Please see **Appendix B** for a copy of the current Virginia Tech Annual Standards and Specifications for ESC and SWM.

(3) Copy of current Virginia Tech Annual Standards and Specifications for ESC and SWM

- Please see **Appendix B** for a copy of the current Virginia Tech Annual Standards and Specifications for ESC and SWM.

(4) Written inspection procedures and all associated documents utilized in inspections including the inspection schedule.

- During the 2013-2018 MS4 permit cycle, Virginia Tech will evaluate its current written procedures for inspections in order to determine if any modifications are necessary. Progress updates will be given in future MS4 Annual Reports. The final version of the inspection written procedures and any necessary supporting documentation will be added to the Virginia Tech MS4 Program. Please see **Appendix B** for a copy of the current Virginia Tech Annual Standards and Specifications for ESC and SWM.

(5) Written procedures for compliance and enforcement, including a progressive compliance and enforcement strategy, where appropriate.

- Virginia Tech does not have regulatory enforcement capabilities – DEQ has this responsibility – therefore no written procedures will be developed for enforcement. Compliance procedures can be found in the Virginia Tech Annual Standards and Specifications for ESC and SWM. Please see **Appendix B** for more information.

(6) Roles and Responsibilities of each of the operator’s departments, divisions, or subdivisions in implementing Minimum Control Measure 4 – Construction Site Stormwater Runoff Control.

- During the 2013-2018 MS4 permit cycle, Virginia Tech will compile a list of roles and responsibilities for Virginia Tech departments and divisions that are involved in the implementation of Minimum Control Measure 4 – Construction Site Stormwater Runoff Control. Progress updates for this effort will be given in future MS4 Annual Reports.

Year 1 Response: Virginia Tech Annual Standards and Specifications for ESC and SWM fulfill the roles and responsibilities requirement of the permit. Any changes to this document will be addressed in later annual reports. See BMP 4.1 in **Appendix A** for further information.

Year 2 Response: Virginia Tech Annual Standards and Specifications for ESC and SWM fulfill the roles and responsibilities requirement of the permit. Any changes to this document will be addressed in later annual reports. See BMP 4.1 in **Appendix A** for further information.

Year 3 Response: Virginia Tech Annual Standards and Specifications for ESC and SWM fulfill the roles and responsibilities requirement of the permit. Any changes to this document will be addressed in later annual reports. See BMP 4.1 in **Appendix A** for further information.

Year 4 Response: Virginia Tech Annual Standards and Specifications for ESC and SWM fulfill the roles and responsibilities requirement of the permit. Any changes to this document will be addressed in later annual reports. See BMP 4.1 in **Appendix A** for further information.

Year 5 Response: Virginia Tech Annual Standards and Specifications for ESC and SWM fulfill the roles and responsibilities requirement of the permit. Any changes to this document will be addressed in later annual reports. See BMP 4.1 in **Appendix A** for further information.

Annual Reporting Requirements

Per 9VAC25-890-40 Section II B 4 f, each annual report shall include:

- *Total number of regulated land-disturbing activities (**Appendix E**)*
- *Total disturbed acres (**Appendix E**)*
- *Total number of inspections performed (**Appendix E**)*
- *A summary of the enforcement actions taken (**Appendix E**)*

Year 1 Response: See BMP 4.1 in **Appendix A** for a status update of the aforementioned annual reporting requirements.

Year 2 Response: See BMP 4.1 in **Appendix A** for a status update of the aforementioned annual reporting requirements.

Year 3 Response: See BMP 4.1 in **Appendix A** for a status update of the aforementioned annual reporting requirements.

Year 4 Response: See BMP 4.1 in **Appendix A** for a status update of the aforementioned annual reporting requirements.

Year 5 Response: See BMP 4.1 in **Appendix A** for a status update of the aforementioned annual reporting requirements.

Minimum Control Measure 5 – Post-Construction Stormwater Management

During the 2013-2018 MS4 permit cycle, Virginia Tech will update its current program for Post-Construction Stormwater Management in order to meet the requirements stated in **9VAC25-890-40 Section II B 5**. In the interim, Virginia Tech will continue to implement its current program until the program is updated to meet the conditions of the 2013-2018 MS4 Permit. At the end of each reporting year, Virginia Tech will evaluate the effectiveness of its public outreach and education efforts. Any observed weaknesses or shortcomings found during the evaluation will be appropriately addressed. This evaluation will be included in each MS4 Annual Report. See **Appendix F**.

9VAC25-890-40 Section II B 5 d *Update MS4 Program Plan, in accordance with Table 1, to include following for Stormwater Management Progressive Compliance Enforcement:*

- (1) List of applicable legal authorities related to Post-Construction Stormwater Management in new development and development on prior developed lands*
- (2) Written policies and procedures utilized to ensure that stormwater management facilities are designed and installed in accordance with **Section II B 5 b***
- (3) Written inspection policies and procedures utilized in conducting inspections*
- (4) Written procedures for inspection and maintenance of operator-owned stormwater management facilities.*
- (5) Roles and responsibilities of each of the operator's departments, divisions, or subdivisions in implementing Minimum Control Measure 5 – Post-Construction Stormwater Management.*

During Year 1, Virginia Tech will update its MS4 Program Plan to include the items from **9VAC25-890-40 Section II B 5 d** outlined above. A progress update will be given in the Year 1 Annual Report submission. The final procedures will be added to the MS4 Program Plan upon completion.

Year 1 Response: During Year 1, Virginia Tech reviewed MS4 Program components, and it was determined that the items from 9VAC25-890-40 Section II B 5 d are covered under the current Virginia Tech Annual Standards and Specifications for ESC and SWM as well as the current O&M Program for Virginia Tech Stormwater Management Facilities. These documents can be made available, upon request, at the Site & Infrastructure Development office.

Year 2 Response: Please see Year 1 response above, the referenced documents can be made available, upon request, at the Site & Infrastructure Development office.

Year 3 Response: Please see Year 1 response above, the referenced documents can be made available, upon request, at the Site & Infrastructure Development office.

Year 4 Response: Please see Year 1 response above, the referenced documents can be made available, upon request, at the Site & Infrastructure Development office.

Year 5 Response: Please see Year 1 response above, the referenced documents can be made available, upon request, at the Site & Infrastructure Development office.

9VAC25-890-40 Section II B 5 e *Maintain an updated electronic database of all known operator-owned stormwater management facilities that discharge into the MS4.*

- During Year 1, Virginia Tech will update its current stormwater management facilities electronic database to include all information required in **9VAC25-890-40 Section II B 5 e (1)-(9)**. An updated copy of this database will be provided with the Year 1 Annual Report submission. This electronic database will be updated annually and included in each Annual Report submission.
- **Year 1 Response:** See **Appendix D** for an updated list of all known operator-owned stormwater management facilities that discharge into the MS4.
- **Year 2 Response:** See **Appendix D** for an updated list of all known operator-owned stormwater management facilities that discharge into the MS4.
- **Year 3 Response:** See **Appendix D** for an updated list of all known operator-owned stormwater management facilities that discharge into the MS4.
- **Year 4 Response:** See **Appendix D** for an updated list of all known operator-owned stormwater management facilities that discharge into the MS4.
- **Year 5 Response:** See **Appendix D** for an updated list of all known operator-owned stormwater management facilities that discharge into the MS4.

Annual Reporting Requirements

Each Annual Report will include:

- *Current list of Stormwater Management Facilities (Appendix D)*
- *Number of inspections performed (Appendix A)*
- *Number of enforcement actions taken to ensure long-term maintenance (Appendix A)*

Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping

During the 2013-2018 MS4 permit cycle, Virginia Tech will update its current program for Pollution Prevention/Good Housekeeping in order to meet the requirements stated in **9VAC25-890-40 Section II B 6**. In the interim, Virginia Tech will continue to implement its current program until the program is updated to meet the conditions of the 2013-2018 MS4 Permit. At the end of each reporting year, Virginia Tech will evaluate the effectiveness of its pollution prevention and good housekeeping efforts. Any observed weaknesses or shortcomings found during the evaluation will be addressed and solutions will be proposed. This evaluation will be included in each MS4 Annual Report. See **Appendix F**.

9VAC25-890-40 Section II B 6 a *Develop and implement daily operational procedures designed to minimize or prevent pollutant discharge from municipal operations.*

- During Years 1 and 2, Virginia Tech will develop written procedures designed to minimize or prevent pollutant discharge from daily operations, equipment maintenance, and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. These written procedures will be utilized, as appropriate, as part of employee training. The status of written procedure development will be included in the Year 1 and Year 2 Annual Report submissions.
- **Year 1 Response:** Please see **Appendix A**, BMP 6.1.1 – Daily Good Housekeeping Procedures for a status update.
- **Year 2 Response:** Procedures have been developed and posted on the Virginia Tech website . Please see **Appendix A**, BMP 6.1.1 – Daily Good Housekeeping Procedures for more information.
- **Year 3 Response:** Procedures have been developed and posted on the Virginia Tech website . Please see **Appendix A**, BMP 6.1.1 – Daily Good Housekeeping Procedures for more information.

- **Year 4 Response:** Procedures have been developed and posted on the Virginia Tech website (Web address). Please see **Appendix A**, BMP 6.1.1 – Daily Good Housekeeping Procedures for more information.
- **Year 5 Response:** Procedures have been developed and posted on the Virginia Tech website. Please see **Appendix A**, BMP 6.1.1 – Daily Good Housekeeping Procedures for more information.

9VAC25-890-40 Section II B 6 b *Municipal facility pollution prevention and good housekeeping.*

(1) *Identify all municipal high priority facilities within 12 months of permit coverage.*

- During Year 1, Virginia Tech will develop selection criteria to use in the identification of municipal high priority facilities. Once the selection criteria are developed, Virginia Tech will perform site inspections of facilities that have the potential to be high priority facilities.
- **Year 1 Response:** Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update.
- **Year 2 Response:** Facilities have been identified. Virginia Tech is currently exploring the options and process of creating SWPPPs for the identified facilities. Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update
- **Year 3 Response:** Facilities have been identified. Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update
- **Year 4 Response:** Facilities have been identified. Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update
- **Year 5 Response:** Facilities have been identified. Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update

(2) *Identify which of the municipal high priority facilities have a high potential of chemicals or other materials to be discharged in stormwater.*

- During Year 1, once the high priority facilities are identified, Virginia Tech will determine which high priority facilities have a high potential to discharge chemicals or other materials into the storm sewer system. All high priority/high potential facilities will be required to have a Stormwater Pollution Prevention Plan (SWPPP). A list of all the high priority/high potential facilities will be provided in the Year 1 Annual Report submission.
- **Year 1 Response:** Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update.
- **Year 2 Response:** Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update.
- **Year 3 Response:** Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update.
- **Year 4 Response:** Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update.
- **Year 5 Response:** Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update.

(3) *Develop and implement specific SWPPPs for all high priority facilities identified as having a high potential for the discharge of chemicals and other materials in stormwater.*

- During Year 2, Virginia Tech will begin the process of developing SWPPPs for all the high priority/high potential facilities identified in Year 1. The progress of SWPPP development and implementation will be reported in each MS4 Annual Report submission. Virginia Tech will strive to have all necessary SWPPPs developed and implemented by June 30, 2018. A copy of each SWPPP will be kept at each facility and will be appropriately updated and utilized as part of staff training required in **Section II B 6 d**.
- **Year 1 Response:** Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update.
- **Year 2 Response:** Facilities have been identified. Virginia Tech is currently exploring the options and process of creating SWPPPs for the identified facilities. Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update.
- **Year 3 Response:** Facilities have been identified. Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update.
- **Year 4 Response:** Facilities have been identified. Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update.
- **Year 5 Response:** Facilities have been identified. Please see **Appendix A**, BMP 6.1.2 – High Priority Facilities for a status update.

Nutrient Management Plans

Currently, Virginia Tech has twenty-one Nutrient Management Plans (NMPs). For a list of Virginia Tech's current NMPs, please see Table 3 (below).

Table 3: VT Nutrient Management Plans

Department	Area (Acres)	Issue Date	Expiration Date	Category	Contact Information
CALS Livestock Plan for Campus and Montgomery County Lands	1427	3/1/2018	12/31/2018	Agriculture	Dwight Paulette kentland@vt.edu
Virginia Tech Athletic Department	28.8	05/01/2016	05/01/2019	Turf & Landscape	Casey Underwood caunderw@vt.edu Emerson Pulliam emerson@vt.edu
Golf Course	33.0	1/1/2016	1/1/2021	Turf & Landscape	Jason Ratcliff jratclif@vt.edu
Virginia Tech Campus Grounds	51.61	11/30/2015	11/30/2018	Turf & Landscape	Steve Perfater sperfate@vt.edu
Hahn Horticulture Garden	6.3	8/2/2015	8/1/2018	Turf & Landscape	Paul Chumbley vtgarden@vt.edu
Virginia Tech Recreational Sports	10.2	1/1/2016	1/1/2019	Turf & Landscape	Coty Skaggs coty36@vt.edu
Turfgrass Research Center	20	03/02/2016	03/1/2019	Turf & Landscape	Dr. Erik Ervin ervin@vt.edu

Northern Piedmont AREC	20.3	9/2/2015	9/1/2018	Turf & Landscape	Steve Gulick sgulick@vt.edu
Urban Horticulture Center	15	4/2/2016	4/1/2019	Turf & Landscape	John James jojames@vt.edu
Kentland Managed Lands	114	4/16/2016	4/15/2019	Turf & Landscape	Jon Wooge jwooge@vt.edu
Glade Road Research Center	6.3	4/21/2016	4/20/2019	Turf & Landscape	Dr. Shawn Askew saskew@vt.edu
Alson H. Smith, Jr AREC – Winchester	52	12/02/2015	12/01/2018	Turf & Landscape	Dr. Tony Wolf vitis@vt.edu
Eastern Shore AREC	117.9	3/16/2016	3/15/2019	Turf & Landscape	Steven Rideout srideout@vt.edu
Eastern Virginia AREC	154.5	9/11/2015	9/10/2018	Turf & Landscape	Robert Pitman rpitman@vt.edu
Hampton Roads AREC	40.25	7/1/2018	7/2/2021	Turf & Landscape	Dr. Pete Shultz schultzp@vt.edu
Middleburg AREC	264.2	9/15/2015	7/09/2018	Turf & Landscape	MAREC@vt.edu
Reynolds Homestead AREC	8.17	5/4/2016	12/01/2018	Turf & Landscape	Dr. Kyle Peer krpeer@vt.edu
Shenandoah Valley AREC	613.1	2/2/2016	2/01/2019	Agric ulture	David Fiske dafiske@vt.edu
Southern Piedmont AREC	359	3/16/2016	3/15/2019	Agric ulture	Dr. Carl Wilkinson wilki@vt.edu
Southwest AREC	98.1	1/15/2016	1/14/2019	Agric ulture	Lee Wright lrite@vt.edu
Tidewater AREC	230	12/02/2015	12/01/2018	Agric ulture	David Langston dblankston@vt.edu

9VAC25-890-40 Section II B 6 c (1) *Implement Nutrient Management plans that have been developed by a certified nutrient management planner on all lands owned or operated by Virginia Tech where nutrients are applied to a contiguous area greater than one acre.*

- a)** *Identify all applicable lands where nutrients are applied to a contiguous area of more than one acre within 12 months of permit coverage.*
 - During Year 1, Virginia Tech will determine if any additional lands will require NMPs and/or if any of the current turf and landscape NMPs need to be updated. A final list of turf and landscape NMPs will be provided in the Year 1 annual report submission. A latitude and longitude for each piece of land will be included in the final list.

- **Year 1 Response:** Virginia Tech determined that no additional lands require a nutrient management plan. Please see Table 3 (above) for a current list of Virginia Tech's nutrient management plans.
- **Year 2 Response:** Please see year 1 Response above, copies of current Virginia Tech nutrient management plans are available upon request.
- **Year 3 Response:** Copies of current Virginia Tech Nutrient Management Plans are available upon request.
- **Year 4 Response:** Copies of current Virginia Tech Nutrient Management Plans are available upon request.
- **Year 5 Response:** Copies of current Virginia Tech Nutrient Management Plans are available upon request.

b) Implement turf and landscape NMPs on all lands where nutrients are applied to contiguous area of more than one acre, within 60 months of permit coverage.

- If it is determined that additional turf and landscape NMPs need to be developed and/or any existing NMPs need to be modified, Virginia Tech will begin the process during Year 2. Progress updates regarding NMP modification and development will be given in each MS4 Annual Report submission. Virginia Tech will strive to have all necessary NMPs Developed and implemented by June 30, 2018.
- **Year 1 Response:** Virginia Tech determined that no additional lands require a nutrient management plan. Please see Table 3 (above) for a current list of Virginia Tech's nutrient management plans.
- **Year 2 Response:** Please see year 1 Response above, copies of current Virginia Tech nutrient management plans are available upon request.
- **Year 3 Response:** Copies of current Virginia Tech Nutrient Management Plans are available upon request.
- **Year 4 Response:** Copies of current Virginia Tech Nutrient Management Plans are available upon request.
- **Year 5 Response:** Copies of current Virginia Tech Nutrient Management Plans are available upon request.

9VAC25-890-40 Section II B 6 d *Conduct training for employees and develop an annual written training plan including a schedule of training events that ensures implementation of the training requirements.*

- During Year 1, Virginia Tech will develop an Annual Training Plan which will outline training schedules and implementation of training requirements. The Annual Training Plan will be added to the MS4 Program and updated annually.
- **Year 1 Response:** An Annual Written Training Plan was completed during Year 1 and outlines the training components that will be accomplished each year. A copy of the training plan is available in the Site & Infrastructure Development office upon request. See BMP 6.1, 6.2, and 6.3 in **Appendix A** for a status update.
- **Year 2 Response:** The Annual Written Training Plan has been reviewed and updated to reflect training procedures for the upcoming year. A copy of the training plan is available in the Site & Infrastructure Development office upon request. See BMP 6.1, 6.2, and 6.3 in **Appendix A** for a status update.

- **Year 3 Response:** The Annual Written Training Plan has been reviewed and updated to reflect training procedures for the upcoming year. A copy of the training plan is available in the Site & Infrastructure Development office upon request. See BMP 6.1, 6.2, and 6.3 in **Appendix A** for a status update.
- **Year 4 Response:** The Annual Written Training Plan has been reviewed and updated to reflect training procedures for the upcoming year. A copy of the training plan is available in the Site & Infrastructure Development office upon request. See BMP 6.1, 6.2, and 6.3 in **Appendix A** for a status update.
- **Year 5 Response:** The Annual Written Training Plan has been reviewed and updated to reflect training procedures for the upcoming year. A copy of the training plan is available in the Site & Infrastructure Development office upon request. See BMP 6.1, 6.2, and 6.3 in **Appendix A** for a status update.

Annual Reporting Requirements

Per 9VAC25-890-40 Section II B 6 g, each annual report shall include the following:

- *A summary report on the development and implementation of the daily operational procedures*
- *A summary report on the development and implementation of the required SWPPPs*
- *A summary report on the development and implementation of the nutrient management plans that includes:*
 - *The total acreage of lands where nutrient management plans are required*
 - *The total acreage of lands upon which nutrient management plans have been implemented*
- *A summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training.*

Year 1 Response: See BMP 6.1, 6.2, and 6.3 in **Appendix A** for a status update of the aforementioned annual reporting requirements.

Year 2 Response: See BMP 6.1, 6.2, and 6.3 in **Appendix A** for a status update of the aforementioned annual reporting requirements.

Year 3 Response: See BMP 6.1, 6.2, and 6.3 in **Appendix A** for a status update of the aforementioned annual reporting requirements.

Year 4 Response: See BMP 6.1, 6.2, and 6.3 in **Appendix A** for a status update of the aforementioned annual reporting requirements.

Year 5 Response: See BMP 6.1, 6.2, and 6.3 in **Appendix A** for a status update of the aforementioned annual reporting requirements.

Appendix A – Summary of BMPs & Measurable Goals

MINIMUM CONTROL MEASURE 1 – PUBLIC OUTREACH & EDUCATION

Table 1: Public Education Outreach Plan

Program Update Requirement:	Permit Reference:	Update Completed By:
Public Education Outreach Plan	Section II B 1	12 months after permit coverage

*Updates will be submitted with the appropriate annual report.

1.1–Public Outreach Events for Target Audiences (Virginia Tech Students & Staff)

1.1.1 – Academic, Campus, and Community Events

Program Description: Educate the University about stormwater issues and pollution prevention techniques by participating in campus-sponsored events.

Measurable Goals: Participate in a total of 3 campus, community, or academic public outreach events each year. Track the number of outreach materials distributed at each event. Estimate the number of people from each target audience reached. TMDL- specific information will be incorporated into all public outreach events.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Public Outreach and Education Procedure

Year 1 Response: Site & Infrastructure Development (SID) staff assisted in coordinating and implementing the **Recycling Olympics** on March 19, 2014 to promote recycling, waste elimination, and proper waste disposal on the Virginia Tech campus. 42 on-campus students and 4 staff members participated in this event. The high priority water quality issue addressed through this outreach event was trash. SID promoted the Office of Energy and Sustainability's **America Recycles Day Green Tailgate** on November 14, 2013 through advertisements on Facebook and Twitter. Over 50 (off-campus and on-campus) students and 3 faculty members participated in this event which paralleled with our tailgate signage efforts encouraging proper disposal of waste during football season. The high priority water quality issue addressed through this outreach event was also trash. SID also promoted the Virginia Tech Alternative Transportation **Cycle Chic** event on April 23, 2014. Over 30 off-campus commuter students and 6 staff members participated in the event, including members of the Virginia Tech Police Department. The event included bike tune-ups and information on the benefits of alternative transportation. No stormwater-specific outreach material was distributed as a part of this event, but all events incorporated outreach components that included important pollution prevention practices. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Virginia Tech, in conjunction with the stormwater management employees at the Town of Blacksburg, hosted a stormwater display at **Sustainability Week** on September 18, 2013. Representatives distributed pollution prevention information and were available for questions/concerns regarding local waterways. Approximately 10 off-campus students and 5 Virginia Tech employees visited the booth during the event. Children and their parents were able to enjoy Enviroscope demonstrations as well as the aquatic insect display (highlighting the core benthic impairment issue with the Stroubles Creek TMDL). More face-to-face interactions took place at this event than material distribution. The high priority water quality issues addressed through this outreach event were trash, pet waste, and sediment. Virginia Tech, in conjunction with the stormwater management employees at the Town of Blacksburg, hosted a stormwater display at **Steppin' Out 2013**. A 'kids table' included an aquatic insect display, a Virginia Tech weather station informational video, coloring activities, and goodie bags with activity books and bookmarks. The adult table included a watershed map, basic water quality testing equipment, and information about lawn maintenance and pet waste. A rain barrel was also on display. Again, representatives were available to address any questions/concerns from community members. Approximately 60% of all materials provided were distributed during the event. The high priority water quality issues addressed through this outreach event were trash, pet waste, and sediment. For the first time, Site & Infrastructure Development took advantage of a program in Housing and Residence Life that allows printed materials to be distributed to each dormitory bed in order to provide pertinent information to new and returning students. An informational **residential dormitory packet** included a flier and a business card outlining illicit discharge indicators and information on how to report an illicit discharge. The materials were distributed to 9,026 beds for all on-campus students. This effort reached 100% of the on-campus student target audience. Next steps include developing innovative outreach material that is *not* paper-based to encourage continued use (magnets, dog leash poop bag holders, keychains, etc.). The high priority water quality issues addressed through this outreach event were trash, pet waste, and sediment. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

A Virginia Tech Site & Infrastructure Development (SID) employee and two Town of Blacksburg employees presented in Travis Williams' **Environmental Justice course** March 20, 2014. Of the three total presentations, the local MS4 Programs, local flooding issues, and local water quality sampling were all addressed. Approximately 30 students were present in the classroom, along with one professor. The manager of SID participated in a field outing with Erich Hester's **Water Resources Engineering course** on March 26, 2014 which included a tour of an on-campus enhanced extended detention pond, an explanation of the project's plan sets and relevant stormwater design information. Approximately 30 students were present in the class, along with one professor. A Virginia Tech SID employee presented in Leigh Anne Krometis' **Land and Water Resources Engineering II course** on April 7, 2014 highlighting the campus storm sewer system and the Virginia Tech MS4 Program. Approximately 30 students and one professor were present in the class. Since all courses were upperclassmen level, all students most likely lived off-campus. New River Valley Watershed stickers and illicit discharge business cards were distributed to those interested, but material distribution numbers were not collected. The high priority water quality issues addressed through all three of these academic outreach events were trash, pet waste, and sediment. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Virginia Tech, in conjunction with the stormwater management employees at the Town of Blacksburg, hosted a stormwater display at **Gobbler Fest** on September 5, 2014. Representatives distributed pollution prevention information and were available for questions/concerns regarding local waterways and stormwater control. Approximately 83 magnets and 103 stickers promoting awareness were distributed through the display. Items given out also included approximately 6 cigarette butt holders and 3 Illicit Discharge Detection business cards. The high priority water quality issues addressed through this outreach event were trash, pet waste, and sediment. Virginia Tech, in conjunction with the stormwater management employees at the Town of Blacksburg, also hosted a stormwater display at **Steppin' Out on August 7-8**, 2014. A 'kids table' included an aquatic insect display, coloring activities, and goodie bags with activity books and bookmarks. The table also included a watershed map, basic water quality testing equipment, and information about lawn maintenance and pet waste. A rain barrel was also on display. Again, representatives were available to address any questions/concerns from community members. Approximately 150 public outreach materials were distributed during the event. The high priority water quality issues addressed through this outreach event were trash, pet waste, and sediment. Site & Infrastructure Development also took advantage of a program in Housing and Residence Life that allows materials to be distributed to each dormitory bed to provide pertinent information to new and returning students on campus. Magnets were distributed through these **residential dormitory packets** to 9,026 beds for all on-campus students. This effort reached 100% of the on-campus student target audience. Virginia Tech, in conjunction with the stormwater management employees at the Town of Blacksburg, hosted a stormwater display at **Sustainability Week** on September 16, 2014. Representatives distributed pollution prevention information and were available for questions/concerns regarding local waterways. More face-to-face interactions took place at this event than material distribution. The high priority water quality issues addressed through this outreach event were trash, pet waste, and sediment.

A Virginia Tech Site & Infrastructure Development (SID) employee presented in a **Hydraulics Structures** course on March 2, 2015. Approximately 13 students were present in the classroom, along with one professor. The presentation included the discussion of SWM facility design, and looked at the different parts of facilities and different hydrology methods that could be used. Another presentation was given in an **Introduction to Environmental Policy and Planning** course on April 15, 2015 by Chuck Dietz the Stormwater Compliance Manager. The presentation included information on stormwater control and aspects managed through Virginia Tech Site & Infrastructure Development (SID) and was given to approximately 24 undergraduate students. A third presentation was again delivered by Chuck Dietz in a **Non-Point Source Assessment and Control** Course on May 4, 2015. This specific presentation focused on stormwater control and approximately 10 students were present in the classroom along with

On April 3, 2015 Facilities participated in a play at an event called **First Friday**. This play gave facilities the opportunity to educate the rest of the Administrative Services Division about the role of facilities in the University. The play targeted faculty and staff and informed them of Facilities' role in campus projects and the stormwater management projects they take part in. Approximately 72 faculty and staff members were present for this play.

On March 18, 2015 Site & Infrastructure Development gave a presentation to faculty and staff at an event called **3rd Wednesday** that is put on every month by the Facilities department to update the university community on the latest events and projects. The presentation included information about Virginia Tech's Stormwater Management Program and pollution prevention practices. Approximately 75 faculty/staff members were in attendance

Year 3 Response:

Virginia Tech, in conjunction with the stormwater management employees at the Town of Blacksburg, also hosted a stormwater display at **Steppin' Out** on August 7-8, 2015. A 'kids table' included an aquatic insect display, coloring activities, and goodie bags with activity books and bookmarks. The table also included a watershed map, basic water quality testing equipment, and information about lawn maintenance and pet waste. Representatives from the Town of Blacksburg and Virginia Tech were available to address any questions/concerns from community members. Approximately 184 public outreach materials were distributed during the event. The high priority water quality issues addressed through this outreach event were trash, pet waste, and sediment.

Sustainability Week is held by Virginia Tech and the Town of Blacksburg to promote creating a more sustainable community. Virginia Tech Site & infrastructure Development participated by distributing approximately 50 pamphlets and handouts promoting local stormwater issues. The high priority water quality issues addressed through this outreach event were trash, pet waste, and sediment.

Magnets designed by Virginia Tech Site & Infrastructure Development were also distributed at an **American Society of Agricultural and Biological Engineers (ASABE) Conference** held April 1st through the 3rd. Approximately 140 students received these informational magnets and learned about on-campus stormwater management programs and listened to a lecture about a stream lab monitored by the Virginia Tech Sustainability Office.

Site & Infrastructure Development also took advantage of a program in Housing and Residence Life that allows materials to be distributed to each dormitory bed to provide pertinent information to new and returning students on campus. Magnets promoting the protection of Stroubles Creek were distributed through these **residential dormitory packets** to all on-campus students. This effort reached 100% of the on-campus student target audience.

A Virginia Tech Site & Infrastructure Development (SID) employee presented in a **Hydraulics Structures** course on March, 1 2016. The individuals present for this class included 2 on-campus students, 22 off-campus students and 1 Virginia Tech Faculty/Staff member. The presentation included the discussion of stormwater management facilities, including their different parts and the hydrology methods that could be used for design. A second presentation was given to a **Non-Point Source Assessment and Control** Course on April 27, 2016. The students in attendance included 13 that live off campus and 2 that live on campus. This lecture covered the Municipal Storm Sewer System and how it works and operates on Virginia Tech's campus. A third presentation that included an on-campus tour was given to an Environmental Economics Course on April 29, 2016. The audience included 18 off-campus students, 1 on-campus student

and 1 member of Virginia Tech's faculty/staff. The discussion and tour covered the cost of inspections and maintenance of several best management practices located on campus.

Handouts designed by Virginia Tech Site & Infrastructure Development were distributed at an **on-campus picnic** geared towards Virginia Tech Graduate students. The target audience for these handouts included off-campus students. The high priority water quality issues addressed through these handouts were trash and pet waste.

Twice during the reporting year Virginia Tech Site & Infrastructure was able to educate faculty and staff through the **Facilities Newsletter**. In August stormwater facts were presented to educate employees that work in the facilities department. A write-up about the Stormwater BMP Inspector Training was also featured in the Facilities Newsletter.

Virginia Tech Site & Infrastructure Development hosted a **Stormwater BMP Inspection training** on July 22, 2015. This training was meant to teach DEQ employees and stormwater related individuals how to perform inspections of different types of stormwater management facilities. Thirty-one individuals were involved, including some DEQ staff and some Virginia Tech faculty/staff. SID was given the opportunity to present an overview of the current BMP maintenance program, and then several field inspections around campus were conducted throughout the remainder of the day.

Year 4 Response:

Virginia Tech, in conjunction with the stormwater management employees at the Town of Blacksburg, hosted a stormwater display at **Steppin' Out** on August 4-5, 2016. The tables at the booth included a multitude of handouts, watershed maps, and educational information about lawn maintenance and pet waste. Representatives were available to address any questions/concerns from community members. Based upon the numbers of items handed out, approximately 75 different individuals were reached during this event. The priority water quality issues addressed through this outreach event were trash, pet waste, and sediment.

Site & Infrastructure Development also took advantage of a program in Housing and Residence Life that allows materials to be distributed to each dormitory bed to provide pertinent information to new and returning students on campus. Magnets promoting the protection of Stroubles Creek were distributed through these **residential dormitory packets** to all on-campus students at the beginning of the 2016 school year. This effort reached 100% of the on-campus student target audience.

A Virginia Tech Site & Infrastructure Development (SID) employee presented in the BSE 4224 Course on September 1, 2016. The individuals present for this class included 18 off-campus students and 1 Virginia Tech Faculty/Staff Member. The presentation included site visits to various stormwater management facilities around campus.

Virginia Tech Site & Infrastructure Development hosted an **Illicit Discharge Detection and Elimination (IDDE) Workshop** on November 10, 2016. This training was meant to teach regional MS4 Representatives and local consultants about developing and implementing IDDE Programs for MS4s. SID was given the opportunity to present an overview of the Virginia Tech IDDE Program

and then several field visits around campus were conducted throughout the remainder of the day.

A Virginia Tech Site & Infrastructure Development (SID) employee presented in a **Hydraulic Structures** course on February, 23 2017. The individuals present for this class included 29 off-campus students and 1 Virginia Tech Faculty/Staff member. The presentation included the discussion of stormwater management facilities, including their different parts and hydrology methods that could be used. On top of the presentation, this class specifically went out in the field and looked at the Alumni Pond BMP located on the Virginia Tech campus. A second presentation was given to a **Green Engineering** class on March 17, 2017. The students in attendance included 14 students that live on campus and 52 students that live off campus. This lecture covered the Municipal Storm Sewer System (MS4) and how it works and operates on Virginia Tech's campus. A third presentation that included an on campus tour was given to a **Non-Point Source Assessment and Control** class on April 3, 2017. The audience included 14 off-campus students and 1 member of Virginia Tech's faculty/staff. The discussion and tour covered the responsibilities and duties of VTSID, how the stormwater management program is implemented on the Virginia Tech campus, and an overview of inspections and maintenance of several stormwater management facilities located on campus.

Members of Virginia Tech SID staff participated in an educational booth at a **New River Valley Home Show** in Christiansburg Virginia on March 10-12, 2017. Through communicating with residents, providing education pamphlets and performing demonstrations for children, approximately 100 different individuals were reached. This event targeted pet waste, sediment and trash along with many other home related stormwater issues.

A Virginia Tech Site & Infrastructure Development (SID) employee taught a station at an event for sixth graders on April 12, 2017. The topic at the station included education on stormwater runoff and watershed conservation using a hands on Enviroscape model. The audience included 240 sixth grade students and 28 teachers and volunteers from local middle schools.

Virginia Tech hosted the **DEQ Continuing Education Course** entitled "Applied Soils for ESC and SW Professionals" on April 19, 2017. Forty individuals from local jurisdictions, including Virginia Tech staff, attended this training.

Virginia Tech hosted the **DEQ Continuing Education Course** entitled "Where the Water Goes" on April 20, 2017. Forty individuals from local jurisdictions, including Virginia Tech staff, attended this training.

A Virginia Tech Site & Infrastructure Development (SID) employee participated in the first annual **Girls Day** sponsored by the Virginia Tech Facilities Department on June 7, 2017. The topics covered in the presentation included water quality, watershed conservation and sustainability. The audience included approximately 80 eighth grade students, 10 teachers and 10 of Virginia Tech's faculty/staff members.

A Virginia Tech Site & Infrastructure Development (SID) employee led 10 **Master Gardener** members around the Virginia Tech campus on June 22, 2017. The topics covered included discussing Site

and Infrastructure's role on campus while visiting several different types of green infrastructure. The audience included two members of Virginia Tech's faculty/staff and eight individuals from different regions of the state.

Year 5 Response:

Virginia Tech, in conjunction with the stormwater management employees at the Town of Blacksburg, hosted a stormwater display at **Steppin' Out** on August 4-5, 2017. The tables at the booth included a multitude of handouts, watershed maps, and educational information about lawn maintenance and pet waste. Representatives were available to address any questions/concerns from community members. Based upon the numbers of items handed out, approximately 100 different individuals were reached during this event. The priority water quality issues addressed through this outreach event were trash, pet waste, and sediment.

Site & Infrastructure Development also took advantage of a program in Housing and Residence Life that allows materials to be distributed to each dormitory bed to provide pertinent information to new and returning students on campus. Magnets promoting the protection of Stroubles Creek were distributed through these **residential dormitory packets** to all on-campus students at the beginning of the 2017 school year in August. This effort reached 100% of the on-campus student target audience.

Katelyn Kast and Mike Vellines, Virginia Tech Site & Infrastructure Development (SID) employees, spoke at the **ASCE meeting** on September 19th, 2017. The meeting had 162 attendees who included a mixture of on campus and off campus Virginia Tech students. The presentation included discussion of the priority stormwater pollutants on campus and SID's role in preventing stormwater pollution.

Chuck Dietz, a Virginia Tech Site & Infrastructure Development (SID) employee presented in the Sterrett Facility Classroom on September 27th, 2017. The presentation was called the **Site and Infrastructure Department Lunch and Learn**. There were 30 Virginia Tech faculty and staff members present. The presentation included a briefing on the responsibilities and roles of the Site and Infrastructure Department.

Katelyn Kast, a Virginia Tech Site & Infrastructure Development (SID) employee, taught a station at **Stormwater Day**, an event for sixth graders on November 3rd 2017. The topic at the station included education on stormwater runoff and watershed conservation using a hands-on Enviroscape model. The audience included 300 Blacksburg Middle School Students and approximately 20 teachers and chaperones. Volunteers at the event included Virginia Tech students who helped engage and teach the students about Stormwater. This same event was held in the spring on April 12th and 13th to reach Christiansburg Middle School Students, Auburn Middle School Students and Shawsville Middle School Students. Approximately 405 students were education during the second round Stormwater Day along with 44 adults. Virginia Tech students were also educated through this event as 16 different students were utilized as volunteers across the two days.

Katelyn Kast, a Virginia Tech Site & Infrastructure Development (SID) employee, taught a station at an event for **Virginia Tech's Preschool Program** on November 17th 2017. The topic at the station included education on stormwater runoff and watershed conservation using a hands on Enviroscope model. The audience included 18 preschool children and 2 Virginia Tech faculty and staff members.

Mike Vellines, a Virginia Tech Site & Infrastructure Development (SID) employee, presented **Virginia Tech's Annual Standards and Specifications** in the Sterrett Facility Classroom on January 7th, 8th, 11th, 16th, and 17th of 2018. The individuals present for this class on the 7th included 13 Virginia Tech faculty and staff members. The individuals present for this class on the 8th included 17 Virginia Tech Faculty/Staff members. The individuals present for this class on the 11th included 8 local contractors. The individuals present for this class on the 16th included 18 local engineers. Lastly, the individuals present on the 17th included 12 Virginia Tech faculty and staff and local engineers. The presentation included a discussion of the new annual standards and specifications dealing with erosion and sediment control and stormwater management for Virginia Tech projects.

Chuck Dietz, a Virginia Tech Site & Infrastructure Development (SID) employee presented **Stormwater Pollution Prevention Plan training at the Virginia Tech Quarry** on January 11th of 2018. The individuals present for this class included 19 Quarry employees who are considered Virginia Tech staff.

Katelyn Kast, Virginia Tech Site & Infrastructure Development (SID) employee, presented to a **Municipal Engineering class** at Virginia Tech on January 23rd, 2018. Katelyn taught 52 engineering students about the Site and Infrastructure Development's role on campus and future job opportunities that the students could have. The professor in the classroom was Randy Formica.

Members of Virginia Tech SID staff participated in an educational booth at a **New River Valley Home Show** in Christiansburg Virginia on March 9-11, 2018. This event targeted pet waste, sediment and trash along with many other home-related stormwater issues. Virginia Tech provided and gave out 100 children's activity books. The total attendance for the home show was calculated to be 1,576 across the entire weekend.

Site and Infrastructure Development taught 23 **Biological System Engineering** students from Dr. Krometis' class, in the classroom and in the field on March 26th. The presentation included a tour of stormwater facilities on Virginia Tech's campus and an overview of SID's overall goals and role on campus.

Katelyn Kast, Virginia Tech Site & Infrastructure Development (SID) employee, presented to 7th graders at **Christiansburg Middle School** on May 18th, 2018. Katelyn taught approximately 300 students about the Site and Infrastructure Development's role on campus, and aided the students on what to consider when thinking about future job opportunities within the field of Stormwater Management. Other presenters included operations faculty and staff at Virginia Tech.

Katelyn Kast, Virginia Tech Site & Infrastructure Development (SID) employee, presented to 7th graders at **Blacksburg Middle School** on May 18th, 2018. Katelyn taught approximately 300 students about the Site and Infrastructure Development's role on campus, and aided the students on what to consider when thinking about future job opportunities within the field of Stormwater Management. Other presenters included operations faculty and staff at Virginia Tech.

Katelyn Kast, Virginia Tech Site & Infrastructure Development (SID) employee, presented to 7th graders at **Auburn Middle School** on May 21st, 2018. Katelyn taught approximately 50 students about the Site and Infrastructure Department's role on campus, and aided the students on what to consider when thinking about future job opportunities within the field of Stormwater Management. Other presenters included operations faculty and staff at Virginia Tech.

Katelyn Kast, Virginia Tech Site & Infrastructure Development (SID) employee, presented to 7th graders at **Shawsville Middle School** on May 23th, 2018. Katelyn taught approximately 50 students about the Site and Infrastructure Department's role on campus, and aided the students on what to consider when thinking about future job opportunities within the field of Stormwater Management. Other presenters included operations faculty and staff at Virginia Tech.

On June 19th approximately 60 girls were educated through a hands on activity at an event called **Girls Day** hosted by Virginia Tech Operations department. The students were educated about stormwater pollution and completed exercises related to water quality at one of the stormwater facilities on campus. Approximately 15 members of Virginia Tech faculty and staff were also educated through this event. The faculty and staff members aided the attendees of Girls Day by acting as chaperones, several even took part in the hands on activity.

1.2 – Targeting Public Outreach Mediums for Target Audiences

1.2.1 – Electronic Outreach

Program Description: Provide the University community with electronic outreach mediums to access information regarding stormwater management and methods to improve local watershed health (i.e., Facebook, stormwater website, Twitter, Tumblr, blogs, etc.).

Measurable Goals: Post at least 5 stormwater-related facts each year via electronic outreach. Track the number of viewers and record the estimated number reached from each target audience. Track comments that SID receives from social media sources.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Public Outreach and Education Procedure

Year 1 Response: Virginia Tech Site & Infrastructure Development (SID) maintains a “Virginia Tech Stormwater” Facebook page (facebook.com/hokiestormwater), a Twitter feed (@VTstormwater), and a departmental website. On the Facebook page during this annual

reporting year, two posts received over 140 organic views and the overall site had 142 “likes” (88 more than last year). The SID webpage received 9,865 page views this reporting year and the Twitter page has 101 followers. It was not feasible to determine the target audience reached from the 9,865 website views. No Twitter followers are students at Virginia Tech. Approximately 46 of the Facebook likes are off-campus students. Many ‘likes’ and ‘followers’ are student organizations or other Virginia Tech departments as well as other stormwater entities. The high priority water quality issues addressed through these electronic outreach mediums were trash, pet waste, and sediment. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Virginia Tech Site & Infrastructure Development (SID) maintains a “Virginia Tech Stormwater” Facebook page (facebook.com/hokiestormwater), a Twitter feed (@VTstormwater), and a departmental website. On the Facebook page during this annual reporting year, posts received over 70 organic views and the overall site had 182 “likes” (40 more than last year). The SID webpage received 658 page views this reporting year and the Twitter page has 131 followers (30 more than last year). It was not feasible to determine the target audience reached from the 9,865 website views. No Twitter followers are students at Virginia Tech. Approximately 60 of the Facebook likes are off-campus students. Many ‘likes’ and ‘followers’ are student organizations or other Virginia Tech departments as well as other stormwater entities. The high priority water quality issues addressed through these electronic outreach mediums were trash, pet waste, and sediment. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: Virginia Tech Site & Infrastructure Development (SID) maintains a “Virginia Tech Stormwater” Facebook page (facebook.com/hokiestormwater), a Twitter feed (@VTstormwater), and a departmental website. The Facebook page currently has 208 “likes” and through the posts within the reporting year an average of 69 individuals were reached. The SID webpage was viewed by 353 users this reporting year, and the Twitter page has 141 followers. Approximately 60 of the Facebook likes are off-campus students. Many ‘likes’ and ‘followers’ are student organizations or other Virginia Tech departments as well as other stormwater entities. The high priority water quality issues addressed through these electronic outreach mediums were trash, pet waste, and sediment.

Year 4 Response: Virginia Tech Site & Infrastructure Development (SID) maintains a “Virginia Tech Stormwater” Facebook page (facebook.com/hokiestormwater), a Twitter feed (@VTstormwater), and a departmental website. The Facebook page currently has 217 followers and through the posts within the reporting year an average of 80 individuals were reached. The SID webpage received 552 page views this reporting year and the Twitter page has 141 followers. The high priority water quality issues addressed through these electronic outreach mediums were trash, pet waste, and sediment.

Year 5 Response: Virginia Tech Site & Infrastructure Development (SID) maintains a “Virginia Tech Stormwater” Facebook page (facebook.com/hokiestormwater) and a departmental website. The Facebook page currently has 253 followers and through the posts within the reporting year an average of 50 individuals were reached. One specific facebook post reached over 1,000

individuals on March 23rd 2018. The high priority water quality issues addressed through these electronic outreach mediums were trash, pet waste, and sediment.

1.2.2 – Other Outreach Materials

Program Description: Provide the University community with outreach materials to access information regarding local water pollution concerns (i.e., PSAs, pamphlets, table cards, signage, public advertisements).

Measurable Goals: Produce at least 2 printed outreach materials each year such as those listed in the *Program Description*. Record number of methods utilized each year. Record the estimated number reached for each target audience.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Public Outreach and Education Procedure

Year 1 Response: Approximately 2,538 TMDL-focused **Table Cards** were distributed throughout the Virginia Tech campus dining halls in October. Each table card remained for a total of one week before it was removed. According to the average daily headcount in each dining hall, 3,901 students enter these dining halls each day and 20,026 on and off-campus students held dining plans last year. The high priority water quality issues addressed through this outreach medium were sediment and trash. **Tailgating signs** encouraging pollution prevention to protect local waterways were posted alongside both sides of the creek where cars gather for pre- and post-game tailgating. The signs were posted for five of the six home games. On average, 61,671 persons attended each of the six home games when the signage was posted. According to the following [source](#), on average, 25.67% of those in the stadium are students. For the sake of fairness, half are most likely on-campus students while half are off-campus. The high priority water quality issue addressed through this outreach medium was trash. The signage was a parallel effort alongside the Office of Energy and Sustainability's 'America Recycles Green Tailgating' event on November 14, 2013. Two advertisements are on rotation at **The Lyric Theatre** in downtown Blacksburg, VA. These two stormwater-specific advertisements are each aired three times during the 30-minute preview during all showings. There are approximately two movie showings per day. On average, 35-45,000 people go to The Lyric each year. The high priority water quality issues addressed through this outreach medium were trash and pet waste. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Approximately 2000 TMDL-focused **Table Cards** were distributed throughout the Virginia Tech campus dining halls during Year 2. Each table card remained for a total of one week before it was removed. The average daily headcount in each dining hall ranges from approximately 1,000-6,600 customers each day. There were approximately 18,500 dining plan holders during the 2014-2105 academic year. The high priority water quality issues addressed through this outreach medium were sediment and trash. **Tailgating signs** encouraging pollution

prevention to protect local waterways were posted alongside both sides of Stroubles Creek where cars gather for pre- and post-game tailgating. The signs were posted for five of the six home games. On average, 66,223 persons attended each of the home games when the signage was posted. According to the following [source](#), on average, 25% of those in the stadium are students. The high priority water quality issue addressed through this outreach medium was trash.

Year 3 Response: Table cards designed by Site & Infrastructure Development were placed throughout dining halls on campus during the 2015-2016 school year. Approximately 1,395 table cards were placed across 5 different dining halls which reach on and off campus students. These table cards provide educational information on ways to reduce pollution to local waterways and spread the word on ways to get involved with the local stormwater programs. The high priority water quality issues addressed through this outreach medium were sediment and trash.

Year 4 Response: Table cards designed by Site & Infrastructure Development were placed throughout dining halls on campus during the 2016-2017 school year. Approximately 1,680 table cards were placed across 6 different dining halls which reach on and off campus students. These table cards provide educational information on ways to reduce pollution to local waterways and spread the word on ways to get involved with the local stormwater program.

Year 5 Response: Educational and informative Table Cards addressing pet waste were placed in three of the on-campus dining halls throughout the 2017-2018 school year. Approximately 500 table cards were put into circulation and could be accessed by on and off campus students along with Virginia Tech Faculty and Staff.

1.2.3 – TMDL-Specific Outreach Materials

Program Description: Provide the University community with outreach mediums to access information regarding local water pollution concerns (i.e., PSAs, pamphlets, table cards, signage, public advertisements, etc.).

Measureable Goals: Produce at least 2 TMDL- specific outreach materials each year such as those listed in the program description. Record the estimated number reached for each target audience.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Public Outreach and Education Program Procedure.

Year 1 Response: The Table Cards distributed to Virginia Tech dining halls have TMDL-specific information and illicit discharge contact information. The residential packet fliers also contain TMDL-specific information about the Stroubles Creek watershed and contain illicit discharge contact information. The aquatic insects on display with an informational poster at Steppin' Out

and Sustainability Week highlighted the core benthic impairment issue with Stroubles Creek as determined by the Stroubles Creek TMDL Implementation Plan. The high priority water quality issues addressed through TMDL-specific outreach materials were trash, pet waste, and sediment. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: The Table Cards distributed to Virginia Tech dining halls have TMDL-specific Information and illicit discharge contact information. The residential packet fliers also contain TMDL-specific information about the Stroubles Creek watershed and contain illicit discharge contact information. The aquatic insects on display with an informational poster at Steppin' Out highlighted the core benthic impairment issue with Stroubles Creek as determined by the Stroubles Creek TMDL Implementation Plan. The high priority water quality issues addressed through TMDL-specific outreach materials were trash, pet waste, and sediment. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: The Table Cards distributed to Virginia Tech dining halls have TMDL-specific Information and illicit discharge contact information. The residential packet fliers also contain TMDL-specific information about the Stroubles Creek watershed and contain illicit discharge contact information. The aquatic insects on display with an informational poster at Steppin' Out highlighted the core benthic impairment issue with Stroubles Creek as determined by the Stroubles Creek TMDL Implementation Plan. The high priority water quality issues addressed through TMDL-specific outreach materials were trash, pet waste, and sediment. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: The Table Cards distributed to Virginia Tech dining halls have TMDL-specific Information and illicit discharge contact information. The residential packet fliers also contain TMDL-specific information about the Stroubles Creek watershed and contain illicit discharge contact information. The aquatic insects on display with an informational poster at Steppin' Out highlighted the core benthic impairment issue with Stroubles Creek as determined by the Stroubles Creek TMDL Implementation Plan. The high priority water quality issues addressed through TMDL-specific outreach materials were trash, pet waste, and sediment. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: The Table Cards distributed to Virginia Tech dining halls have TMDL-specific Information and illicit discharge contact information. The residential packet fliers also contain TMDL-specific information about the Stroubles Creek watershed and contain illicit discharge contact information. The aquatic insects on display with an informational poster at Steppin' Out highlighted the core benthic impairment issue with Stroubles Creek as determined by the Stroubles Creek TMDL Implementation Plan. The high priority water quality issues addressed through TMDL-specific outreach materials were trash, pet waste, and sediment. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

1.2.4 – Storm Drain Markers

Program Description: Provide stormwater outreach through the use of storm drain markers to remind the community about the vital role they play in watershed health and in the prevention and detection of illicit discharges.

Measureable Goals: Mark new storm structures within 6 months of project termination. Replace existing storm drain markers as needed. Record and map the number of storm drains marked each year.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Storm Drain Marking Standard Operating Procedure

Year 1 Response: Five Virginia Tech student volunteers marked 58 storm drains around the Town of Blacksburg on April 7, 2014 during **The Big Event**. Storm drain markers were placed on campus at the newly constructed inlets around Signature Engineering, Center for the Arts, Sigma Phi Epsilon, and Human & Agricultural Biosciences Building 1 soon after the projects' termination. 90% of the Virginia Tech main campus storm drains have been marked and are documented via ArcGIS mapping. The high priority water quality issues addressed through this outreach medium are trash, pet waste, and sediment. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: 4 Virginia Tech student volunteers marked 48 storm drains around the Town of Blacksburg on April 11, 2015 during the Big Event. Storm drain markers were placed on campus at newly constructed inlets soon after the projects' completion. Approximately 90% of the Virginia Tech campus storm drains have been marked and are documented via ArcGIS mapping. The high priority water quality issues addressed through this outreach medium are trash, pet waste, and sediment. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: Big Event is an annual event that takes place on Virginia Tech's campus. This year's volunteer event was scheduled for April 9, 2016, and Virginia Tech Site & Infrastructure Development had plans for their volunteers to label approximately 50 storm drains with markers indicating "no dumping." The weather with temperatures in the 30's did not allow for the storm drains to be marked since the adhesive wouldn't work properly. The 50 storm drain markers are planned to be put out during the upcoming year's Big Event.

Year 4 Response: Virginia Tech SID participated in Big Event by providing storm drain markers and necessary tools for a group of volunteers to mark storm drains. The group marked approximately 60 new unmarked storm drains in the Town of Blacksburg. This outreach event targeted illicit discharge and water quality protection.

Year 5 Response: Big Event is an annual event that takes place on Virginia Tech's campus. This year's volunteer event was scheduled for April 7, 2018, and Virginia Tech Site & Infrastructure Development had plans for their volunteers to label approximately 30 storm drains with markers indicating "no dumping." The weather with temperatures in the 30's did not allow for the storm drains to be marked since the adhesive wouldn't work properly. The 30 storm drain markers are planned to be put out during the upcoming year's Big Event.

Projected Outreach Events for the 2014-2015 Annual Reporting Year:

Outreach events are subject to change in the upcoming annual reporting year. New events are likely to be added in order to better address high priority water quality issues and target audiences.

- Steppin' Out 2014
- Sustainability Week 2014
- Gobblerfest 2014
- Storm Drain Marking
- The Lyric Theatre – stormwater advertisement
- Residential Dormitory Packets 2014
- Table Cards
- Academic Presentations
- Stormwater Training for employees

Year 2 Response: Virginia Tech was able to participate in all the outreach events mentioned above except for placing an ad at the Lyric Theatre. Please see MCM evaluations in **Appendix F** for more information regarding target audience percentages.

Projected Outreach Events for the 2015-2016 Annual Reporting Year:

Outreach events are subject to change in the upcoming annual reporting year. New events are likely to be added in order to better address high priority water quality issues and target audiences.

- Steppin' Out 2015
- Sustainability Week 2015
- Gobblerfest 2015
- Graduate Student Fair 2015
- Storm Drain Marking
- The Lyric Theatre
- Residential Dormitory Packets
- Table Cards
- Academic Presentations
- Stormwater Training for employees

Year 3 Response: Virginia Tech was able to participate in all the outreach events mentioned above except for Gobblerfest 2015. Please see MCM evaluations in **Appendix F** for more information regarding target audience percentages.

Projected Outreach Events for the 2016-2017 Annual Reporting Year:

Outreach events are subject to change in the upcoming annual reporting year. New events are likely to be added in order to better address high priority water quality issues and target audiences.

- Steppin' Out 2016
- Sustainability Week 2016

- Gobblerfest 2016
- Graduate Student Fair 2016
- Storm Drain Marking
- Residential Dormitory Packets
- Table Cards
- Academic Presentations
- Stormwater Training for employees

Year 4 Response: Virginia Tech was able to participate in all the outreach events mentioned above except for Gobblerfest 2016, Sustainability Week 2016, and Graduate Student Fair 2016. Please see MCM evaluations in **Appendix G** for more information regarding target audience percentages.

Projected Outreach Events for the 2017-2018 Annual Reporting Year:

Outreach events are subject to change in the upcoming annual reporting year. New events are likely to be added in order to better address high priority water quality issues and target audiences.

- Steppin' Out 2017
- Storm Drain Marking
- Residential Dormitory Packets
- Table Cards
- Academic Presentations
- Stormwater Training for employees
- Stormwater Day – November 2017 and April 2018
- NRV Home Show 2018
- Touch A Truck 2018
- Training sessions for updated Virginia Tech Annual Standards and Specifications

Year 5 Response: Virginia Tech was able to participate in all the outreach events mentioned above except touch a truck 2018.

Projected Outreach Events for the 2018-2019 Annual Reporting Year:

Outreach events are subject to change in the upcoming annual reporting year. New events are likely to be added in order to better address high priority water quality issues and target audiences.

- Steppin' Out 2018
- Academic Presentations
- Stormwater Training for employees
- Stormwater Days for all of Montgomery County 6th graders
- Green Tailgating
- Table Cards
- Residential Dormitory Packets with new updated magnets
- Earth Week
- Girls Day

MINIMUM CONTROL MEASURE 2 – PUBLIC INVOLVEMENT/PARTICIPATION

2.1 – Promote Availability of the MS4 Program Plan & Annual Reports

2.1.1 – Promotion through Electronic Mediums

Program Description: Provide for public comment by maintaining an updated copy of the MS4 Program Plan and each annual report on the Virginia Tech stormwater website. To solicit immediate feedback, other electronic mediums such as email listservs, Facebook, Twitter, etc. will also be utilized.

Measurable Goals: Post copies of each annual report within 30 days of submittal to DEQ. Track the number of public comments received each year. Any required updates to the MS4 Program Plan will be completed at a minimum of once per year and in conjunction with annual reports. Ensure that the updated program plan is posted on the Virginia Tech stormwater website within 30 days of submittal of the annual report.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Virginia Tech MS4 Program Plan, Methods for Public Notice Program Procedure

Year 1 Response: Public comment forums are available to Virginia Tech students, staff, and faculty as well as concerned residents on the Virginia Tech Site & Infrastructure Development (SID) website website: (http://www.facilities.vt.edu/sid/ms4/mcm2_submitCmnt.asp). An advertised general stormwater email (stormwater@vt.edu) is published on all outreach materials and is managed through the Site & Infrastructure Development office. In addition, Facebook, Twitter, and the Environmental Health and Safety website's Anonymous Safety Complaints forum (http://www.ehss.vt.edu/report_issue/) are all means to contact appropriate personnel to address MS4 Program concerns or general stormwater comments. The stormwater@vt.edu email forum was utilized twice this reporting year regarding a Duck Pond potential illicit discharge/water quality concern as well as a request for additional Pet Waste Stations at the Veterinary Medicine school. A stormwater awareness survey was posted on the January 14, 2014 and February 10, 2014 Virginia Tech Daily News Email which gained 18 comprehensive responses from Virginia Tech faculty and staff members. Over 9,000 employees subscribe to the daily email and approximately 950,000 unique visitors come to the Virginia Tech News website each year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Public comment forums are available to Virginia Tech students, staff, and faculty as well as concerned residents on the Virginia Tech Site & Infrastructure Development (SID) website: (http://www.facilities.vt.edu/sid/ms4/mcm2_submitCmnt.asp). An advertised general stormwater email (stormwater@vt.edu) is published on all outreach materials and is managed through the Site & Infrastructure Development office. In addition, Facebook, Twitter, and the Environmental Health and Safety website's Anonymous Safety Complaints forum (http://www.ehss.vt.edu/report_issue/) are all means to contact appropriate personnel to address MS4 Program concerns or general stormwater

comments. The stormwater@vt.edu email forum was utilized a couple times as a request for additional Pet Waste Bags when the public noticed that the stations were empty.

Year 3 Response: Public comment email forums (stormwater@vt.edu) are available to Virginia Tech Students, staff, and faculty as well as concerned residents on the Virginia Tech Site & Infrastructure Development (SID) website:

<http://facilities.vt.edu/permits-inspections/stormwater-management/ms4-program/mcm-2.html>. This same email forum is published on all outreach materials and is managed through the Site & Infrastructure Development office. In addition, Facebook, Twitter, and the Environmental Health and safety website's Anonymous Safety Complaints forum (http://www.ehss.vt.edu/report_issue/) are all means to contact appropriate personnel to address MS4 Program concerns or general stormwater comments. The stormwater@vt.edu email forum was utilized a couple times as a request for additional Pet Waste Bags when the public noticed that the stations were empty. Reports were also received from the public, via the email forum, to report damaged pet waste stations on campus.

Year 4 Response: Public comment email forums (stormwater@vt.edu) are available to Virginia Tech Students, staff, and faculty as well as concerned residents on the Virginia Tech Site & Infrastructure Development (SID) website:

<http://facilities.vt.edu/permits-inspections/stormwater-management/ms4-program/mcm-2.html>. This same email forum is published on all outreach materials and is managed through the Site & Infrastructure Development office. In addition, Facebook, Twitter, and the Environmental Health and safety website's Anonymous Safety Complaints forum (http://www.ehss.vt.edu/report_issue/) are all means to contact appropriate personnel to address MS4 Program concerns or general stormwater comments. The stormwater@vt.edu email forum was utilized a couple of times as a request for additional Pet Waste Bags when the public noticed that the stations were empty. Reports were also received from the public, via the email forum, to report damaged pet waste stations on campus.

Year 5 Response: Public comment email forums (stormwater@vt.edu) are available to Virginia Tech Students, staff, and faculty as well as concerned residents on the Virginia Tech Site & Infrastructure Development (SID) website:

<http://facilities.vt.edu/permits-inspections/stormwater-management/ms4-program/mcm-2.html>. This same email forum is published on all outreach materials and is managed through the Site & Infrastructure Development office. In addition, Facebook, Twitter, and the Environmental Health and Safety website's Anonymous Safety Complaints forum (http://www.ehss.vt.edu/report_issue/) are all means to contact appropriate personnel to address MS4 Program concerns or general stormwater comments. The stormwater@vt.edu email forum was utilized a couple of times as a request for additional Pet Waste Bags when the public noticed that the stations were empty.

2.2 – Public Involvement/Participation

2.2.1 – Stream Clean-ups/Adopt-A-Stream

Program Description: Participate in DCR's Adopt-A-Stream Program and conduct stream clean-up initiatives internally, through sponsorship, or through the use of student volunteers and student clubs/organizations.

Measurable Goals: Participate through promotion, sponsorship, or other involvement in a minimum of 4 stream clean-up and volunteer events each year. Report and track all necessary information associated with each volunteer event (number of volunteers, amount of trash collected, linear feet of stream cleaned up, number of storm drains marked, etc.)

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Adopt-A-Stream Documentation, Public Involvement and Participation Procedure Stream Clean-Up Standard Operating Procedure.

Year 1 Response: Students from the American Society of Agricultural and Biological Engineering, the Soil and Water Conservation Society, and the Environmental Student Organization, as well as a few independent students, cleaned up three stream sections in the Stroubles Creek watershed from 5:00-7:00pm on April 2, 2014 as a part of the 1.2 mile **Adopt-A-Stream Program**. Approximately 20 bags of trash were collected in this 2-hour period. Three clean-ups were conducted through the month of April on the Enhanced Extended Detention Pond through the internal efforts of **Site & Infrastructure Development**. Two truck bed loads of tree stakes were removed and approximately 3 bags of trash were collected. Approximately 10 students from **The Students for Clean Energy** organization conducted a stream clean-up around the Stroubles Creek interconnection between the Town of Blacksburg and Virginia Tech often referred to as “Triangle Park”. Approximately 3 bags of trash and 1 bag of recycling were collected during this .25mile effort. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Students from the Environmental & Water Resources Institute and Coast Oceans Ports & Rivers Institute, cleaned up areas including Webb Branch, areas near the Virginia Tech Vet Med Detention Pond and areas around the Duck Pond on October 11, 2014 as a part of the 3 mile **Adopt-A-Stream Program**. Approximately 22 bags of trash were collected in this 3-hour period by 21 individuals. A clean-up was also conducted on October 18, 2014 by **the Virginia Tech Chapter of the American Water Resources Association** located at Alumni Pond, Duck Pond and stretches of Stroubles Creek starting at the StREAM lab. Nine individuals participated to remove 9 trash bags of trash and large debris within 2.5 hours.

Year 3 Response: Three separate stream cleanup events took place in the reporting year as a part of the Adopt-A-Stream Program that Virginia Tech Site & Infrastructure Development participates in. The Virginia Tech Chapters of AWRA and ASABE met on October 10, 2015 with 15 volunteers to pick up trash and debris. Also on October 10, 2015, the Virginia Tech Chapters of ASCE, AWWA/VWEA, and EWRI/COPRI had 22 volunteers clean-up 8 bags of trash around the Duck Pond and Vet Med Retention Pond on campus. Virginia Tech Site & Infrastructure Development organized a third stream cleanup on April 24, 2016, and 11 individuals participated. Please see **Appendix G** for documentation of Public Participation Activities.

Year 4 Response: Two separate stream cleanup events organized and supported by Virginia Tech Site & Infrastructure Development (SID) took place on Virginia Tech’s campus during the reporting year. The first stream cleanup on October 22, 2016 focused on cleaning up trash across a 2-mile stretch along

Stroubles Creek and included 18 volunteers from the Virginia Tech chapters of **EWRI and COPRI**. The second clean up took place in April of 2017 and included 85 volunteers from the **College of Natural Resources** who helped remove invasive species along stream banks.

Year 5 Response: Several stream cleanup events were organized and supported by Virginia Tech Site & Infrastructure Development (SID) on Virginia Tech's campus during the reporting year. Eight bags of trash were removed from Stroubles Creek and the Vet Med Pond area on October 7, 2017 by twenty-four students from Virginia Tech's ASCE chapter. Ten local volunteers from the Blacksburg Womens Club helped remove 8 bags of trash from sections of Stroubles Creek on October, 29th 2017. Site and Infrastructure worked with the Student Government Association to sponsor two Duck Pond Clean ups during the permit cycle. The first event was held on December 3rd 2017 and included 65 student volunteers who targeted cleaning up trash floating in or around the Duck Pond. The second cleanup occurred on April 22nd and 33 student volunteers participated. Another group of approximately 10 Virginia Tech students from the American Water Resource Association worked to clean up a portion of Stroubles Creek on April 22nd. Fifteen local residents that were part of a Girl Scouts group helped clean up a stormwater facility and a portion of Stroubles Creek on May, 5th 2018. Please see **Appendix F** for documentation of Public Participation Activities.

2.2.2 – Volunteer Events

Program Description: Participate in volunteer events through the use of student volunteers and student clubs/organizations (i.e., Big Event, Greeks Giving Back, etc.).

Measurable Goals: Participate through promotion, sponsorship, or other involvement in a minimum of 4 stream clean-up and volunteer events each year. Report and track all necessary information associated with each volunteer event (number of volunteers, amount of trash collected, linear feet of stream cleaned up, number storm drains marked, etc.)

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Public Involvement and Participation Procedure

Year 1 Response: Virginia Tech student volunteers marked 58 storm drains around the Town of Blacksburg on April 7, 2014 during **The Big Event**. Students from the American Society of Agricultural and Biological Engineering, Soil and Water Conservation Society, and the Environmental Student Organization, as well as a few independent students, cleaned up three sections of the Stroubles Creek watershed from 5:00 - 7:00pm on April 2, 2014 as a part of the 1.2 mile **Adopt-A-Stream Program**. Approximately 20 bags of trash were collected in this 2 hour period. Three clean-ups were conducted through the month of April on the Enhanced Extended Detention Pond through internal efforts of **Site & Infrastructure Development**. Approximately 10 students from **The Students for Clean Energy** organization conducted a stream clean-up around the Stroubles Creek interconnection between the Town of Blacksburg and Virginia Tech at the intersection of Stanger Street and Prices Fork Road often referred to as "Triangle Park." Approximately 3 bags of trash and 1 bag of recycling were collected

during this effort. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: 5 Virginia Tech student volunteers marked 48 storm drains around the Town of Blacksburg, specifically in the Smith's Landing Area and the Oak Manor Area on April 11, 2015 during **The Big Event**. Students from the Environmental & Water Resources Institute and Coast Oceans Ports & Rivers Institute, cleaned up areas including Webb Branch, areas near Virginia Tech Vet Med Detention pond and areas around the Duck Pond on October 11, 2014 as a part of the 3 mile **Adopt-A-Stream Program**. Approximately 22 bags of trash were collected in this 3-hour period by 21 individuals. A clean-up was also conducted on October 18, 2014 by the **Virginia Tech Chapter of the American Water Resources Association** located at Alumni Pond, Duck Pond and stretches of Stroubles Creek starting at StREAM lab. Nine individuals participated to remove 9 trash bags of trash and large debris within 2.5 hours. Site & Infrastructure Development purchased 250 trees and sponsored a multiple tree plantings along Stroubles Creek. The trees were planted by 15 volunteers over the course of a few weeks in April 2015. Please see **Appendix G** for documentation of Public Participation Activities.

Year 3 Response: Big Event is an annual event that takes place on Virginia Tech's campus. This year's volunteer event was scheduled for April 9th 2016, and Virginia Tech Site & Infrastructure Development had plans for their volunteers to label approximately 50 storm drains with markers indicating "no dumping". The weather with temperatures in the 30's did not allow for the storm drains to be marked since the adhesive wouldn't work properly. The 50 storm drain markers are planned to be put out during the upcoming year's Big Event. Three separate stream cleanup events took place in the reporting year as a part of the Adopt-A-Stream Program that Virginia Tech Site & Infrastructure Development participates in. The Virginia Tech Chapters of AWRA and ASABE met on October 10, 2015 with 15 volunteers to pick up trash and debris. Also on October 10, 2015, the Virginia Tech Chapters of ASCE, AWWA/VWEA, and EWRI/COPRI had 22 volunteers clean-up 8 bags of trash around the Duck Pond and Vet Med Retention Pond on campus. Virginia Tech Site & Infrastructure Development organized a third stream cleanup on April 24, 2016, and 11 individuals participated. Virginia Tech Site and Infrastructure Development sponsored a tree planting on March 24, 2016 for a class in the Department of Natural Resources and the Environment. On March 26, 2016, Virginia Tech Site & Infrastructure Development sponsored a joint tree planting and stream clean-up event hosted by Saves Stroubles and the Office of Energy & Sustainability. The event included 118 volunteers who planted a total of 155 trees and cleaned approximately 2 miles of Stroubles Creek. The event actually made the local news for the great efforts that took place for this event. Please see **Appendix G** for documentation of Public Participation Activities.

Year 4 Response: Virginia Tech SID participated in the **Big Event** by providing storm drain markers and necessary tools for a group of volunteers to mark storm drains. The group marked approximately 60 new unmarked storm drains in the Town of Blacksburg. This outreach event targeted illicit discharge and water quality protection. Two separate stream cleanup events organized and supported by Virginia Tech Site & Infrastructure Development (SID) took place on Virginia Tech's campus during the reporting year. The first stream cleanup on October 22, 2016 focused on cleaning up trash across a 2-mile stretch along Stroubles Creek and included 18 volunteers from the Virginia Tech chapters of **EWRI and COPRI**. The second cleanup took place in April of 2017 and included 85 volunteers from the **College of Natural Resources** who helped remove invasive species along stream banks. A **tree-planting event** sponsored and funded by Virginia Tech Site & Infrastructure Development took place in April 2017 and included 85

student volunteers from the College of Natural Resources and Virginia Tech faculty/staff members. The volunteers planted 297 trees and shrubs to create a riparian buffer and support enhanced water quality along Holton Branch.

Year 5 Response: Site and Infrastructure implemented and sponsored several **Tree-Planting and Restoration events** as Volunteer events for Public Involvement Opportunities. Across 4 different dates from September to December approximately 100 student volunteers worked to remove non-native vegetation that was harming the riparian habitat, and removed old unused livestock fencing along the stream. These volunteers also planted 470 native trees to ensure restoration of the riparian buffer along Stroubles Creek. The spring portion of restoration was held on March 31st and consisted of 34 student volunteers who successfully planted 300 more native trees in the riparian buffer area along Stroubles creek by the Huckleberry Trail and Plantation Road. **Big Event** is an annual event that takes place on Virginia Tech's campus. This year's volunteer event was scheduled for April 7th 2018, and Virginia Tech Site & Infrastructure Development had plans for their volunteers to label approximately 30 storm drains with markers indicating "no dumping." The weather with temperatures in the 30's did not allow for the storm drains to be marked since the adhesive wouldn't work properly. The 30 storm drain markers are planned to be put out during the upcoming year's Big Event.

MINIMUM CONTROL MEASURE 3 – ILLICIT DISCHARGE DETECTION & ELIMINATION

3.1 – Illicit Discharge Detection Program

3.1.1 – Storm Sewer System Map (Inventory Outfall Locations)

Program Description: The storm sewer map will show the location of all MS4 outfalls. Each mapped outfall will be given a unique identifier. The name and location of all waters receiving discharges from the MS4 outfalls and associated HUCs will be mapped. The location of all known points of discharge including those physically interconnected to another MS4 will be mapped.

Measurable Goals: The storm sewer system map will be updated to meet the requirements set forth in 9VAC25-890-40 Section II B 3 a (3) by 2017 (48 months after permit coverage).

Schedule of Activities: A comprehensive storm sewer system map will be completed by 2017 (48 months after permit coverage). Once the storm sewer system map is updated, it will be evaluated annually and updated as necessary.

Table 2: Outfall Map

Program Update Requirement:	Permit Reference:	Update Completed By:
Outfall Map	Section II B 3 a (3)	48 months after permit coverage

*Updates will be submitted with the appropriate annual report.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: IDDE/ORI Standard Operating Procedure

Year 1 Response: Virginia Tech maintains stormwater infrastructure information in the campus GIS database. This database is updated on an as-needed basis as campus projects are completed or new information is discovered through Outfall Reconnaissance Inventory, etc. The comprehensive storm sewer system map and all required components will be incorporated into the campus GIS database. Upon completion, the map will be evaluated annually and updated as needed.

Year 2 Response: During Year 2 Virginia Tech has worked on incorporating the comprehensive storm sewer system map into the campus GIS database. Upon completion, the map will be evaluated annually and updated as needed. Please see Year 1 Response above.

Year 3 Response: Virginia Tech maintains an extensive GIS database which contains the elements required for the storm sewer system map. The GIS database is maintained by the Facilities Department and is updated on an as-needed basis.

Year 4 Response: Virginia Tech maintains an extensive GIS database which contains the elements required for the storm sewer system map. The GIS database is maintained by the Facilities Department and is updated on an as-needed basis.

Year 5 Response: Virginia Tech maintains an extensive GIS database which contains the elements required for the storm sewer system map. The GIS database is maintained by the Facilities Department and is updated on an as-needed basis.

3.1.2 – Inspect Stormwater Outfalls for Dry Weather Discharge

Program Description: Dry weather screening methodologies will be used to detect and eliminate illicit discharges to the MS4 that include field observations and field screening monitoring.

Measurable Goals: A minimum of 50 outfalls will be screened each year.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: IDDE/ORI Standard Operating Procedure

Year 1 Response: Last annual reporting year, Site & Infrastructure Development ensured that all Virginia Tech main campus outfalls were inspected during the five year permit cycle. 16 outfalls were inspected during that time and 8 potential outfalls were passed on to the Virginia Tech GIS Manager. Since that time, Site & Infrastructure Development has been working to revisit the ORI Program. This includes developing revised mapping of outfalls (including the “new” outfalls) that contribute to Stroubles Creek, a revised interconnection map, and a comprehensive ORI Log that includes inspections from 2009 and forward. Site & Infrastructure Development also worked in coordination with VT Biological Systems Engineering and the Town of Blacksburg to conduct a watershed-scale bacteria sampling and inventory as a part of the Research Experience for Undergraduates Program (REU). The inventory included outfall interconnections and crucial outfall points that would assist in indicating where bacteria might enter Stroubles Creek. Other inventory and field observation opportunities included storm drain marking and the Adopt-A-Stream clean-up on April 2, 2014. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: During Year 2, all 73 Virginia Tech main campus outfalls were inspected and no “new outfalls” were discovered. Further documentation of inspections is available by request and is not provided as part of the Annual Report.

Year 3 Response: During Year 3, all 73 Virginia Tech Main Campus outfalls were inspected. A couple outfalls were unable to be inspected due to construction and will be inspected as soon as they are accessible. One new outfall was discovered during the Outfall Reconnaissance Inventory. The new outfall has been added to the inventory and will be included in future inspection efforts.

Year 4 Response: During Year 4, all Virginia Tech Main Campus outfalls that could be accessed were inspected. A couple of outfalls were unable to be inspected due to construction and will be inspected as

soon as they are accessible. Further documentation of inspections is available by request and is not provided as part of the Annual Report.

Year 5 Response: During Year 5, all Virginia Tech Main Campus outfalls that could be accessed were inspected. A total of 68 outfalls were inspected and reports were filed for each inspection. Further documentation of inspections is available by request and is not provided as part of the Annual Report.

3.1.3 – Identify/Inspect Priority Areas

Program Description: Investigations will be performed to locate and identify campus areas that have the potential for illicit discharges and need to be monitored on a regular basis. These areas will be mapped and regularly monitored.

Measurable Goals: Priority areas will be evaluated each year and modified when necessary. Each priority area will be inspected at a minimum of once per year. If an illicit discharge occurs outside of the identified priority areas, the associated area will be added to the Map of Priority Areas and incorporated into the inspection schedule.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: IDDE/ORI Standard Operating Procedure, Map of Priority Areas

Year 1 Response: A consulting firm assisted Virginia Tech in identifying high priority/high potential areas on Virginia Tech's main campus utilizing a checklist and general inspection form. Sites were considered for SWPPP development if the report showed that they were both high priority and high potential. Next steps include identifying all personnel and operations on each individual site to refine stormwater pollution mitigation efforts prior to SWPPP development. Those facilities that did not qualify as both high priority and high potential will be incorporated into the illicit discharge detection and elimination (IDDE) program as priority areas. All locations will be tracked using ArcGIS. Next steps for the IDDE Program include developing inspection forms, establishing a frequency of inspections, and confirming responsible parties. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: The facilities that did not qualify as both high priority and high potential have been incorporated into the IDDE Program. All locations will be tracked using ArcGIS. Next steps for the IDDE Program include developing inspection forms, establishing a frequency of inspections, and confirming responsible parties. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: The facilities that did not qualify as both high priority and high potential have been incorporated into the IDDE Program. All locations will be tracked using ArcGIS. Next steps for the IDDE Program include developing inspection forms, establishing a frequency of inspections, and confirming

responsible parties. This process is ongoing; further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: The facilities that did not qualify as both high priority and high potential have been incorporated into the IDDE Program. All locations will be tracked using ArcGIS. Next steps for the IDDE Program include developing inspection forms, establishing a frequency of inspections, and confirming responsible parties. This process is ongoing; further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: The facilities that did not qualify as both high priority and high potential have been incorporated into the IDDE Program. All locations will be tracked using ArcGIS. Next steps for the IDDE Program include developing inspection forms, establishing a frequency of inspections, and confirming responsible parties. This process is ongoing; further documentation of implementation is available by request and is not provided as a part of the Annual Report.

3.1.4 – Reporting by Staff and Students

Program Description: The Virginia Tech Environmental Health and Safety (EHS) Department has a webpage available to report Anonymous Safety Complaints. This reporting page and other necessary contact information will be publicized to university staff and students via outreach materials and the Virginia Tech stormwater website.

Measurable Goals: A minimum of 3 outreach methods will be used to promote illicit discharge reporting methods.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party Facilities Department – Site & Infrastructure Development and Environmental Health and Safety

Necessary Documents: IDDE/ORI Standard Operating Procedure, EHS reporting page

Year 1 Response: Individuals can report spills and illicit discharges on the **Environmental Health and Safety webpage**: www.ehss.vt.edu/report_issue. This website link and further information regarding illicit discharges are available on the **Site & Infrastructure Development website** (www.sid.vt.edu) and on **illicit discharge business cards and table cards**. The business cards have been distributed to all on-campus residents as well as all staff members that attend “MS4 Stormwater Training” sessions. The business card includes the aforementioned contact information as well illicit discharge indicators. Approximately 2,538 TMDL-focused **Table Cards** were distributed throughout the Virginia Tech campus dining halls for the second and third weeks in October. Each table card remained for a total of one week before it was removed. According to the average daily headcount in each dining hall, 3,901 students enter these dining halls each day and 20,026 on and off-campus students held dining plans last year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Individuals can report spills and illicit discharges on the **Environmental Health and Safety webpage:** www.ehss.vt.edu/report_issue. This website link and further information regarding illicit discharges are available on the **Site & Infrastructure Development website** (www.sid.vt.edu) and on **illicit discharge business cards and table cards**. Approximately 2000 TMDL-focused **Table Cards** were distributed throughout the Virginia Tech campus dining halls during Year 2. Each table card remained for a total of one week before it was removed. The average daily headcount in each dining hall ranges from approximately 1,000-6,600 customers each day. There were approximately 18,500 dining plan holders during the 2014-2105 academic year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: Individuals can report spills and illicit discharges on the **Environmental Health and Safety webpage:** www.ehss.vt.edu/report_issue. This website link and further information regarding illicit discharges are available on the **Site & Infrastructure Development website** (www.sid.vt.edu) and on **illicit discharge business cards and table cards**. Approximately 1,400 TMDL-focused **Table Cards** were distributed throughout the Virginia Tech campus dining halls during Year 3. Each table card remained for a total of one week before it was removed. The average daily headcount in each dining hall ranges from approximately 1,000-6,600 customers each day. There were approximately 18,500 dining plan holders during the 2015-2016 academic year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: Individuals can report spills and illicit discharges on the **Environmental Health and Safety webpage:** www.ehss.vt.edu/report_issue. This website link and further information regarding illicit discharges are available on the **Site & Infrastructure Development website** (www.sid.vt.edu) and on **illicit discharge business cards and table cards**. Approximately 1,600 TMDL-focused **Table Cards** were distributed throughout the Virginia Tech campus dining halls during Year 4. Each table card remained for a total of one week before it was removed. Dining Services serves approximately 7.4 million meals per year and there are approximately 19,000 dining plan holders. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: Individuals can report spills and illicit discharges on the **Environmental Health and Safety webpage:** www.ehss.vt.edu/report_issue. This website link and further information regarding illicit discharges are available on the **Site & Infrastructure Development website** (www.sid.vt.edu) and on **illicit discharge business cards and table cards**. Approximately 500 TMDL-focused **Table Cards** were distributed throughout the Virginia Tech campus dining halls during Year 5. Each table card remained for a total of one week before it was removed. Dining Services serves approximately 7.4 million meals per year and there are approximately 19,000 dining plan holders. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

3.2 – Illicit Discharge Elimination

3.2.1 – Trace and Remove Illicit Discharges

Program Description: Virginia Tech will promptly address and determine the source of illicit discharges. Methodologies to determine the source of an illicit discharge shall be conducted and documented as appropriate.

Measurable Goals: Track the number of illicit discharges and potential illicit discharges through a database. Map all illicit discharges to determine potential high priority areas. Document all actions taken to trace and eliminate the suspected illicit discharge.

Table 3: Illicit Discharge Procedures

Program Update Requirement:	Permit Reference:	Update Completed By:
Illicit Discharge Procedures	Section II B 3	12 months after permit coverage

*Updates will be submitted with the appropriate annual report.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development and Environmental Health and Safety

Necessary Documents: IDDE/ORI Standard Operating Procedure, Storm Sewer System Map

Year 1 Response: All potential illicit discharges are documented in Autodesk VAULT. All illicit discharges are mapped in ArcGIS. All documentation and photographic evidence from each discharge is also stored in Autodesk VAULT. A summary of the annual reporting period's illicit discharges can be found in **Appendix C**. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: All potential illicit discharges are now documented in Laserfiche. All illicit discharges are mapped in ArcGIS. All documentation and photographic evidence from each discharge is also stored in Laserfiche. A summary of the annual reporting period's illicit discharges can be found in **Appendix C**. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: All potential illicit discharges are now documented in Laserfiche. All illicit discharges are mapped in ArcGIS. All documentation and photographic evidence from each discharge is also stored in Laserfiche. A summary of the annual reporting period's illicit discharges can be found in **Appendix C**. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: All potential illicit discharges are now documented in Laserfiche. All illicit discharges are mapped in ArcGIS. All documentation and photographic evidence from each discharge are also stored in Laserfiche. A summary of the annual reporting period's illicit discharges can be found in **Appendix C**. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: All potential illicit discharges are now documented in Laserfiche. All illicit discharges are mapped in ArcGIS. All documentation and photographic evidence from each discharge are also stored in Laserfiche. A summary of the annual reporting period's illicit discharges can be found in

Appendix C. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

3.2.2 – Prohibiting Illicit Discharges

Program Description: Virginia Tech will develop a policy in order to effectively prohibit non-stormwater discharges from entering the storm sewer system. This policy will apply to all university staff and students as well as contracted personnel.

Measurable Goals: Virginia Tech will have a final policy implemented by summer of 2017.

Schedule of Activities: Virginia Tech will have a final draft of the policy by summer of 2015 with implementation to follow by the summer of 2017. Progress updates will be given in each annual report until the policy is completed and implemented. Once the policy is implemented, it will be evaluated annually and updated as necessary.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Virginia Tech Illicit Discharge Detection and Elimination (IDDE) Policy (once implemented)

Year 1 Response: The Illicit Discharge Detection and Elimination Policy has been reviewed and approved internally and is in its final stages of review and approval by upper management, including the Virginia Tech Board of Visitors. This Policy and a Stormwater Management policy will be pushed forward in the approval process in the coming months – this process may include multiple revisions. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: The Stormwater policy is still awaiting approval. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: The Stormwater policy is still awaiting approval. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: The Stormwater Policy is still awaiting approval. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: The draft Stormwater Policy is currently under review by the present administration.

3.3 – MS4 Interconnection

3.3.1 – Notification to Interconnected MS4s

Program Description: Virginia Tech will notify, in writing, neighboring MS4s of any known physical interconnections.

Measurable Goals: During Year 1 of the 2013-2018 permit cycle, Virginia Tech will notify neighboring MS4s of any known physical interconnections and track the number of neighboring MS4s notified.

Schedule of Activities: Initial notifications will be made during Year 1 of the 2013-2018 permit cycle. Updates will be sent out if any new interconnections are found.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Notification Letters

Year 1 Response: Notification letters were sent to the Town of Blacksburg and the Virginia Department of Transportation on October 30, 2013. It was requested that each entity contact Virginia Tech if there were any inconsistencies or questions regarding MS4 interconnected outfalls. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Please see Year 1 Response above, further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: Please see Year 1 Response above, further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: Please see Year 1 Response above, further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: Please see Year 1 Response above, further documentation of implementation is available by request and is not provided as a part of the Annual Report.

MINIMUM CONTROL MEASURE 4 – CONSTRUCTION SITE STORMWATER RUNOFF

4.1 – Management of Construction Site Stormwater Runoff

4.1.1 – Virginia Tech Annual Standards for Erosion and Sediment Control and Stormwater Management

Program Description: The Virginia Tech (VT) Annual Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM) are submitted to the Virginia Department of Environmental Quality (DEQ) for review and approval on an annual basis.

Measurable Goals: Ensure that project-specific plans are developed and implemented in accordance with the VT Annual Standards and Specifications for ESC and SWM. Submit the VT Annual Standards and Specifications for ESC and SWM to DCR each year for approval.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Approval Letter for VT Annual Standards and Specifications for ESC and SWM, Approved VT Annual Standards and Specifications for ESC and SWM

Year 1 Response: The Virginia Tech Annual Standards (VTAS&S) for ESC and SWM are located on the stormwater management website for access by project managers and the public. A copy is also available on the Site & Infrastructure Development website (www.sid.vt.edu) and in Appendix B. Virginia Tech is still working under the 2012 VTAS&S for ESC and SWM, as authorized by DEQ. Site & Infrastructure Development has until December 31, 2014 to submit a revised version of the VTAS&S for ESC and SWM for approval by DEQ. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: The latest version of the VTAS&S for ESC and SWM are located on the Site & Infrastructure Website (www.sid.vt.edu) and in **Appendix B**. Virginia Tech is still working under the 2012 VTAS&S for ESC and SWM, as authorized by DEQ. Site & Infrastructure Development has until December 31, 2015 to submit a revised version of the VTAS&S for ESC and SWM for approval by DEQ. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: The latest version of the VTAS&S for ESC and SWM are located on the Site & Infrastructure Website (www.sid.vt.edu) and in **Appendix B**. Virginia Tech is still working under the 2012 VTAS&S for ESC and SWM, as authorized by DEQ. Site & Infrastructure Development has until December 31, 2016 to submit a revised version of the VTAS&S for ESC and SWM for approval by DEQ. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: The latest version of the VTAS&S for ESC and SWM is located on the Site & Infrastructure Development Website (www.sid.vt.edu) and in **Appendix B**. Virginia Tech is still working

under the 2012 VTAS&S for ESC and SWM, as authorized by the DEQ. Site & Infrastructure Development will submit a revised version of the VTAS&S for ESC and SWM for approval by DEQ by September 30, 2017. Once approved by DEQ, the latest version of the VTAS&S will be posted on the Site & Infrastructure Development website. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: Virginia Tech's 2017 Annual Standards and Specifications were approved by the DEQ. The latest version of the VTAS&S for ESC and SWM is located on the Site & Infrastructure Development Website (www.sid.vt.edu) and in **Appendix B**. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

4.1.2 Design Phase Meetings

Program Description: Meetings will be held in order for Virginia Tech Site & Infrastructure Development to review and provide feedback on University projects to ensure that ESC and SWM issues are addressed in an effective manner during the design phases and in accordance with the VT Annual Standards and Specifications for ESC and SWM.

Measurable Goals: Attend design phase meetings on a project-by-project basis.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: VT Annual Standards for ESC and SWM, Pre-Construction Meeting Attendance Sheets

Year 1 Response: Chuck Dietz, Stormwater Compliance Manager of Site & Infrastructure Development, attended 42 design phase meetings throughout the annual reporting year. Design phase project meetings included the Dairy Barn Relocation to Kentland Farm, Human and Agricultural Biosciences Building 1, Indoor Athletic Training Facility, Upper Quad Residential Facilities, and the 460 Southgate Interchange. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Site and Infrastructure Development attended approximately 16 design phase meetings throughout the annual reporting year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: Site and Infrastructure Development attended approximately 18 design phase meetings throughout the annual reporting year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: Site and Infrastructure Development attended approximately 80 design phase meetings throughout the annual reporting year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: Site and Infrastructure Development attended approximately 40 design phase meetings throughout the annual reporting year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

4.1.3 – Requirement for ESC/SWM Plans and Review

Program Description: All ESC and SWM Plans, plan review documents, and plan review certifications must be submitted to the Virginia Tech Site & Infrastructure Development Department for review and approval.

Measurable Goals: Plan reviews will be performed to ensure compliance with the VT Annual Standards and Specifications for ESC and SWM. All plan reviews will be performed by a certified plan reviewer.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department Site & Infrastructure Development

Necessary Documents: VT Annual Standards and Specifications for ESC and SWM, list of active projects, list of certified plan reviewers

Year 1 Response: All plans for regulated land-disturbing projects have been reviewed and approved according to the VT Annual Standards and Specifications for ESC and SWM through the oversight of Site & Infrastructure Development. If projects are reviewed internally, they are conducted by certified plan reviewers in Site & Infrastructure Development. According to the complexity of the project and the workload at Site & Infrastructure Development, plan reviews may also be outsourced to engineering firms under a term contract. See **Appendix B** for more information. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: All plans for regulated land-disturbing projects have been reviewed and approved according to the VT Annual Standards and Specifications for ESC and SWM through the oversight of Site & Infrastructure Development. Please see Year 1 Response above and **Appendix B** for more information. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: All plans for regulated land-disturbing projects have been reviewed and approved according to the VT Annual Standards and Specifications for ESC and SWM through the oversight of Site & Infrastructure Development. Please see Year 1 Response above and **Appendix B** for more information. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: All plans for regulated land-disturbing projects have been reviewed and approved according to the VT Annual Standards and Specifications for ESC and SWM through the oversight of Site & Infrastructure Development. Please see Year 1 Response above and **Appendix B** for more information. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: All plans for regulated land-disturbing projects have been reviewed and approved according to the VT Annual Standards and Specifications for ESC and SWM through the oversight of Site & Infrastructure Development. Please see Year 1 Response above and **Appendix B** for more information. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

4.1.4 – ESC and SWPPP Inspections on Project Sites

Program Description: University projects that are approved for land-disturbing activities will be inspected for compliance with the approved ESC/SWM Plans. All ESC and SWPPP inspections will be conducted by certified personnel as follows:

- **Initial Inspection:** Upon installation of initial ESC Measures
- **Routine ESC Inspections:**
 - Every 14 calendar days
 - Within 48-hours of a runoff producing rainfall event that accumulates 0.25" of rainfall or more during the storm event
- **Routine SWM Inspections:**
 - Every 5 business days
 - Every 4 business days in the Stroubles Creek TMDL
- **Final Inspection:** Upon completion of the project, prior to termination of any VAR10 Permit

Measurable Goals: Record the total number of inspections performed each reporting year. Record the enforcement actions taken during each reporting year.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department —Site & Infrastructure Development

Necessary Documents: Summary of Total Number of Inspections performed during reporting year, Summary of enforcement action taken during reporting year

Year 1 Response: As a state entity, Virginia Tech does not have enforcement authority. Only the Department of Environmental Quality is able to issue official enforcement actions such as a Notice of Violation and a Stop Work Order. Site & Infrastructure Development may initiate informal correspondence, often through email notification, with operators, contractors, and project managers regarding non-compliance. This does not qualify as an enforcement action according to permit language. With that being said, Virginia Tech performed 244 inspections on VAR10 regulated projects and 82 inspections on regulated projects that disturbed less than 1 acre this reporting year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Virginia Tech performed 209 inspections on VAR10 regulated projects and 14 inspections on regulated projects that disturbed less than 1 acre this reporting year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: Virginia Tech performed 392 inspections on 23 projects this reporting year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: Virginia Tech performed 233 inspections on 21 projects this reporting year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: Virginia Tech performed 420 inspections on 20 projects this reporting year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

4.1.5 – Tracking of Land-Disturbing Activities

Program Description: Virginia Tech land-disturbing projects must comply with the VT Annual Standards for ESC and SWM. Prior to commencement of a land-disturbing activity, the project must receive written approval for the plan from the Virginia Tech Site & Infrastructure Development Department.

Measurable Goals: Annually record the total number of regulated land-disturbing activities and associated acres disturbed.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department Site & Infrastructure Development

Necessary Documents: VT Annual Standards and Specifications for ESC and SWM, list of all regulated land-disturbing activities, and associated acres disturbed per project for each reporting year.

Year 1 Response: There are 18 projects on Virginia Tech’s main campus that were regulated under VAR10 permit coverage during the annual reporting cycle. Those projects that are current, and those that have since been terminated, are both included in **Appendix D**. Active land-disturbing projects disturbing less than 1 acre, which do not require VAR10 permit coverage but are regulated under the VT Annual Standards and Specifications for ESC, are also included in the **Appendix D** document. The acreage disturbed by the 18 regulated projects was 94.87 acres. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: There are 11 projects on Virginia Tech’s main campus that were regulated under VAR10 permit coverage during the annual reporting cycle. The acreage disturbed by the 11 regulated projects was 119 acres. Those projects that are current, and those that have since been terminated, are both included in **Appendix D**. Active land-disturbing projects disturbing less than 1 acre, which do not require VAR10 permit coverage but are regulated under the VT Annual Standards and Specifications for ESC, are also included in the **Appendix D** document. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: There are 10 projects on Virginia Tech’s main campus that were regulated under VAR10 permit coverage during the annual reporting cycle. The acreage disturbed by the 10 regulated projects was approximately 266 acres. Those projects that are current, and those that have since been terminated, are both included in **Appendix D**. Active land-disturbing projects disturbing less than 1 acre, which do not require VAR10 permit coverage but are regulated under the VT Annual Standards and Specifications for ESC, are also included in the **Appendix D** document. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: There are 11 projects on Virginia Tech’s main campus that were regulated under VAR10 permit coverage during the annual reporting cycle. The acreage disturbed by the 11 regulated projects was approximately 243 acres. Those projects that are current, and those that have since been terminated, are both included in **Appendix D**. Active land-disturbing projects disturbing less than 1 acre, which do not require VAR10 permit coverage but are regulated under the VT Annual Standards and Specifications for ESC, are also included in the **Appendix D** document. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: There are 10 projects on Virginia Tech’s main campus that were regulated under VAR10 permit coverage during the annual reporting cycle. The acreage disturbed by the 10 regulated projects was approximately 197 acres. Those projects that are current, and those that have since been terminated, are both included in **Appendix D**. Active land-disturbing projects disturbing less than 1 acre, which do not require VAR10 permit coverage but are regulated under the VT Annual Standards and Specifications for ESC, are also included in the **Appendix D** document. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

MINIMUM CONTROL MEASURE 5 – POST-CONSTRUCTION STORMWATER MANAGEMENT

5.1 – Stormwater Management Facilities

5.1.1 – Tracking of Stormwater Management Facilities

Program Description: Virginia Tech will maintain an updated electronic database of all known operator-owned permanent Stormwater Management Facilities in accordance with the requirements set forth in 9VAC25-890-40Section II B 5 e.

Measurable Goals: Update the electronic database on a project-by-project basis during each reporting year. Submit an updated permanent Stormwater Management Facility inventory list with each annual report.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Stormwater Management Facilities inventory list, Stormwater Management Facilities inventory map, Stormwater Management Facility Operation and Maintenance (O&M) Manual

Year 1 Response: Virginia Tech maintains an electronic database of all known operator-owned permanent Stormwater Management Facilities on campus. This database is updated on an as needed basis as projects are terminated. An updated permanent Stormwater Management Facility inventory list is included in **Appendix D**.

Year 2 Response: Virginia Tech maintains an electronic database of all known operator-owned permanent Stormwater Management Facilities on campus. This database is updated on an as needed basis as projects are terminated. An updated permanent Stormwater Management Facility inventory list is included in **Appendix D**.

Year 3 Response: Virginia Tech maintains an electronic database of all known operator-owned permanent Stormwater Management Facilities on campus. This database is updated on an as-needed basis as projects are terminated. An updated permanent Stormwater Management Facility inventory list is included in **Appendix D**.

Year 4 Response: Virginia Tech maintains an electronic database of all known operator-owned permanent Stormwater Management Facilities on campus. This database is updated on an as-needed basis as projects are terminated. An updated permanent Stormwater Management Facility inventory list is included in **Appendix D**.

Year 5 Response: Virginia Tech maintains an electronic database of all known operator-owned permanent Stormwater Management Facilities on campus. This database is updated on an as-needed basis as projects are terminated. An updated permanent Stormwater Management Facility inventory list is included in **Appendix D**.

5.1.2 – Inspection of Stormwater Management Facilities

Program Description: Virginia Tech utilizes the University’s work order system (HokieServ) to ensure that known operator-owned permanent Stormwater Management Facilities are inspected in accordance with the comprehensive Virginia Tech Stormwater Management Facility O&M Manual.

Measurable Goals: Inspect each known permanent stormwater management facility in accordance with the Virginia Tech Stormwater Management Facilities O&M Manual. Annually track and report the total number of inspections completed each year.

Schedule of Activities:

Table 4: Operator-owned Stormwater Management Inspection Procedures

Program Update Requirement:	Permit Reference:	Update Completed By:
Operator-owned Stormwater Management Inspection Procedures	Section II B 5	12 months after permit coverage

*Updates will be submitted with the appropriate annual report.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Stormwater Management Facility Inspection Written Procedures, Stormwater Management Facility O&M Manual

Year 1 Response: Periodic inspections for maintenance and proper functionality have been performed on all Virginia Tech Stormwater Management Facilities (SWMF). Virginia Tech has successfully incorporated the SWMF inspections into the current work order system. This system allows for improved communication between the Virginia Tech Grounds Department and Site & Infrastructure Development as well as improved tracking of inspections and maintenance activities. Work orders are automatically generated each month to ensure proper inspection frequency. Please the table below for the total number of inspections performed during Year 1 of the 2013-2018 Permit Cycle.

BMP Type	Quantity	Total Number of Inspections
Bioretention	15	190
Detention/Extended Detention/Retention *this includes Enhanced Extended Detention Basin and Detention Swale	13	119
Green Roof	2	20
Filtterra and Biofilter Units	4	27
Underground Detention	6	6
Underground Water Quality Units	7	16

Year 2 Response: Periodic inspections for maintenance and proper functionality have been performed on all Virginia Tech Stormwater Management Facilities (SWMF). All inspection reports are available in

the Site & Infrastructure Development office upon request. The work order system utilized during SWMF inspections has been updated to reflect any new SWMFs that have come on line during Year 2. Please the table below for the total number of inspections performed during Year 2 of the 2013-2018 Permit Cycle.

BMP Type	Quantity	Total Number of Inspections
Bioretention	15	85
Detention/Extended Detention/Retention *this includes Enhanced Extended Detention Basin and Detention Swale	16	58
Green Roof	2	8
Filtterra and Biofilter Units	6	24
Underground Detention	6	4
Underground Water Quality Units	7	10

Year 3 Response: Periodic inspections for maintenance and proper functionality have been performed on all Virginia Tech Stormwater Management Facilities (SWMFs). All inspection reports are available in the Site & Infrastructure Development office upon request. The work order system utilized during SWMF inspections has been updated to reflect any new SWMFs that have come on line during Year 3. Please the table below for the total number of inspections performed during Year 3 of the 2013-2018 Permit Cycle.

BMP Type	Quantity	Total Number of Inspections
Bioretention	16	86
Detention/Extended Detention/Retention *this includes Enhanced Extended Detention Basin and Detention Swale	16	67
Green Roof	2	12
Filtterra and Biofilter Units	15	32
Underground Detention	6	6
Underground Water Quality Units	7	7

Year 4 Response: Periodic inspections for maintenance and proper functionality have been performed on all Virginia Tech Stormwater Management Facilities (SWMFs). All inspection reports are available in the Site & Infrastructure Development office upon request. The work order system utilized during SWMF inspections has been updated to reflect any new SWMFs that have come on line during Year 4. Please the table below for the total number of inspections performed during Year 4 of the 2013-2018 Permit Cycle.

BMP Type	Quantity	Total Number of Inspections
Bioretention	16	100
Detention/Extended Detention/Retention *this includes Enhanced Extended Detention Basin and Detention Swale	17	96

Green Roof	2	14
Filtrerra and Biofilter Units	15	92
Underground Detention	6	6
Underground Water Quality Units	7	7

Year 5 Response: Periodic inspections for maintenance and proper functionality have been performed on all Virginia Tech Stormwater Management Facilities (SWMFs). All inspection reports are available in the Site & Infrastructure Development office upon request. The work order system utilized during SWMF inspections has been updated to reflect any new SWMFs that have come on line during Year 4. Please the table below for the total number of inspections performed during Year 5 of the 2013-2018 Permit Cycle.

BMP Type	Quantity	Total Number of Inspections
Bioretention	16	78
Detention/Extended Detention/Retention *this includes Enhanced Extended Detention Basin and Detention Swale	18	67
Green Roof	2	12
Filtrerra and Biofilter Units	15	66
Underground Detention	6	6
Underground Water Quality Units	7	7

5.1.3 – Maintenance of Stormwater Management Facilities

Program Description: With the help of the Virginia Tech Facilities Operations Department, campus stormwater management facilities are maintained on an as-needed basis each year.

Measurable Goals: Maintenance of campus stormwater management facilities will be performed on an as-needed basis each year. Record the number of inspections and maintenance items completed each year.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Virginia Tech Facilities Operations will be responsible for the maintenance of campus stormwater management facilities. Facilities Department – Site & Infrastructure Development will be responsible for recording the number of inspections and maintenance items.

Necessary Documents: Stormwater Management Facility O&M Manual, inspection forms, HokieServ Summary for each reporting year

Year 1 Response: All Virginia Tech stormwater management facilities (SWMFs) have been inspected periodically for maintenance and proper functionality. SWMFs have been successfully incorporated into the current Hokieserv work order system. This system allows for improved communication between the Virginia Tech Grounds Department and Site & Infrastructure Development as well as improved tracking

of inspection and maintenance activities. Work orders are automatically generated to ensure proper inspection frequency. All inspection reports are available in the Site & Infrastructure Development office upon request. Virginia Tech will evaluate its current inspection and maintenance program for effectiveness and make improvements as necessary. See the MCM5 Evaluation in **Appendix G** for further information.

Year 2 Response: All Virginia Tech stormwater management facilities (SWMFs) are maintained on an as-needed basis. All inspection reports are available in the Site & Infrastructure Development office upon request. The work order system utilized during SWMF inspections has been updated to reflect any new SWMFs that have come on line during Year 2. Virginia Tech will evaluate its current inspection and maintenance program for effectiveness and make improvements as necessary. See the MCM5 Evaluation in **Appendix G** for further information.

Year 3 Response: All Virginia Tech stormwater management facilities (SWMFs) are maintained on an as-needed basis. All inspection reports are available in the Site & Infrastructure Development office upon request. The work order system utilized during SWMF inspections has been updated to reflect any new SWMFs that have come online during Year 3. Virginia Tech will evaluate its current inspection and maintenance program for effectiveness and make improvements as necessary. See the MCM5 Evaluation in **Appendix G** for further information.

Year 4 Response: All Virginia Tech stormwater management facilities (SWMFs) are maintained on an as-needed basis. All inspection reports are available in the Site & Infrastructure Development office upon request. The work order system utilized during SWMF inspections has been updated to reflect any new SWMFs that have come online during Year 4. Virginia Tech will evaluate its current inspection and maintenance program for effectiveness and make improvements as necessary. See the MCM5 Evaluation in **Appendix G** for further information.

Year 5 Response: All Virginia Tech stormwater management facilities (SWMFs) are maintained on an as-needed basis. All inspection reports are available in the Site & Infrastructure Development office upon request. The work order system utilized during SWMF inspections has been updated to reflect any new SWMFs that have come online during Year 5. Virginia Tech will evaluate its current inspection and maintenance program for effectiveness and make improvements as necessary. See the MCM5 Evaluation in **Appendix D** for further information.

MINIMUM CONTROL MEASURE 6 – POLLUTION PREVENTION/GOOD HOUSEKEEPING

6.1 – Municipal Facility Pollution Prevention and Good Housekeeping

6.1.1 – Daily Good Housekeeping Procedures

Program Description: Virginia Tech will develop and implement written procedures designed to minimize or prevent pollutant discharge from daily municipal operations and activities.

Measurable Goals: Develop and implement written procedures designed to minimize or prevent pollutant discharge from certain municipal operations and activities 24 months after permit coverage. Incorporate written procedures into the training curriculum after completion. Post final written procedures on the Virginia Tech Environmental Health and Safety website. Update written procedures as needed.

Schedule of Activities:

Table 5: Daily Good Housekeeping Procedures

Program Update Requirement:	Permit Reference:	Update Completed By:
Daily Good Housekeeping Procedures	Section II B 6 a	24 months after permit coverage

*Updates will be submitted with the appropriate annual report.

Responsible Party: Facilities Department – Site & Infrastructure Development and Virginia Tech Environmental Health and Safety

Necessary Documents: Final Written Procedures (once completed)

Year 1 Response: User-friendly good housekeeping procedures were created for: the disposal of wastewater; road, street, and parking lot maintenance; equipment maintenance; application, storage and transport of pesticides, herbicides, and fertilizers; illicit discharge detection; waste material disposal; washwater disposal; wastewater disposal; dewatering operations; and bulk/salt storage. All procedures can be found on the Environmental Health and Safety Frequently Asked Questions website (http://www.ehss.vt.edu/detail_pages/faq_list.php?categories_document_categ1Page=6). Good housekeeping educational material is also incorporated into the stormwater management training presentations. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Please see Year 1 Response above, all procedures can be found on the Environmental Health and Safety Frequently Asked Questions website (http://www.ehss.vt.edu/detail_pages/faq_list.php?categories_document_categ1Page=6). Good housekeeping educational material is also incorporated into the stormwater management training presentations. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: Please see Year 1 Response above, all procedures can be found on the Environmental Health and Safety Frequently Asked Questions website (http://www.ehss.vt.edu/detail_pages/faq_list.php?categories_document_catag1Page=6). Good housekeeping educational material is also incorporated into the stormwater management training presentations. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: Please see Year 1 Response above, all procedures can be found on the Environmental Health and Safety Frequently Asked Questions website (http://www.ehss.vt.edu/detail_pages/faq_list.php?categories_document_catag1Page=6). Good housekeeping educational material is also incorporated into the stormwater management training presentations. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: Please see Year 1 Response above, all procedures can be found on the Environmental Health and Safety Frequently Asked Questions website (http://www.ehss.vt.edu/detail_pages/faq_list.php?categories_document_catag1Page=6). Good housekeeping educational material is also incorporated into the stormwater management training presentations. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

6.1.2 – High Priority Facilities

Program Description: Virginia Tech will develop a list of high priority facilities and identify which of those high priority facilities have a high potential of chemicals or other materials to be discharged into the storm sewer system.

Measurable Goals: Develop list of all high priority facilities on campus. Set up checklist and ranking system to better classify high priority areas and determine which facilities will require a SWPPP.

Schedule of Activities:

Table 6: SWPPP Locations & Implementation

Program Update Requirement:	Permit Reference:	Update Completed By:
Identification of Locations Requiring SWPPPs	Section II B 6 b	12 months after permit coverage
SWPPP Implementation	Section II B 6 b (3)	48 months after permit coverage

*Updates will be submitted with the appropriate annual report.

Responsible Party: Facilities Department – Site & Infrastructure Development

Necessary Documents: Inspection Checklist, list of High Priority Facilities

Year 1 Response: Virginia Tech enlisted a consultant to aid in identifying high priority/high potential areas on Virginia Tech’s main campus utilizing a checklist and general inspection form. Sites were considered for SWPPP development if the report showed that they were both high priority and high potential. Next steps include identifying all personnel and operations on each individual site to refine stormwater pollution mitigation efforts prior to SWPPP development. Those facilities that did not qualify as both high priority and high potential will be incorporated into the illicit discharge detection and elimination (IDDE) program. All locations will be tracked using ArcGIS. All identified locations area available by request but were not included as part of the Annual Report. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

High Priority Areas Requiring a SWPPP	
1.	Sterrett Facilities Complex
2.	Toms Creek Basin Facility
3.	Agronomy Research Barns on Prices Fork Road
4.	Large Equipment Storage at Old Mill Road
5.	Glade Road Research Center
6.	Virginia Tech Electric Service

Year 2 Response: Please see Year 1 Response above, high priority/high potential areas on Virginia Tech’s Main campus were identified during Year 1. Virginia Tech is currently in the process of assessing funding needs to develop SWPPPs for these High Priority/High Potential Areas.

Year 3 Response: Please see Year 1 Response above, high priority/high potential areas on Virginia Tech’s Main campus were identified during Year 1. Virginia Tech is currently in the process of assessing funding needs to develop SWPPPs for these High Priority/High Potential Areas.

Year 4 Response: Please see Year 1 Response above, high priority/high potential areas on Virginia Tech’s Main campus were identified during Year 1.

Year 5 Response: Please see Year 1 Response above, high priority/high potential areas on Virginia Tech’s Main campus were identified during Year 1. Two of the high priority/high potential areas (Sterrett Facilities Complex and Toms Creek Basin Facility) have completed SWPPPs that are kept on site and quarterly inspections are performed. The other four high priority/high potential areas are currently under review.

6.1.3 – Develop and Implement SWPPPs for High Priority-High Potential Facilities

Program Description: All high priority areas that are determined to have a high potential of chemicals or other materials to be discharged into the storm sewer system will need to be covered under a SWPPP.

Measurable Goals: Develop SWPPP for all high priority facilities that are determined to have a high potential of chemicals or other materials to be discharged into the storm sewer system, within 48 months of permit coverage.

Schedule of Activities:

Table 7: SWPPP Locations & Implementation

Program Update Requirement:	Permit Reference:	Update Completed By:
Identification of Locations Requiring SWPPPs	Section II B 6 b	12 months after permit coverage
SWPPP Implementation	Section II B 6 b (3)	48 months after permit coverage

*Updates will be submitted with the appropriate annual report.

Responsible Party: Facilities Department – Site & Infrastructure Development (Responsible Party will change once it is determined which departments and facilities will need SWPPPs developed)

Necessary Documents: Inspection Checklist, List of High Priority Facilities, High Priority/High Potential Facility SWPPPs (once developed)

Year 1 Response: Virginia Tech enlisted a consultant to aid in identifying illicit discharge high priority/high potential areas on Virginia Tech's main campus. The investigation included recommendations for those facilities that require a SWPPP. Virginia Tech has discussed and verified the list of high priority/high potential areas that need a SWPPP. SWPPP locations are tracked using ArcGIS. Next steps include developing and implementing a SWPPP, developing inspection forms, establishing a frequency of inspections, and confirming responsible parties. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

High Priority Areas Requiring a SWPPP
1. Sterrett Facilities Complex
2. Toms Creek Basin Facility
3. Agronomy Research Barns on Prices Fork Road
4. Large Equipment Storage at Old Mill Road
5. Glade Road Research Center
6. Virginia Tech Electric Service

Year 2 Response: Please see Year 1 Response above, high priority/high potential areas on Virginia Tech's Main campus were identified during Year 1. Virginia Tech is currently in the process of assessing funding needs to develop SWPPPs for these High Priority/High Potential Areas.

Year 3 Response: Please see Year 1 Response above, high priority/high potential areas on Virginia Tech's Main campus were identified during Year 1. Virginia Tech is currently in the process of assessing funding needs to develop SWPPPs for these High Priority/High Potential Areas.

Year 4 Response: Please see Year 1 Response above, high priority/high potential areas on Virginia Tech's Main campus were identified during Year 1. Virginia Tech has developed SWPPPs for their current High Priority Areas. Implementation and inspections will begin during the next reporting year.

Year 5 Response: Please see Year 1 Response above, high priority/high potential areas on Virginia Tech's Main campus were identified during Year 1. Implementation and inspections have begun at two of the

High Priority Areas (Sterrett Facilities Complex and Toms Creek Basin Facility), while the other four high priority/high potential areas are currently under review.

6.2 – Landscaping Management and Pest Control

6.2.1 – Pesticide Application by Certified Pesticide Applicators

Program Description: Pesticide application will only be performed by certified pesticide applicators.

Measurable Goals: Annually track certified pesticide applicators and appropriate certification information in a database and update as necessary.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Virginia Tech Athletic Department, Virginia Tech Golf Course, Virginia Tech Department of Horticulture, Virginia Tech Department of Recreational Sports, Virginia Tech Turfgrass Research Center, Virginia Tech Facilities Operations, Virginia Tech College of Agriculture and Life Sciences (CALS) College Farm, Facilities Department Site & Infrastructure Development

Necessary Documents: List of Certified Pesticide Applicators

Year 1 Response: There are six groups on campus that are responsible for applying pesticides and fertilizers as needed: Agricultural Operations, Virginia Tech Athletics, Virginia Tech Golf Course, Virginia Tech Grounds Department, Peggy Lee Hahn Garden Pavilion, and Virginia Tech Recreational Sports. Each department is responsible for maintaining Certification for Applicators and a list of products used. Copies of the current lists can be found in the Site & Infrastructure Development office. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Please see Year 1 Response above, there are six groups on campus that are responsible for applying pesticides and fertilizers as needed. Each department is responsible for maintaining Certification for Applicators and a list of products used. Copies of the current lists can be found in the Site & Infrastructure Development office. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: Please see Year 1 Response above, there are six groups on campus that are responsible for applying pesticides and fertilizers as needed. Each department is responsible for maintaining Certification for Applicators and a list of products used. Copies of the current lists can be found in the Site & Infrastructure Development office. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: Please see Year 1 Response above, there are six groups on campus that are responsible for applying pesticides and fertilizers as needed. Each department is responsible for maintaining Certification for Applicators and a list of products used. Copies of the current lists can be found in the Site & Infrastructure Development office. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: Please see Year 1 Response above, there are six groups on campus that are responsible for applying pesticides and fertilizers as needed. Each department is responsible for maintaining Certification for Applicators and a list of products used. Copies of the current lists can be found in the Site & Infrastructure Development office. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

6.2.2 – Turf and Landscape Management

Program Description: Virginia Tech currently maintains 21 nutrient management plans that are managed by several different departments. These nutrient management plans cover all campus areas where nutrients are applied to a contiguous area greater than one acre and are developed by a certified nutrient management planner.

Measurable Goals: Annually track the total acreage of lands where turf and landscape NMPs are required. Annually track the acreage of lands upon which turf and landscape NMPs have been implemented.

Schedule of Activities: In accordance with the 2013-2018 MS4 Permit Requirements, Virginia Tech will determine if any additional NMPs will be needed. Virginia Tech will then develop and implement the additional NMPs, if necessary. Please see the table below for more information.

Table 8: NMP Locations & Implementation

Program Update Requirement:	Permit Reference:	Update Completed By:
NMP Locations	Section II B 6 c (1) (a)	12 months after permit coverage
NMP Implementation	Section II B 6 c (1) (b)	60 months after permit coverage

*Updates will be submitted with the appropriate annual report.

Responsible Party: Virginia Tech Athletic Department, Virginia Tech Golf Course, Virginia Tech Department of Horticulture, Virginia Tech Department of Recreational Sports, Virginia Tech Turfgrass Research Center, Virginia Tech Facilities Operations, Virginia Tech College of Agriculture and Life Sciences (CALS) College Farm, Facilities Department —Site & Infrastructure Development

Necessary Documents: Nutrient Management Plans, list of applicable lands and associated acreage

Year 1 Response: Virginia Tech currently maintains 21 nutrient management plans that are managed by seven different departments. During Year 1, Virginia Tech assessed all properties where nutrients are applied to a contiguous area greater than an acre and determined that no additional nutrient management plans are needed. Please see Table 3 for a current list of all nutrient management plans. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Please see Table 3 for a current list of all nutrient management plans and associated contact information. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: Please see Table 3 for a current list of all nutrient management plans and associated contact information. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: Please see Table 3 for a current list of all nutrient management plans and associated contact information. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: Please see Table 3 for a current list of all nutrient management plans and associated contact information. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

6.3 – Personnel Training

6.3.1 – Annual Written Training Plan

Program Description: Virginia Tech will develop an annual written training plan that will outline training schedules and implementation of training requirements.

Measurable Goals: Once developed, the annual written training plan will be evaluated and modified each year. Each MS4 Annual Report will contain the annual written training plan for the upcoming year as well as a progress report from the previous year.

Schedule of Activities: During Year 1, Virginia Tech will develop an annual training plan which will outline training schedules and implementation of training requirements. The annual training plan will be added to the MS4 Program and updated annually.

Table 9: Training Schedule and Program

Program Update Requirement:	Permit Reference:	Update Completed By:
Training Schedule and Program	Section II B 6	12 months after permit coverage

*Updates will be submitted with the appropriate annual report.

Responsible Party: Facilities Department – Site & Infrastructure Development, Environmental Health and Safety

Necessary Documents: Annual Written Training Plan

Year 1 Response: The Annual Written Training Plan has been developed and incorporates Virginia Tech Dining Services stormwater management and awareness training as well as general stormwater

management and awareness training for Virginia Tech Facilities Operations personnel. It also includes responsible parties and contact information as well as preliminary annual training schedules. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: The Annual Written Training Plan has been reviewed and updated to reflect training procedures for the upcoming year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: The Annual Written Training Plan has been reviewed and updated to reflect training procedures for the upcoming year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: The Annual Written Training Plan has been reviewed and updated to reflect training procedures for the upcoming year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: The Annual Written Training Plan has been reviewed and updated to reflect training procedures for the upcoming year. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

6.3.2 – Stormwater Pollution Prevention Training for Virginia Tech Personnel

Program Description: A general stormwater pollution prevention course will be developed for applicable Virginia Tech personnel. The course will cover pollution prevention techniques that can be utilized when performing certain job tasks as well as when illicit discharges have been detected.

Measurable Goals: Applicable field crews for the Virginia Tech Facilities Operations Department will receive stormwater pollution prevention training every 2 years. Track the number of employees trained each year.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Virginia Tech Environmental Health and Safety will be responsible for implementing the training. Facilities Department —Site & Infrastructure Development will be responsible for developing the training curriculum as well as any future modifications when necessary.

Necessary Documents: Annual Training Plan, Stormwater Pollution Prevention Training material, training session attendance logs

Year 1 Response: 1,436 Virginia Tech Dining Services employees have received stormwater management training, which includes job-specific pollution prevention techniques such as disposing of wastewater and used oil, and cleaning off floor mats. Employees were trained as a part of New Hire Orientation or, for returning staff members, as an annual training requirement for all levels of employees including student, wage, and salary employees. 1,092 of the 1,436 employees are students. It can be assumed

that most, if not all, of the students are off-campus students. 279 of the 1,436 are wage staff members and 63 are salaried staff members. 139 Virginia Tech employees were trained through Environmental Health and Safety on MS4 awareness and pollution prevention, which includes disposal information and spill procedures for those working in areas and with equipment susceptible to generating stormwater pollution. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: During Year 2, 1602 Virginia Tech Dining Services employees have received stormwater management training, which includes job-specific pollution prevention techniques such as disposing of wastewater and used oil, and cleaning off floor mats. 223 Virginia Tech employees were trained through Environmental Health and Safety on MS4 awareness and pollution prevention, which includes disposal information and spill procedures for those working in areas and with equipment susceptible to generating stormwater pollution. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: During Year 3, 2002 Virginia Tech Dining Services employees have received stormwater management training, which includes job-specific pollution prevention techniques such as disposing of wastewater and used oil, and cleaning off floor mats. 104 Virginia Tech employees were trained through Environmental Health and Safety on MS4 awareness and pollution prevention, which includes disposal information and spill procedures for those working in areas and with equipment susceptible to generating stormwater pollution. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: During Year 4, 1735 Virginia Tech Dining Services employees have received stormwater management training, which includes job-specific pollution prevention techniques such as disposing of wastewater and used oil, and cleaning off floor mats. 125 Virginia Tech employees were trained through Environmental Health and Safety on MS4 awareness and pollution prevention, which includes disposal information and spill procedures for those working in areas and with equipment susceptible to generating stormwater pollution. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: During Year 5, 1763 Virginia Tech Dining Services employees have received stormwater management training, which includes job-specific pollution prevention techniques such as disposing of wastewater and used oil, and cleaning off floor mats. Twelve Virginia Tech employees were trained through Environmental Health and Safety on MS4 awareness and pollution prevention at the Virginia Tech Quarry.

6.4 - Management of Municipal Facilities

6.4.1 – Street Sweeping

Program Description: Virginia Tech owns and operates a street sweeper to pick up litter and debris from parking lots and roads on campus. All campus parking lots and roads will be swept regularly with additional measures taken during football seasons.

Measureable Goals: Parking lots and roads will be swept on an annual basis. Track mileage of roads and parking lots swept. Track amount of material collected during street sweeping operations.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Virginia Tech Facilities Operations

Necessary Documents: Street Sweeper Log

Year 1 Response: Virginia Tech continues to maintain streets and parking lots by sweeping them as needed as well as before and after large sporting events. A log showing dates and locations of street sweeping is available upon request. A total of approximately 33,550 pounds was collected from September 9, 2013 through July 21, 2014. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Virginia Tech continues to maintain streets and parking lots by sweeping them as needed as well as before and after large sporting events. A log showing dates and locations of street sweeping is available upon request. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: Virginia Tech continues to maintain streets and parking lots by sweeping them as needed as well as before and after large sporting events. A log showing dates and locations of street sweeping is available upon request. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: Virginia Tech continues to maintain streets and parking lots by sweeping them as needed as well as before and after large sporting events. A log showing dates and locations of street sweeping is available upon request. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: Virginia Tech continues to maintain streets and parking lots by sweeping them as needed as well as before and after large sporting events. A log showing dates and locations of street sweeping is available upon request. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

6.4.2 – Stormwater Structure Maintenance and Cleaning

Program Description: Storm structures around campus are routinely cleaned and repaired when necessary by Virginia Tech Facilities Operations. This prevents sediment and other pollutants from entering the storm sewer system and ensures that stormwater structures are free of obstructions.

Measureable Goals: Clean storm sewer inlets on an annual basis and maintain/repair when needed. Track and record when cleaning is completed and repairs are made.

Schedule of Activities: Continue to implement the current program and evaluate annually.

Responsible Party: Virginia Tech Facilities Operations

Necessary Documents: Stormwater System Repair Log

Year 1 Response: Virginia Tech works to perform storm sewer system inlet cleaning and maintenance as much as possible. The Virginia Tech Mechanical Utilities Department routinely cleans the storm drains around campus. A university-owned vacuum truck is used to aid in this process. The maintenance and cleaning records are tracked and maintained in the work order system. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 2 Response: Virginia Tech continues to perform sewer system inlet cleaning and maintenance as much as possible. The maintenance and cleaning records are tracked and maintained in the work order system. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 3 Response: Virginia Tech continues to perform sewer system inlet cleaning and maintenance as much as possible. The maintenance and cleaning records are tracked and maintained in the work order system. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 4 Response: Virginia Tech continues to perform sewer system inlet cleaning and maintenance as much as possible. The maintenance and cleaning records are tracked and maintained in the work order system. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

Year 5 Response: Virginia Tech continues to perform sewer system inlet cleaning and maintenance as much as possible. The maintenance and cleaning records are tracked and maintained in the work order system. Further documentation of implementation is available by request and is not provided as a part of the Annual Report.

6.4.3 – Salt Storage and Application

Program Description: The Virginia Tech Facilities Operations Department applies pretreatment products to campus roads and parking lots in order to reduce the amount of salt applied. After salt or other materials are applied, regular street sweeping will occur to remove the materials from roads and parking lots, preventing it from entering the storm sewer system. Deicing agents containing urea or other forms of nitrogen or phosphorous will not be applied to parking lots, roadways, sidewalks, or other paved surfaces.

Measurable Goals: Annually track the amount of salt and other materials applied to aid in snow and ice removal.

Schedule of activities: Continue to implement the current program and evaluate annually.

Responsible Party: Virginia Tech Facilities Operations

Necessary Documents: Salt Application Log

Year 1 Response: The Virginia Tech Grounds Department uses a spreadsheet to track the application and location of salt and brine used during snow events each year. The current salt application log for November 16, 2013 to April 24, 2014 is available upon request.

Year 2 Response: The Virginia Tech Grounds Department uses a spreadsheet to track the application and location of salt and brine used during snow events each year. The current salt application log for is available upon request.

Year 3 Response: The Virginia Tech Grounds Department uses a spreadsheet to track the application and location of salt and brine used during snow events each year. The current salt application log for is available upon request.

Year 4 Response: The Virginia Tech Grounds Department uses a spreadsheet to track the application and location of salt and brine used during snow events each year. The current salt application log for is available upon request.

Year 5 Response: The Virginia Tech Grounds Department uses a spreadsheet to track the application and location of salt and brine used during snow events each year. The current salt application log is available upon request.

Appendix B – Virginia Tech Annual Standards and Specifications for ESC & SWM

The 2017 Virginia Tech Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management have been included in **Appendix B**. They remain in effect until November 1, 2018, as approved by the Virginia Department of Environmental Quality.

Appendix C – Illicit Discharge Annual Report Summary

Illicit Discharge:

Date	Illicit Discharge Type:	Location	Reported By:	Assessed By:	Actions Taken:
1/8/2018	Oil Sheen	Beamer Way	Erich Roscher	VT SID	Contacted Rob Lowe, no details on source.
2/7/2018	Sediment runoff from construction site	Southgate	Cully Hession	Mike Vellines SID	Emailed contractor to address problem.
2/7/2018	Sediment runoff from construction site	Sandy Hall	Cully Hession	Mike Vellines SID	Emailed contractor to address problem.
4/26/2018	Illicit Discharge 9:30 am phone call received via EHS notifying of a large fish kill in the Webb branch leading into the duck pond	Stroubles Creek Webb Branch		DEQ and VT SID	Rob Lowe of EHS notified DEQ immediately and SID began to track the discharge. Water pH levels were reading 10-11 pH at outfalls near Surge building. Through several days of investigation involving camera work, dye testing and tracking it was determined that the Virginia Tech Power House had a waste water tank that was compromised and leaking into several broken systems. Temporary tanks were brought in on 4/28 and continued work to repair the lines is taking place.
6/19/2018	Sediments entering Duck Pond from Stroubles Creek	Duck Pond	Bill Ross	VT SID	Tracked to a water main break on south Main Street in the town of Blacksburg.
6/19/2018	Manure Spill	Kentland Farm	Pat Hilt	VT SID	Cleaned up by employees and SID visited on 6/20 to assess and take photos. DEQ was notified and made a site visit.
6/28/2018	Water chill line hole	ICTAS Parking Lot	Jason	VT SID	Contained at site, water pumped out and line repaired.

Appendix D – Stormwater Management Facilities

BMP Number	BMP Name	BMP Status	BMP Type	BMP Location	Latitude	Longitude	Pervious Drainage Area (Acres)	Impervious Drainage Areas (Acres)	Total Acres	Date Added	Sixth Order HUC	Impaired Water	Operator-owned or Privately-owned?	Maintenance	Date of Last Inspection
BMP_0001	Lane Stadium - Extended Detention Basin	Existing	Extended Detention	Virignia Tech Lane Stadium 285 Spring Road Blacksburg, VA 24061	37-13-8 N	80-25-1 W	1.06	0.05	1.11	06/2010	NE59	Stroubles Creek	Operator-owned	-	4/18/2018
BMP_0002	Chicken Hill Undergro und Detention Basin	Existing	Undergroun d Stormwater Detention Facility	Corner of Southgate Road and Tech Center Drive (adjacent to Chicken Hill Parking Lot) Blacksburg, VA 24061	37-13-1.9 N	80-25-5.65 W	3.35	7.15	10.5	01/2012	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0004	Vet Med - Retention Pond	Existing	Rentention Pond	Virginia Tech Campus Corner of Duckpond Road and Southgate Drive Blacksburg, VA 24061	37-12-59 N	80-25-32 W	312.2	119.5	431.7	06/2005	NE59	Stroubles Creek	Operator-owned	-	4/18/2018
BMP_0005	Vet Med - Detention Pond	Existing	Detention Pond	Virginia Tech Campus Corner of Southgate Drive and Route 460 Blacksburg,VA 24061	37-12-57 N	80-25-50 W	457.5	148.3	605.8	06/2005	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0006	Vet Med-IDRF Extended Detention Basin	Existing	Extended Detention	Virginia Tech Campus Behind VA-MD Vet Med Building Blacksburg,VA 24062			5.98	8.49	14.47		NE60	Stroubles Creek	Operator-owned	-	2017
BMP_0007	Smithfiel d Lot Bioretenti on Pretreat ment	Existing	Bioretention Pretreatmen t	Virignia Tech Campus Smithfield Road (Smithfield Parking Lot) Blacksburg, VA 24061	37-13-22 N	80-25-46 W	0.36	1.03	1.39	06/2010	NE59	Stroubles Creek	Operator-owned	-	4/16/2018
BMP_0008	Smithfiel d Lot Bioretenti on	Existing	Bioretention	Virignia Tech Campus Smithfield Road (Smithfield Parking Lot)	37-13-22 N	80-25-46 W	0.49	1.04	1.53	07/2007	NE59	Stroubles Creek	Operator-owned	-	4/16/2018

				Blacksburg, VA 24061												
BMP_0009	Smithfiel d Lot Extended Detention 1	Existing	Extended Detention	Virignia Tech Campus Smithfield Road (Smithfield Parking Lot) Blacksburg, VA 24061	37-13- 24 N	80-25-4 6 W	0.09	0.16	0.25	07/ 2007	NE59	Stroubles Creek	Operator- owned	-	4/16/2018	
BMP_0010	Smithfiel d Lot Extended Detention 2	Existing	Extended Detention	Virignia Tech Campus Smithfield Road (Smithfield Parking Lot) Blacksburg, VA 24061	37-13- 25 N	80-25-4 5 W	0.22	0.27	0.49	07/ 2007	NE59	Stroubles Creek	Operator- owned	-	4/16/2018	
BMP_0011	Duck Pond Overflow Lot - Extended Detention	Existing	Extended Detention	Virignia Tech Campus Oak Lane (adjacent to Duck Pond Overflow Lot) Blacksburg, VA 24061	37-13- 22 N	80-25-5 0 W	0.43	1.83	2.26	06/ 2005	NE59	Stroubles Creek	Operator- owned	-	4/3/2018	
BMP_0013	Oak Lane (SPH) - Extended Detention Basin	Existing	Extended Detention	Virginia Tech Campus Oak Lane (Center of Oak Lane Community) Blacksburg, VA 24061	37-13- 29 N	80-26-1 7 W	6.89	4.31	11.2	06/ 2005	NE59	Stroubles Creek	Operator- owned	-	4/2/2018	
BMP_0014	Alumni Pond	Existing	Enhanced Extended Detention	Virginia Tech Campus Corner of Duck Pond Drive and West Campus Drive Blacksburg, VA 24061	37-13- 42 N	80-25-4 1 W	15.8	28.0	43.8	01/ 2012	NE59	Stroubles Creek	Operator- owned	-	4/3/2018	
BMP_0015	Grove Lane Extended Detention	Existing	Extended Detention	Virginia Tech Campus Duck Pond Drive Blacksburg, VA 20461	37-13- 22 N	80-25-3 9 W	33.5	28.2	61.7	06/ 2005	NE59	Stroubles Creek	Operator- owned	-	4/16/2018	
BMP_0016	Life Sciences - Green Roof Extension 1	Existing	Green Roof	Virginia Tech Life Sciences I Facility 970 Washington Street SW Blacksburg, VA 24061	37-13- 16 N	80-25-2 8 W	0.11	0.22	0.33	06/ 2010	NE59	Stroubles Creek	Operator- owned	-	4/18/2018	

BMP_0017	Life Sciences - Green Roof Extension 2	Existing	Green Roof	Virginia Tech Life Sciences I Facility 970 Washington Street SW Blacksburg, VA 24061	37-13-14 N	80-25-28 W	0.06	0.19	0.25	06/2010	NE59	Stroubles Creek	Operator-owned	-	4/18/2018
BMP_0018	Payne (NR) - Underground Detention Basin	Existing	Underground Detention	Virginia Tech Campus Between Slusher Wing and Dietrick Dining Hall Blacksburg, VA 24062	37-13-31 N	80-25-16 W	3.16	2.13	5.29	06/2005	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0019	Henderson Hall Bioretention Filter	Existing	Bioretention Filter	Virginia Tech Henderson Hall 195 Alumni Mall Blacksburg, VA 24061	37-13-49 N	80-25-00 W	0.84	0.42	1.26	07/2011	NE59	Stroubles Creek	Operator-owned	-	4/18/2018
BMP_0020	New Hall West 1	Existing	Bioretention Filter	Virginia Tech Campus New Hall West 190 West Campus Drive Blacksburg, VA 24061	37-13-19.173 N	80-25-21.899 W	0.05	0.11	0.16	01/2012	NE59	Stroubles Creek	Operator-owned	-	4/16/2018
BMP_0021	New Hall West 2	Existing	Bioretention Filter	Virginia Tech Campus New Hall West 190 West Campus Drive Blacksburg, VA 24061	37-13-20.632 N	80-25-19.96 W	0.1	0.16	0.26	01/2012	NE59	Stroubles Creek	Operator-owned	-	4/16/2018
BMP_0022	Horse Exhibit - Livestock Arena	Existing	Extended Detention	Virginia Tech Campus Alphin Stuart Livestock Teaching Arena 500 Plantation Road Blacksburg, VA	37-13-13 N	80-26-26 W	4.93	0.87	5.8	06/2005	NE59	Stroubles Creek	Operator-owned	-	4/16/2018
BMP_0023	VTES - Extended Detention	Existing	Extended Detention	Virginia Tech Montgomery Executive Airport 1601 Research Center Drive Blacksburg, Va 24060	37-12-40 N	80-24-46 W	28.32	8.58	36.9	06/2005	NE59	Stroubles Creek	Operator-owned	-	2/18/2018

BMP_0024	Library Storage - Extended Detention	Existing	Extended Detention	University Storage Facility 600 Energy Drive Blacksburg, VA 24061	37-12-46 N	80-24-40 W	10.97	2.73	13.7	06/2005	NE59	Stroubles Creek	Operator-owned	-	4/4/2018
BMP_0027	ICTAS II- Bioretention	Existing	Bioretention Filter	Virginia Tech Institute for Critical Technology and Applied Science (ICTAS II) 1075 Life Science Circle Blacksburg, VA 24061	37-13-20 N	80-25-32 W	0.05	0.28	0.33	07/2011	NE59	Stroubles Creek	Operator-owned	-	4/16/2018
BMP_0029	SWCP	Existing	Extended Detention	Virginia Tech Campus Southwest Chiller Plant 2295 Smithfield Road Blacksburg, VA 24061	37-13-16 N	80-25-50 W	3.25	1.31	4.56	11/2013	NE59	Stroubles Creek	Operator-owned	-	4/16/2018
BMP_0030	Vet Med - IDRF Retention Basin	Existing	Retention Basin	Virginia Tech Campus 295 Duck Pond Drive Blacksburg, VA 24061	37-13-1 N	80-25-46 W	6.61	8.17	14.78	05/2012	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0034	Lower Chicken Hill WQU	Existing	Underground WQU	Corner of Southgate Road and Tech Center Drive (adjacent to Chicken Hill Parking Lot) Blacksburg, VA 24061	37-13-2.4 N	80-25-6.2 W	3.35	7.15	10.5	01/2012	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0035	New Hall West 3	Existing	Bioretention Filter	Virginia Tech Campus New Hall West 190 West Campus Drive Blacksburg, VA 24061	37-13-20.766 N	80-25-21.099 W	0.05	0.19	0.24	01/2012	NE59	Stroubles Creek	Operator-owned	-	4/16/2018
BMP_0036	New Hall West 4	Existing	Bioretention Filter	Virginia Tech Campus New Hall West 190 West Campus Drive Blacksburg, VA 24061	37-13-19.945 N	80-25-22.273 W	0.02	0.12	0.14	01/2012	NE59	Stroubles Creek	Operator-owned	-	4/16/2018

BMP_0037	McComas Filterra Unit	Existing	Filterra Unit	Virginia Tech campus McComas Hall 895 Washington Street SW Blacksburg, VA 24061	37-13-11 N	80-25-23 W	0.26	0.4	0.66	07/2011	NE59	Stroubles Creek	Operator-owned	-	2/14/2018
BMP_0038	Football Locker Room WQU	Existing	Underground WQU	Virginia Tech Campus Merryman Athletic Facility 165 Spring Road Blacksburg, VA 24061	37-13-20 N	80-25-21 W	0.47	2.6	3.07	01/2012	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0039	ICTAS II - Rain Garden	Existing	Bioretention Filter	Virginia Tech Institute for Critical Technology and Applied Science (ICTAS II) 1075 Life Science Circle Blacksburg, VA 24061	37-13-20 N	80-25-32 W	0	0.15	0.15	07/2011	NE59	Stroubles Creek	Operator-owned	-	4/16/2018
BMP_0041	MMF Bioretention Filter	Existing	Bioretention Filter	Virginia Tech Health and Safety Building 675 Research Center Drive Blacksburg, VA 24061	37-12-52 N	80-25-28 W	0.53	0.87	1.4	09/2011	NE59	Stroubles Creek	Operator-Owned	-	4/18/2018
BMP_0042	West End Bioretention Filter	Existing	Bioretention Filter	Virginia Tech West End Market at Cochrane Hall 770 Washington Street SW Blacksburg, VA 24061	37-13-19.945 N	80-25-22.73 W	0.34	0.19	0.53	01/2012	NE59	Stroubles Creek	Operator-owned	-	4/16/2018
BMP_0043	West End Filterra	Existing	Filterra Unit	Virginia Tech West End Market at Cochrane Hall 770 Washington Street SW Blacksburg, VA 24061	37-13-23.684 N	80-25-24.707 W	0.06	0.59	0.65	01/2012	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0044	Roller Hockey Rink WQU	Existing	Stormceptor Underground WQU	Washington Street (southeast of Basketball Practice Facility) Blacksburg, VA 24061	37-19-1 N	79-58-27 W	3.22	4.2	7.42	01/2012	NE59	Stroubles Creek	Operator-owned	-	2017

BMP_0045	Visitor's Center - Bioretention Filter 1	Existing	Bioretention Filter	Virginia Tech Visitor and Undergraduate Admissions Center 925 Prices Fork Road Blacksburg, VA 24061	37-13-50 N	80-26-6 W	0.9	0.47	1.37	07/2012	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0046	Visitor's Center - Bioretention Filter 2	Existing	Bioretention Filter	Virginia Tech Visitor and Undergraduate Admissions Center 925 Prices Fork Road Blacksburg, VA 24061	37-13-51 N	80-26-4 W	0.34	0.14	0.42	07/2012	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0047	Visitor's Center - Bioretention Filter 3	Existing	Bioretention Filter	Virginia Tech Visitor and Undergraduate Admissions Center 925 Prices Fork Road Blacksburg, VA 24061	37-13-48 N	80-26-5 W	0.47	0.16	0.4	07/2012	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0048	Visitor's Center - Bioretention Filter 5	Existing	Bioretention Filter	Virginia Tech Visitor and Undergraduate Admissions Center 925 Prices Fork Road Blacksburg, VA 24061	37-13-48 N	80-25-59 W	1.53	0	2.99	07/2012	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0049	ASA - Underground Storage Tank 1	Existing	Underground Detention Center	Virginia Tech Lavery Hall 430 Old Turner Street Blacksburg, VA 24061	37-13-52 N	80-25-22 W	0.08	1.15	1.23	01/2012	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0050	ASA - Underground WQU 1	Existing	Underground WQU, Contech Stormfilter	Virginia Tech Lavery Hall 430 Old Turner Street Blacksburg, VA 24061	37-13-52 N	80-25-22 W	0.08	1.15	1.23	01/2012	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0051	ASA - Underground Storage Tank 2	Existing	Underground Detention Center	Virginia Tech Lavery Hall 430 Old Turner Street Blacksburg, VA 24061	37-13-52 N	80-25-22 W	0.01	0.86	0.87	01/2012	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0052	ASA - Underground WQU 2	Existing	Underground WQU, Contech Stormfilter	Virginia Tech Lavery Hall 430 Old Turner Street Blacksburg, VA 24061	37-13-52 N	80-25-22 W	0.01	0.86	0.87	01/2012	NE59	Stroubles Creek	Operator-owned	-	2017

BMP_0053	ASA - Biofilter	Existing	WQU - Contech Urbangreen Biofilter	Virginia Tech Lavery Hall 430 Old Turner Street Blacksburg, VA 24061	37-13-52 N	80-25-2 2 W	0.1	0.18	0.28	01/2012	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0054	SPE Filterra Unit 1	Existing	Filterra Unit	Virginia Tech Oak Lane Community Blacksburg, VA 24061	37-13-30 N	80-26-0 8 W	0.11	0.42	0.53	08/2013	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0055	SPE Filterra Unit 2	Existing	Filterra Unit	Virginia Tech Oak Lane Community Blacksburg, VA 24061	37-13-30 N	80-26-0 8 W	0.15	0.52	0.67	08/2013	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0056	SPE Undergro und Detention Piping	Existing	Undergroun d Detention Pipe	Virginia Tech Oak Lane Community Blacksburg, VA 24061	37-13-30 N	80-26-0 8 W	0.51	0.35	0.86	05/2013	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0057	VMIA - Detention Swale	Existing	Detention Swale	Virginia Tech 215 Duck Pond Drive Blacksburg, VA 24061	37-13-07 N	80-25-4 1 W	0.09	0.25	0.34	11/2012	NE59	Stroubles Creek	Operator-owned	-	4/18/2018
BMP_0058	VMIA - Filterra Unit	Existing	Filterra Unit	Virginia Tech 215 Duck Pond Drive Blacksburg, VA 24061	37-13-07 N	80-25-4 1 W	0.01	0.23	0.24	11/2012	NE59	Stroubles Creek	Operator-owned	-	4/18/2018
BMP_0060	CFTA Water Quality Unit 1	Existing	Stormceptor Undergroun d WQU	Virginia Tech 190 Alumni Mall Blacksburg, VA 24061	37-13-52 N	80-25-0 2 W	2.01	4.43	6.44	07/2013	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0061	CFTA Water Quality Unit 2	Existing	Stormceptor Undergroun d WQU	Virginia Tech 190 Alumni Mall Blacksburg, VA 24061	37-13-53 N	80-25-0 0 W	1.06	1.82	2.88	07/2013	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0062	CFTA Undergro und Detention	Existing	Undergroun d Detention Facility	Virginia Tech 190 Alumni Mall Blacksburg, VA 24061	37-13-54 N	80-25-0 1 W	1.94	1.82	3.76	07/2013	NE59	Stroubles Creek	Operator-owned	-	2017
BMP_0065	VT Airport Extended Detention Basin	Existing	Extended Detention	Virginia Tech Montgomery Executive Airport 1601 Research Center Drive Blacksburg, Va 24060	37-12-20 N	80-24-4 1 W	5.69	2.44	8.13	06/2005	NE59	Stroubles Creek	Privately-owned	Y	4/2/2018
BMP_0071	Drillfield Road Improve ments Filterra Unit	Existing	MTD Filterra Unit	Virginia Tech Campus Drillfield Drive Blacksburg, Va 24061	37-13-46 N	80-25-1 7 W	0.06	0.24	0.3	4/4/2016	NE59	Stroubles Creek	Operator-owned	-	4/2/2018

BMP_0072	Drillfield Road Improvements Filterra Unit	Existing	MTD Filterra Unit	Virginia Tech Campus Drillfield Drive Blacksburg, Va 24061	37-13-40 N	80-25-1 W	0.22	0.19	0.41	4/4/2016	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0073	IATF Filterra Unit 1	Existing	MTD Filterra Unit	Virginia Tech 530 Stadium Road Blacksburg, Va 24061	37-13-16 N	80-25-2 W	0	0.24	0.24	9/17/2015	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0074	IATF Filterra Unit 2	Existing	MTD Filterra Unit	Virginia Tech 530 Stadium Road Blacksburg, Va 24061	37-13-16 N	80-25-2 W	0	0.19	0.19	9/17/2015	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0075	IATF Filterra Unit 3	Existing	MTD Filterra Unit	Virginia Tech 530 Stadium Road Blacksburg, Va 24061	37-13-18	80-25-0 W	0	0.19	0.19	9/17/2015	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0076	IATF Filterra Unit 4	Existing	MTD Filterra Unit	Virginia Tech 530 Stadium Road Blacksburg, Va 24061	37-13-18 N	80-25-0.7 W	0	0.24	0.24	9/17/2015	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0077	IATF Filterra Unit 5	Existing	MTD Filterra Unit	Virginia Tech 530 Stadium Road Blacksburg, Va 24061	37-13-19 N	80-25-1 W	0	0.24	0.24	9/17/2015	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0078	IATF Filterra Unit 6	Existing	MTD Filterra Unit	Virginia Tech 530 Stadium Road Blacksburg, Va 24061	37-13-20 N	80-25-2 W	0	0.24	0.24	9/17/2015	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0079	IATF Filterra Unit 7	Existing	MTD Filterra Unit	Virginia Tech 530 Stadium Road Blacksburg, Va 24061	37-13-20 N	80-25-3 W	0	0.19	0.19	9/17/2015	NE59	Stroubles Creek	Operator-owned	-	4/2/2018
BMP_0080	IATF Underground Detention	Existing	MTD Underground Detention Pipe	Virginia Tech 530 Stadium Road Blacksburg, Va 24061	37-13-17 N	80-25-2 W	0	1.29	1.29	9/17/2015	NE59	Stroubles Creek	Operator-owned	-	2017

Appendix E – Annual Report Active Project List

Virginia Tech 2018 MS4 Annual Report

MCM 4 - BMP 4.2: Number of Inspections (per project for FY 2018)

Project Name	Total Inspections Per Year
Moss Arts Center Amphitheater	28
Upper Quad Residential Facilities	27
New Classroom Building	11
Underground Storage Tank Demolition	10
Baseball Stadium Improvements	33
Rector Field House Addition	35
O'Shaughnessy Hall	33
VBI Data Center	3
Tom's Creek Landfill	16
APR Building	0
Runway 12-30 Extension Phase 1 & Phase 2 & Phase 3	65
ESAREC Equipment Storage Building	4
Catawba Sustainability Center Wetland Restoration Project	1
Hanger Site Development	29
VTES Lane Substation Expansion	16
Athletics Stockpile Area at Vet Med	21
Unmanned Aerial Vehicle Park	30
RRAB	33
Hahn Pedestrian Tunnel Repairs	23
University Club Demo	2
 Total Inspections	 420

Appendix F – Program Evaluations

Program Evaluation MCM 1

Appropriateness of the high-priority stormwater issues

Sediment

Stroubles Creek remains impaired due to sediment load and poor aquatic diversity. The potential remains for Stroubles Creek to receive sediment loads from eroded areas on campus, active construction sites, and unpaved sections of Plantation Road. As a result, sediment is an appropriate high-priority water quality issue and will remain a focus of pollution prevention efforts.

Animal Waste

High levels of fecal indicator bacteria (FIB) are the leading cause of surface water quality impairments in the United States (USEPA, 2012). Stroubles Creek is currently included on the Commonwealth of Virginia's 303(d) impairments list due to elevated *E. coli* concentrations. The StREAM Lab and faculty from the Biological Systems Engineering department regularly sample FIB concentrations. Waterfowl at campus stormwater management facilities and the Duck Pond, as well as domestic and agricultural animal waste are the most likely contributors to higher levels of FIB in Stroubles Creek. Animal waste remains as an appropriate high-priority stormwater issue.

Trash

In assessing the volume of trash gathered from Stroubles Creek during every stream clean-up, it is clear that trash is still a high-priority issue on the Virginia Tech Campus. We are hopeful that certain campus initiatives will mitigate some of the trash- but still anticipate trash as a high-priority stormwater issue due to constant foot traffic and the influx of campus visitors during football season.

Appropriateness of selected target audiences for high-priority stormwater issues

On-Campus Students

On-Campus Students remain a prominent and important part of the Virginia Tech Campus community and therefore are still very relevant in Virginia Tech Stormwater pollution prevention.

Sediment: All target audience are liable to contribute to pathway erosion around Virginia Tech's main campus whether on bike or on foot.

Animal Waste: On-Campus students often have family visits that include the family pet and/or feeding the ducks at the Duck Pond.

Trash: All campus community members have the potential to litter. On-Campus students are the most frequent target audiences to use dining halls and therefore are more likely to litter and/or disregard proper disposal procedures for the plastics and food containers used in the dining halls. On-Campus students also attend sporting events and participate in a multitude of campus activities that make them susceptible to accidentally (or purposely) littering.

Off-Campus Students

Off-Campus students remain as a prominent and important part of the Virginia tech campus community and therefore are still very relevant in stormwater pollution prevention.

Sediment: All target audiences are liable to contribute to pathway erosion around Virginia Tech's main campus whether on bike or on foot.

Animal Waste: Off-Campus students often bring their pets to campus to take walks and may feed the ducks at the Duck Pond.

Trash: All campus community members have the potential to litter. Off-campus students also frequent dining halls, attend sporting events, and participate in campus activities that make them susceptible to accidentally (or purposely) littering.

Faculty/ Staff

Faculty/Staff members remain as a prominent and important part of the Virginia tech campus community and therefore are still very relevant in stormwater pollution prevention.

Sediment: All target audiences are liable to contribute to pathway erosion around Virginia Tech's main campus whether on bike or on foot.

Animal Waste: Community members (including faculty and staff) will visit the Duck Pond to feed the ducks, which contribute to the ducks' continued residency at the pond. Some faculty and staff members also live close enough to campus to walk their pets as well.

Trash: All campus community members have the potential to litter. Faculty/Staff attend sporting events and participate in a multitude of campus activities, including job responsibilities, which make them susceptible to accidentally (or purposely) littering.

Effectiveness of the message or messages being delivered: During year 4, Virginia Tech was able to reach 100% of the on-campus student target audience through the move-in packets initiative. It is harder to quantify the off-campus student and faculty/staff target audience but it is estimated that at least 20% of each was reached this year as well. Documentation of target audience percentages is available upon request. As stated in the Year 1 Annual Report Program Evaluation for MCM 1, the messages that were utilized were more direct and focused on the target audiences and high priority water quality issue. The focused messages assisted in encouraging more innovative approaches such as the football tailgating signage, pet waste station public advertisements, and stormwater management training. The off-campus student outreach is still more difficult to quantify and as a result Virginia tech will be working to improve this in remaining years of this permit.

Effectiveness of the mechanisms of delivery employed in reaching the target audiences: The mechanisms used in the Virginia Tech outreach program utilize electronic mediums, hardcopy publications, and high traffic settings such as Steppin' Out, Facebook and Twitter. Techniques may need to be further refined to address each target audience. The Housing and Residence Life Packets were successful in specifically reaching on-campus students, but other event and mechanisms were not as

clearly defines in regards to their intended target audience. During Year 4, Site and Infrastructure Development has been looking at different methods to better reach the off-campus and Faculty/ Staff target audiences. This effort will be explored and improved in the remaining years of the permit. As stated above, it was determined that the off-campus student and Faculty/ Staff reach was more difficult to quantify and as a result Virginia tech will be working to improve this in the remaining years of this permit.

Appropriateness of the BMP's outlines in the Program Plan:

1.1 Targeting Public Outreach Events for Target Audiences (VT Students and Staff)

Site and Infrastructure Development determined that the sections under BMP 1.1 did directly overlap with each other and as a result we were combined into one BMP. This was done in an effort to more clearly define the descriptions and goals of BMP 1.1 so that all associated target audiences could be reached more successfully and efficiently. Please see the modification section below for more information.

1.2 Targeting Public Outreach Materials for Target Audiences

BMP 1.2 and its associated sections provide a forum for Virginia tech Site and Infrastructure Development to highlight their varied approaches to public outreach and education. Although target audiences may need to be more clearly addressed in these efforts, the structure of the BMP is sufficient and remains appropriate in the Program Plan.

Modification of roles and responsibilities for this MCM:

As stated previously, Site and Infrastructure Development (SID) intends to partners and sponsor more events that have stormwater relevant impact. This means the role of SID as the event planner will be less prominent as will be their role in the sponsorship and involvement with other departments such as the Office of Energy and Sustainability, Sustainable Dining, Alternative Transportation, as well as student organizations.

Any changes to identified BMPs or measurable goals:

Site and Infrastructure Development determined that the sections under BMP 1.1 did directly overlap with each other and as result were combined into one BMP. This was done in an effort to more clearly define the descriptions and goals of BMP 1.1 so that all associated target audience could be reached more successfully and efficiently.

Steps to be taken to address deficiencies:

Techniques may need to be further refined to address each target audience. The Housing and Residence Life Packets were successful in specifically addressing on-campus students, but other events and mechanisms were not as clearly defines in regards to their intended target audience.

Plans for the next reporting cycle:

Site and Infrastructure Development will be focusing more on the off-campus target audience as well as refining the methods of quantifying the percentage reached. In conjunction with the Town of

Blacksburg, Virginia Tech would like to send out stormwater information mailings to apartment complexes around town to reach more of the off-campus student population.

Program Evaluation MCM 2

Appropriateness of the BMPs outlined in the Program Plan

2.1 Promote Availability of the MS4 Program Plan and Annual Reports

As a permit requirement, this BMP remains an appropriate part of the Program Plan. In the past, Virginia Tech has had limited review and/or comment of the Program Plan and Annual reports. This BMP will encourage innovative means to solicit feedback.

2.1.1 Promotion through Electronic Mediums

Virginia Tech utilizes electronic mediums as a means to connect with a younger audience. Each year electronic interactions with campus community members increase in regards to the MS4 program Plan as well as general stormwater pollution prevention. Therefore, this remains as an appropriate BMP in the Program Plan.

2.2 Public Involvement/ Participation

As a permit requirement, this BMP remains as an appropriate part of the Annual report.

2.2.1 Stream Clean-up/ Adopt-A-Stream

Stream clean-ups provide a direct opportunity for interaction within the Stroubles Creek Watershed. Virginia Tech Site and Infrastructure Development is required to sponsor clean-ups as a part of the Adopt-A-Stream program and has slowly built partnerships and more regular volunteer efforts., Therefore, this remains as an appropriate BMP in the Program Plan.

2.2.2 Volunteer Events

Volunteer events are the core of the Public Involvement BMP- with that being said, it does directly overlap with the Stream Clean-up BMP and also with the Storm Drain Marking BMP MCM1. Unless Site and Infrastructure Development addresses this overlap and/or participates in additional volunteer events, this BMP may not appropriate in the Program Plan.

Modification of roles and responsibilities for this MCM: Student organizations that participated in this year's stream clean-ups will, with regular communication, become the core volunteer groups for future clean-ups. Therefore, Site and Infrastructure Development might become the coordinating entity while the volunteer effort and promotion of the event will be accomplished through the student organization themselves.

Changes to identified BMPs and/or measurable goals: There does not seem to be an appropriate location in the BMPs to discuss the recently installed pet waste stations. Site and Infrastructure Development may consider adding and/or altering a BMP to address situations like this one. Also, as stated above, BMP 2.2.2 may need to be reevaluated in the Program Plan.

Steps to be taken to address deficiencies: Site and Infrastructure Development will address any BMP deficiencies in the Program Plan and take into account campus pet waste stations and additional volunteer events.

Plans for the next reporting cycle: Site and Infrastructure Development will continue to find new volunteer events while continuing the established partnership that has been developed with the Town of Blacksburg for events like The Big Event. Stream Clean-ups may become more regular with increased interest from student groups. Site and Infrastructure Development will be focusing on reaching out to more student organizations in order to increase the number and type of volunteer events that occur each year.

Program Evaluation MCM 3

3.1 Illicit Discharge Detection Program

BMP 3.1 and its associated BMPs cover the basic components of the IDDE Program as outlined in the permit. It particularly pieces out the “detection” components, which include regularly updated storm sewer map, a regular outfall reconnaissance inventory, an identification of priority areas, and a reporting mechanism for staff and students. All of these pieces give Virginia Tech the tools to detect potential illicit discharges and mitigate the issues as soon as possible. All BMPs are still relevant and appropriate in the Program Plan.

3.2 Illicit Discharge Elimination

BMP 3.2 and its associated BMPs cover the basic components of the IDDE Program as outlined in the permit. It particularly pieces out the “elimination” and response components which include policymaking activities to prohibit illicit discharges altogether as well as a tracking mechanism to trace, remove, and document illicit discharges. All BMPs are still relevant and appropriate in the Program Plan.

3.3 MS4 Interconnections

Interaction with MS4 interconnections regarding illicit discharges and priority areas is crucial to a successful IDDE Program. This BMP is still relevant and appropriate in the Program Plan.

Modification of roles and responsibilities for this MCM: The LEWAS lab that is overseen by the Engineering Education Department has set up stream monitoring equipment on the Webb Branch portion of Stroubles Creek. A feature of the monitoring station is that it is able to send alerts out to applicable VT and Town of Blacksburg personnel when certain water quality parameters are out of range. These alerts have helped Virginia Tech respond to illicit discharges more quickly and effectively.

Changes to identified BMPs and/or measureable goals: No BMPs need to be changed at this time.

Steps to be taken to address deficiencies: Site and Infrastructure Development will continue to bolster public outreach and awareness, which will hopefully lessen the number of illicit discharges in the next annual reporting cycle.

Plans for the next reporting cycle: Site and Infrastructure Development hopes to continue building upon pre-existing procedures in the Virginia Tech Police Department to maintain regular communication regarding environmental spills, etc. With the addition of the LEWAS Lab alerts, Site and Infrastructure Development will also be working on the Stormwater Management Policy department and approval during the next reporting cycle.

Program Evaluation MCM 4

Appropriateness of the BMPs outlined in the Program Plan

4.1 Management of Construction Site Stormwater Runoff

The BMPs listed within section 4.1 are, for the most part, permit requirements. Therefore, they remain appropriate in the Program Plan. Additional tracking requirements in the new permit will encourage enhanced document management and a comprehensive filing system from the beginning to the end of a project cycle.

Modification of roles and responsibilities for this MCM: Site and Infrastructure Development has been working with a consultant to update Virginia Tech's Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management. The updated Annual Standards and Specifications will be submitted to DEQ for approval by September 30, 2017.

Changes to identified BMPs and/or measurable goals: Pre-construction meetings have been added to BMP 4.1.2 Design Phase Meetings. Although design phase meetings and pre-construction meetings serve separate functions, they both are a means to ensure the project is designed and constructed according to stormwater regulations.

Steps to be taken to address deficiencies: Virginia Tech Site and Infrastructure Development will submit a revised version of the Annual Standards and Specifications for ESC and SWM to the DEQ by September 30, 2017.

Plans for the next reporting cycle: Once implementation begins for the new and approved Virginia Tech Annual Standards and Specifications, VT Site and Infrastructure Development will hold training sessions for project managers and designers. Documentation of all training sessions will be included in future MS4 Annual Reports, as appropriate.

Program Evaluation MCM 5

Appropriateness of the BMPs outlined in the Program Plan

5.1 Stormwater Management Facilities

This BMP includes corresponding tracking, inspection, and maintenance sections. These three parts make up a comprehensive post-construction stormwater management facility program. Therefore, these BMPs remain appropriate as part of the Program Plan.

Modification of roles and responsibilities for this MCM: Due to the increasing number of manufactured BMPs and the technical expertise needed for their maintenance, Site and Infrastructure Development is currently looking into different means and methods to improve the current maintenance program for manufacturing BMPs.

Changes to identified BMPs and/or measurable goals: Since the three components of the MCM 5 program include tracking, inspection, and maintenance, Site and Infrastructure Development has altered the title of BMP 5.1 to encompass all three components of the program.

Steps to be taken to address deficiencies: A responsible party database is an ongoing effort and is being created for all current BMPs on campus. The database also includes maintenance requirements and frequency of maintenance needs for manufactured BMPs, etc. This database will assist in the management of the MCM 5 program for Site and Infrastructure Development.

Plans for the next reporting cycle: Site and Infrastructure Development will continue developing the responsible party database for all current BMPs on campus. Due to the increasing number of manufactured BMPs and the technical expertise needed for the maintenance, Site and Infrastructure Development will look into different means and methods to improve the current maintenance program for manufactured BMPs.

Program Evaluation MCM 6

Appropriateness of the BMPs outlines in the Program Plan

6.1 Municipal Facility Pollution Prevention and Good Housekeeping

As permit requirements, components in BMP 6.1 remain appropriate in the Program Plan.

6.2 Landscaping Management and Pest Control

Landscaping and pest control are two activities that occur frequently and have potential to cause stormwater pollution. They remain relevant as part of the Program Plan.

6.3 Personnel Training

As a permit requirement, personnel training and Annual Written Training Plan remain an appropriate BMP in the Program Plan. The new permit requirements will encourage continued and enhanced training programs regarding stormwater specific pollution prevention practices.

6.4 Management of Municipal Facilities

The three corresponding BMPs include street sweeping, salt application and stormwater structure cleaning. These are three crucial components of pollution prevention and MCM 6. They remain appropriate and relevant in the Program Plan.

Modification of roles and responsibilities for this MCM: With high priority areas properly addressed, it is now important to establish responsible parties and appropriate procedures to ensure that each area is properly transitions into SWPPP implementation.

Changes to identified BMPs and/or measurable goals: BMP 6.1.2 and BMP 6.1.3 will be reassessed and possibly modified to reflect SWPPP implementation. They are organized as such in the Program Plan due to the new permit requirements. BMP 6.3.1 may be incorporated into BMP 6.3.2 if it shows there are limited training plan updates in the upcoming annual reporting cycles.

Steps to be taken to address deficiencies: N/A

Plans for the next reporting cycle: Next steps include working with all personnel and operation on each high priority site to begin SWPPP Implementation. Those facilities that did not qualify as both high priority and high potential will be incorporated into the illicit discharge detection and elimination (IDDE) Program. All locations will be tracked using ArcGIS.

Appendix G – Documentation of Public Participation Activities

Volunteers can be seen below planting trees and removing invasive species along Stroubles creek, these events occurred in November and December of 2017:





Volunteers can be seen below planting trees on March 31st in a riparian buffer along Stroubles Creek:

