Minimum Control Measure No. 1: Public Education and Outreach on Stormwater Impacts.

BMP 1.1.1: Stormwater Website.

Goal: Provide information on Stormwater, Stormwater Management, Erosion and Sediment Control, and components of the MS4. In addition, to stormwater information, the website will provide links to activities that are related to improving stormwater quality to promote public education and links. The stormwater website also includes links to information regarding TMDLs.

Schedule and Evaluation: Virginia Tech has established an updated website and will update content periodically.

Responsible Party: Virginia Tech Site & Infrastructure Development.

Necessary Documents: Pages from Stormwater Website.

Measurable Goals: Complete success of this BMP will be seen upon student, staff, and faculty involvement in minimizing contamination of stormwater. Continue to modify and improve the website through user feedback. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Print outs from webpage.

Required Modifications: TBD.

Response: The Stormwater Website contains information regarding public outreach and education, University projects, policies and procedures for Land Disturbing Activities, the MS4 program, VT Environmental Health and Safety, VT Recycling, as well as VT Sustainability. Links to DCR, DEQ and EPA websites related to TMDLs have been added to our Public Outreach & Education Page. Copies of the web pages of the website have been provided as well as print outs of activities available online. The web address is as follows: http://www.facilities.vt.edu/pdc/stormwater/home/

The Upper Stroubles Creek TMDL Implementation Plan has been added to the Public Outreach and Education Page. The web address is as follows: http://www.facilities.vt.edu/documents/udc/stormwater/StroublesTMDL.pdf.

Documentation Provided:

i. Stormwater Management Home Page
ii. What is Stormwater? Page
iii. Around Campus Page
iv. Public Outreach & Education Page
v. Activities & Events Page

vi. University Projects Page
vii. Policies and Procedures for Land Disturbing Activities Page
viii. MS4 Program Page
ix. Hazardous Waste Disposal Page
x. VT Recycle Page
xi. Sustainability Page
xii. Stormwater Runoff Challenge
xiii. Clean Water Challenge

BMP 1.1.2: Water Conservation Practices.

Goal: Provide annual reports of water consumption to the public.

Schedule and Evaluation: Virginia Tech will continue to provide water consumption reports on an annual basis during each permit cycle. Status: On-going.

Responsible Party: Virginia Tech Facilities Operations.

Necessary Documents: Quarterly water usage invoices and annual reports and repair logs.

Measurable Goals: Complete success of this BMP will be seen upon finalization of the development of a water, storm, and sanitary sewer system model to better quantify the consumption and impact of water in these three systems. Finalize the university's sanitary sewer infiltration and inflow (I&I) study to identify, prioritize, and eliminate future sanitary sewer capacity issues and potential over-flows. Continue to seek opportunities to implement water conservation projects on campus. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Annual water consumption summary and Water System Repair Log.

Required Modifications: TBD.

Response: Virginia Tech continues to manage water consumption by repairing water lines and improving plumbing fixtures. According to the Blacksburg, Christiansburg, & VPI Water Authority, Virginia Tech consumed approximately 447,754,190 gallons of water from July 2010 to June 2011.

Virginia Tech Site & Infrastructure Development engaged the services of an engineering consultant to develop a basic water model for campus.

Virginia Tech in conjunction with the Town of Blacksburg and the Sanitation Authority performed an I&I study to determine the inflow and infiltration in the major trunk lines.

Documentation Provided:

i. Water System Repair Log (July1, 2010 – June 28, 2011)
ii. Quarterly breakdown of water consumption
iii. Sanitary Sewer System Repair Log (See BMP 3.2.4)
iv. Stormwater System Repair Log (See BMP 3.3.1)

BMP 1.1.3: Proper Disposal of Hazardous Waste.

Goal: Provide information and training to university staff.

Schedule and Evaluation: Continue to post proper disposal methods information on website on a continuous basis during each permit cycle. Status: on-going

Responsible Party: Virginia Tech Environmental Health and Safety.

Necessary Documents: Examples of Hazardous Waste Procedures and training material.

Measurable Goals: Continue to post disposal procedures and information on website for university staff. Continue providing training opportunities on their website for university staff and personal exposure and area monitoring to identify and quantify biological and chemical contaminants in the work environment. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Location and Point of Contact for Training and hazardous waste disposal awareness documentation and summary.

Required Modifications: TBD.

Response: Environmental Health & Safety (http//www.ehss.vt.edu/) currently provides a written plan for each of the university labs (chemical, radiological, and biological). EHS provides guidance to written plans as needed

Tony Mills, with EHS, provides training sessions when requested. Tony Imperatore is the point of contact for Hazardous Material guidance.

Documentation Provided:

i. Sample Training Log: Chemical/Hazardous Waste Management Training
ii. Environmental Health and Safety webpage print out
iii. Training webpage printout
iv. Chemical Hygiene Plan
v. Hazardous Chemical Communication and Management Plan
vi. Lead Hazard Control Program
vii. Hazardous Communication Plan for (Department) Template
viii. Laboratory Inspection Checklist

BMP 1.1.4: Recycling and Trash Management.

Goal: Provide educational literature and information on an annual basis to the university.

Schedule and Evaluation: Continue to properly educate the university on recycling and trash management during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Services and Virginia Tech Environmental Health and Safety.

Necessary Documents: Documentation of events that focus on recycling and trash management and annual recycling achievements.

Measurable Goals: Continues to notify and reinforce the proper recycling and trash disposal plan to university community through a program that is available on the Office of Energy & Sustainability (http://www.facilities.vt.edu/sustainability/) and Spectrum newspaper. Continue to provide recycling literature on the Virginia Tech Recycling website (http://www.facilities.vt.edu/sustainability/recycle/) for public access and post historical and up-to-date data on recycling efforts on their "sustainability" website for public education and outreach. Continue to support the annual "Y-Toss" that is implemented through the YMCA. This function is aimed at keeping the campus clean and reducing waste that is placed into our landfills by collecting items that would typically be "tossed" by residents leaving for the summer (http://www.vtymca.org/Home.asp). Continue to participate in an event titled, "RecycleMania!," where the university community is encouraged to recycle items that would normally be disposed of in a traditional manner (http://facilities.vt.edu/physicalplant/depts.asp?value=recycling). Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Recycling and educational outreach documentation and summary.

Required Modifications: TBD.

Response: Virginia Tech Recycling continues to increase the amount of recycled material annually. Recycling bins are accessible all over campus as shown on the map provided. Virginia Tech also continues to participate in the RecycleMania! Program. Results from the 2010 and 2011 RecycleMania! program as well as results from the campus recycling program have been provided.

Virginia Tech continues to offer information to help educate the community on recycling on the VT Recycle webpage (http://facilities.vt.edu/bgh/recycle/). A link to the VT Recycle webpage can also be accessed through the Stormwater Management webpage. See BMP 1.1.1 for webpage print out. The Ytoss program in 2011 collected items that weighed approximately 10 tons.

Virginia Tech also recycles electrical equipment and batteries. This service is provided through Environmental Health and Safety (EHS). There is an online form for Battery and Computer Monitor Pickup at http://www.ehss.vt.edu/programs/WBM_pickup_form.php; EHS will pick up nonworking monitors and batteries. There are two locations on campus where these items are stored until an outside vendor comes to pick up these recyclable items. Also, EHS recycles Fluorescent bulbs and ballast; for more information please contact EHS, (540) 231-2982.

Refer to Comprehensive Waste Management Plan for Virginia Tech for fiscal Year 2010-2011 for YToss 2011 results.

Documentation Provided:
i. Virginia Tech Recycling Rate Report for Calendar year 2010
ii. Comprehensive Waste Management Plan for Virginia Tech for Fiscal Year 2010-2011
iii. Annual Report on Campus Sustainability at Vrignia Tech – 2010
iv. VT Recycling Webpage
v. Map of Recycling Locations
vi. RecycleMania! 2011 Results
vii. Print out of EHS Battery and Computer Monitor Pickup Form

BMP 1.2.1: Partnership with Local Jurisdictions on Public Education.

Goal: Work with the Town of Blacksburg and to promote sustainability and public education.

Schedule and Evaluation: Continue to participate in local stakeholder meetings to extend public education on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: Agendas and Sample presentations.

Measurable Goals: Continue to be active in the stakeholders meetings to promote sustainability and public education of stormwater issues. Continue to participate on the advisory committee for the Town of Blacksburg's Low Impact Development initiative. This committee meets periodically and was organized in late 2006. Continue to partner with the Town of Blacksburg for an annual Watershed Open House (second year completed in 2007) to educate the public. Seek additional methods to collaborate on outreach opportunities. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Agendas and sample presentations.

Required Modifications: TBD.

Response: Virginia Tech has joined with the Town of Blacksburg to hold a Sustainability Week in September of 2011. This was to help educate the town and the University about sustainability issues and to get the community involved.

The 2010 Virginia Stormwater Symposium: Navigating Changes in Stormwater Technology and Policy was held on Thursday, October 21 at VCU Monroe Park Campus, Richmond, Virginia. After creating educational posters focusing on Virginia Tech's MS4 program, stormwater modeling, BMP mapping, and pollution prevention training, six student interns attended this all day event. The students presented posters to conference participants and discussed the work that they had accomplished in these particular areas with other professionals. The students also attended a series of presentations discussing stormwater management and policy given by organizations including the EPA, and DCR, university professors, and individuals.

A student intern did a stormwater presentation for an Intro to Environmental Engineering Class as well as during a meeting for the American Society of Civil Engineers (ASCE). The purpose of the presentation was to raise awareness of Virginia Tech's Stormwater Program. Emphasis was placed on Virginia Tech's MS4 Program.

On June 30, 2011 Virginia Tech met with the Town of Blacksburg to discuss various Public Outreach opportunities to partner up on. The meeting agenda, minutes, and attendance sheet are provided in the documentation section of this BMP.

On August 5-6, 2011, Virginia Tech Partnered with Town of Blacksburg at Steppin' Out to promote stormwater management awareness to local citizens and Virginia Tech Students. Items at the booth included watershed research, BMP and watershed maps, Ecosphere display, posters with mitigation techniques, and stickers. The Department of Conservation of Recreation (DCR) supplied the Ecosphere as well as a few of the brochures and stickers.

Documentation Provided:

i. Event Calendar for Sustainable Blacksburg 2010 – 2011
ii. Sustainability Week 2011 Article
iii. Sustainability Week 2011 Event Calendar
iv. Stormwater Presentation to Intro to Environmental Engineering Class
v. Symposium Posters
vi. Stakeholder Meeting Attendance Sheet
vii. Stakeholder Meeting Agenda
viii. Stakeholder Meeting Minutes
ix. Steppin' Out Photos and Narrative

BMP 1.3.1: Pollution Prevention Plan.

Goal: Educate university staff on the existing Pollution Prevention Plan.

Schedule and Evaluation: Continue to develop annual training programs for university staff on proper pollution prevention and reduction measures during each permit cycle. All university projects greater than 1-acre in disturbed area are required to develop and maintain a project specific SWPPP onsite. *Virginia Tech acquires the VSMP permits and oversees the SWPPP and SWPPP inspections*. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety and Virginia Tech Facilities Services.

Necessary Documents: Educational outreach documentation.

Measurable Goals: Continuing to develop reoccurring annual training sessions for university staff to educate on the proper pollution prevention and reduction measures through the plan developed in response to HJR 453, 1997. EHS has implemented several programs in an effort to reduce pollution prevention on campus such as, (1) recycling, (2) environmental awareness programs, and (3) green engineering. Continue to implement a plan to detect potential sources of pollution at stormwater inlets and outfalls. Continue requiring that all university projects greater than 1-acre in disturbed area develop and maintain a project specific SWPPP onsite. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Educational outreach documentation.

Required Modifications: TBD.

Response: Virginia Tech continues to participate in recycling, environmental awareness programs, and green engineering. Information regarding recycling events on campus can be found under BMP 1.1.4
Virginia Tech is working on being more sustainable, and has received a B+ from the Sustainable Endowments Institute. This rating has improved from 2010 where Tech received a B.

Project Specific SWPPPs are provided under BMP 4.3.1.

Documentation provided:

i. Article about Campus Sustainability Report Cards 2011
ii. 2009 Sustainability Report Card
iii. 2010 Sustainability Report Card
iv. 2011 Sustainability Report Card
v. Virginia Tech Climate Action Commitment and Sustainability Plan "Status Report"

BMP 1.3.2: Campus Outreach through Table Cards.

Goal: Educate university students and staff about Stormwater issues and pollution prevention.

Schedule and Evaluation: Continue to develop and distribute table cards for educating the campus on stormwater issues and proper pollution prevention during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Site & Infrastructure Development

Necessary Documents: Educational outreach documentation.

Measurable Goals: Continuing to develop and distribute table cards routinely throughout the permit cycle to educate students, staff, and faculty on stormwater and MS4 issues. Table cards will be placed in all dining facilities at least one time throughout the permit cycle. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Educational outreach documentation.

Required Modifications: TBD.

Response: Virginia Tech distributed table cards once during the 2010-2011 school year. The table cards have the potential to reach 19,000 people dining at Virginia Tech Facilities. Currently Virginia Tech is working on new designs for these table cards as well as the cost in order to print according to the Virginia Tech Student Services specifications.

Documentation Provided:

i. Example of table cards to be used in dining facilities.

BMP 1.4.1: Environmental Compliance.

Goal: Continue ensuring all environmental permitting is obtained.

Schedule and Evaluation: Continue to ensure all permits are obtained and compliance is met on annual (as needed) basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety and Virginia Tech Facilities Services.

Necessary Documents: VSMP Permits and other related permits.

Measurable Goals: Continue to ensure that Virginia Tech remains in compliance with all the necessary permits and complies with them. Continue to monitor the effectiveness of this BMP on a routine basis. Status: on-going.

Items to be Reported in Annual Report: VSMP Permits and other related permits.

Required Modifications: TBD.

Response: Virginia Tech obtains and maintains all necessary permits required for the MS4, Industrial, Agricultural, and Construction activities that occur on campus. Provided is a copy of permits and registration statements for the required permits. For further information, contact Rob Lowe (rlowe@vt.edu) for industrial permits, Dwight Paulette (Kentland@vt.edu) for Agricultural permits and Craig Moore (crmoore@vt.edu) for Construction permits.

Documentation Provided:

i. VAR04 Permit
ii. VAR040049 Registration Statement for Virginia Tech MS4
iii. Department of Conservation and Recreation Permit Fee Form
iv. VAR050508: Virginia Tech Industrial Permit for Power Plant
v. VAR050760: Industrial Permit for Virginia Tech Airport
vi. VPG100013: Animal Feeding Operations Permit
vii. VSMP VAR10 Coverage Letters from Active Construction Sites

BMP 1.5.1: Funding and Staffing Needs for MCM-1.

Goal: Develop of a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-1.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. *Seek to hire an MS4 Coordinator within the next year. (See Below).*

Responsible Party: Virginia Tech Facilities.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-1 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virignia Tech continues to seek methods for reaching the goals of MCM-1 through existing departmental budgets. No alternative funding sources have been identified, however, as of May 2011five new student employees were hired for the sole purpose of improving our Stormwater Management Program. Three of these students monitor erosion and sediment control measures on construction sites on campus. The rest have various roles in design components as well as components of the VAR04 and VAR10 permit requirements. The student positions have been made student-wage, part-time positions. As of June 2011 a full time MS4 Coordinator was hired. This person is in charge of coordinating and compiling the annual MS4 Report components.

Minimum Control Measure No. 2: Public Involvement and Participation.

BMP 2.1.1: Stormwater Website.

Goal: Provide information on Stormwater, Stormwater Management, Erosion and Sediment Control, and components of the MS4. In addition to stormwater information, the website will provide links to the annual report for the MS4 program, SWPPP inspection reports, reports for illicit discharges, and inspections for BMPs.

Schedule and Evaluation: Virginia Tech is updating the website that will be available by July 19, 2010. The information will continue to be added to the website as it becomes available.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: MS4, MS4 Annual Report, Virginia Tech Annual Standards and Specifications, Inspection Reports, Illicit Discharge Reports, and other associated documents.

Measurable Goals: Complete success of this BMP will be seen upon student, staff, and faculty involvement in minimizing contamination of stormwater. Continue to modify and improve the website through user feedback. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Print outs from the webpage and agendas of activities.

Required Modifications: TBD.

Response: The MS4 Program webpage on the Stormwater Management website has been updated and provides information regarding the MS4 including the MS4 Permit, inspection reports, annual report and other documentation. Links to the VT Annual Standards and Specifications have been provided under the projects listed on the University Projects page. Print outs of the webpage can be found in BMP 1.1.1. For the actual inspections

reports, refer to BMP 3.2.2 for Outfall Reconnaissance Inventory reports, BMP 4.2.1 for Construction site inspections reports, and BMP 5.2.3 for BMP inspection reports.

Please see BMP 3.2.2 for ORI Inspection Reports and BMP 5.2.3 for BMP Inspection Reports for the inspections that were done this year.

Documentation Provided:
i. MS4 Program Page

BMP 2.1.2: Stream Clean-Up and Other Areas.

Goal: Continue to monitor linear feet of stream cleaned on annual basis and clean roadways/parking lots after major university events.

Schedule and Evaluation: Continue to develop a report that delineates the total linear feet and tonnage of clean-up on campus on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: Stream clean-up and roadway/parking lot cleaning records.

Measurable Goals: Accomplish at the minimum two of the following activities to eliminate the potential impacts on the stormwater system and turf areas: 1) Stream clean event campus wide; 2) Site & Infrastructure Development adopts Stroubles Creek and maintains it yearly; 3) Student organizations help clean Lane Stadium after events; 4) Students and Faculty team up with VT Recycling; 5) Household hazardous waste pickup at the end of the spring semester. Continue working on the development of an accurate account of stream cleaning footage and, in conjunction with the TMDL Implementation Plan, investigate stream bank buffers. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Linear footage/volume of stream, parking lot, and roadway records.

Required Modifications: TBD.

Response: Virginia Tech continues to minimize trash and debris from entering Stroubles Creek by collecting trash and debris after sporting events from roadways and parking lots as well as grass areas. Roadways and parking lots are cleaned by a street sweeper before and after each sporting event. Students and Faculty volunteer with VT Recycling to help maintain the program. A copy of the street sweeper log has been provided under BMP 6.2.1.

Virginia Tech is dedicated to keeping Stroubles Creek clean and accomplished the following activities to insure trash and pollutants did not reach the waterways.

1. Student organizations help clean Lane Stadium after events
2. Students and Faculty team up with VT Recycling

The Stroubles Creek Restoration Project was started in order to fulfill two best management practices, stream restoration and establishment of forested riparian buffers, needed to reduce sediment loading. These BMPs were identified in the Stroubles Creek TMDL IP. This project applied the following techniques: livestock exclusion, livestock exclusion with bank reshaping and replanting and livestock exclusion with natural channel design. A sign outlining these procedures was posted in June 2010 as a means of public education and awareness.

On April 22, 2011, students from *UAP 4184 – Community Involvement* hosted a booth for Earth Day promoting stormwater management awareness. The group also presented outreach materials to their UAP 4184 class and facilitated roundtable discussions.

Documentation Provided:

i. Student Groups and Volunteers page
ii. Photos and Narrative of Stroubles Creek Restoration Project.
iii. Photos and Narrative of UAP-4184 Earth Day Booth

BMP 2.1.3: Storm Drain Marking.

Goal: Mark all storm drain inlets with Duracast markers.

Schedule and Evaluation: Mark 8 to 10 inlets by November 2010 and 8 to 10 additional inlets by June 2011. Continue to mark inlets as maintenance crews are able to apply markers.

Responsible Party: Virginia Tech Site & Infrastructure Development.

Necessary Documents: Markers, photographs, and map(s) of the inlet locations.

Measurable Goals: Continue to monitor for illicit discharges at the outfalls. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Proofs of Storm Drain Markers and map of storm drains.

Required Modifications: TBD.

Response: In 2010, Virginia Tech purchased more than 600 Duracast Storm Drain Markers. By June 2011 more than 300 storm drains were marked. This exceeds the goal of marking 16-20 inlets by June 2011 that Virginia Tech set. The goal is to have primary curb inlets and drop inlets (with adequate space for the markers) be marked in 5 years. A print out of the storm drain markers has been provided as well as a map of storm drains that have been marked and still need to be marked.

From December 2010 thru January 2011 five Virginia Tech students logged 120 hours of community service time marking storm drains, picking up trash around campus, and cleaning off storm drains that were clogged.

Documentation Provided:
i. Copy of Storm Drain Marker
ii. Student Volunteering Photos and Narrative
iv. Map of Stormwater Inlets that have been marked.

BMP 2.2.1: Stakeholder Meeting.

Goal: Continue to review and comment on all capital projects on campus to address erosion and sediment control and stormwater related issues prior to construction.

Schedule and Evaluation: Continue to review and comment on all capital projects as they are developed during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech University Design and Construction.

Necessary Documents: Project comment record and summary.

Measurable Goals: Continue to review and provide feedback on all Capital Projects to ensure that stormwater and Erosion & Sediment Control and SWM issues are addressed in an effective manner. Continue to work with the TMDL Implementation Plan for Stroubles Creek that traverses campus in two areas. The TMDL stakeholders consist of DCR, Town of Blacksburg, Virginia Tech staff and concerned citizens. Continue developing Environmental Impact Reports for areas along campus that have been identified as sensitive for review and approval by the regulating agencies. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Project comment record and summary.

Required Modifications: TBD.

Response: Virginia Tech continues to review and provide feedback on all Virginia Tech University Design and Construction projects to ensure that stormwater and Erosion & Sediment Control issues are addressed in an effective manner.

BMP 2.3.1: Funding and Staffing Needs for MCM-2.

Goal: Develop of a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-2.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. Seek to hire a MS4 Coordinator within the next year. Status: See Below.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-2 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues to seek methods for reaching the goals of MCM-2 through existing departmental budgets. As of June 2011 a full time MS4 Coordinator was hired. This person is in charge of coordinating and compiling the annual MS4 Report components.

Minimum Control Measure No. 3: Illicit Discharge Detection and Elimination.

BMP 3.1.1: Comply with Existing Regulations.

Goal: Track notices of violation for surface discharges and develop methods of elimination.

Schedule and Evaluation: Continue to detect and eliminate illicit discharges on a reoccurring basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety and Virginia Tech Site & Infrastructure Development.

Necessary Documents: Copy of TMDL; Notifications to downstream MS4s.

Measurable Goals: Continue to track this BMP and make recommendations for elimination for surface discharges. Seek additional methods for detecting, recording, and eliminating illicit discharges. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Copy of TMDL; Notifications to downstream MS4s.

Required Modifications: TBD.

Response: Outfall Reconnaissance Inventory Information is provided under BMP 3.2.3. Illicit Discharges are investigated when reported.

Documentation Provided:
i. Upper Stroubles Creek Watershed TMDL
ii. Photographs of multimeter and test strips.
iii. Letter to Town of Blacksburg
iv. Letter to VDOT

BMP 3.2.1: Inventory Regulated Stormwater Outfall Locations.

Goal: Continue to update existing comprehensive database and mapping and identify stormwater outfalls and develop annual maintenance and inspection program for tracking illicit discharges.

Schedule and Evaluation: Continue to update and identify stormwater outfalls on an annual basis or on an as-needed basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Survey data, map(s), and photographs.

Measurable Goals: This BMP is measured by continuing to provide maintenance on all stormwater outfalls, as well as pipes and structures, on campus. Continue updating maintenance forms to address and mitigate concerns and corrective actions taken as required. Continue developing and calibrating a stormwater model that will analyze the entire campus system and keep a record of illicit discharges and actions taken. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Map of outfalls, inspection reports, and illicit discharge inventory report and summary.

Required Modifications: TBD.

Response: Maps of all known outfalls has been provided. No new outfalls have been added.

Documentation Provided:
i. Outfall Reconnaissance Inventory Maps

BMP 3.2.2: Inspection of Stormwater Outfalls for Dry Weather Discharge.

Goal: Inspect all stormwater outfalls on an annual basis during dry weather and identify illicit discharges and mitigation techniques.

Schedule and Evaluation: Continue to inspect and track all stormwater outfalls on an annual basis during dry weather conditions or as-needed basis during each permit cycle. Inspect at least 25% of the outfalls annually and inspect critical areas as designated by BMP 3.2.2 yearly. Status: on-going. Substantial Completion: December 2009.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Inspection Reports, Photographs, and other documents as necessary.

Measurable Goals: This BMP will be measured by visually inspecting, on a routine basis, and documenting any unusual indicators at the outfalls. This BMP will require documentation and mitigation of any evident illicit discharges that are encountered in a timely manner. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection reports, dry weather discharges, and mitigation methods.

Required Modifications: TBD.

Response: Inspection reports of outfalls are provided.

Documentation Provided:

i. 2011 Outfall Reconnaissance Reports

BMP 3.2.3: Locate Priority Areas or Operations for Illicit Discharge.

Goal: Development of a map delineating the priority areas on campus with unique pollution prevention schemes.

Schedule and Evaluation: Continue to update and identify priority areas, mapping, and documentation on annual or as-needed basis during each permit cycle. Status: on-going. Substantial Completion: November 2009.

Responsible Party: Virginia Tech Environmental Health and Safety and Virginia Tech Facilities Services.

Necessary Documents: Map and report of critical areas susceptible to illicit discharges.

Measurable Goals: This BMP is measured by monitoring and assessing campus to identify areas of immediate concern that require a unique pollution

prevention scheme. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Priority area map and documentation summary.

Required Modifications: TBD.

Response: Virginia Tech continues to identify critical areas susceptible to illicit discharges. These areas are being documented by mapping and taking photographs.

Documentation Included:
i. Maps and Photos

BMP 3.2.4: Inspect and Repair Sanitary Sewer to Prohibit Illicit Discharges.

Goal: Inspect and document existing problems with the sanitary sewer system and develop mitigation strategies.

Schedule and Evaluation: Continue to inspect and track all problems within the sanitary sewer system on a reoccurring basis during the permit cycle. Status: on-going (performing flow monitoring).

Responsible Party: Virginia Tech Facilities Operations

Necessary Documents: Sanitary Sewer System Repair Log.

Measurable Goals: This BMP will be measured by continuing to expand and improve the field data on the sanitary sewer system by assessing (visually) conditions of the pipe and manhole structures for defects that could lead to illicit discharges from the system. Virginia Tech has purchased eight area velocity flow meters that will assist the staff with quantifying the volumes of sewage at critical points along campus, which will aid in determining areas the need immediate attention to prevent potential illicit discharges. A campus-wide Inflow and Infiltration study (I&I) has begun, which will assist the university in accurately identifying illicit discharge prone areas. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection and repair reports and summaries.

Required Modifications: TBD.

Response: A log sheet of repairs and maintenance performed on the sanitary sewer system has been provided dated July 15, 2010 thru June 28, 2011.

Documentation Provided:

i. Sanitary Sewer System Repair Log

BMP 3.2.5: Maintain In-House 24/7 Repair/Response Crew for Sanitary Sewer Issues.

Goal: Continue to respond to sanitary sewer problems and update utilities infrastructure database in a timely manner.

Schedule and Evaluation: Continue to respond to sanitary sewers issues as they arise and update utility database on a reoccurring basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Operations.

Necessary Documents: Maintenance and repair reports.

Measurable Goals: This BMP will be measured by continuing to report and address all sanitary sewer problems in a timely manner to prevent exposure of the sewage to campus. Continue to document all overflow issues on campus and delineate the location of the problem and the corrective measures. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Maintenance and repair summary.

Required Modifications: TBD.

Response: Facilities Crews are on call in the evenings and on weekends in case of an emergency sanitary sewer issue. If an issue arises Virginia Tech Police Department notifies the crew of the issue, and they will fix the issue. See documentation provided under BMP 3.2.4 for sanitary sewer repairs.

BMP 3.3.1: Trace and Remove Illicit Discharge.

Goal: Continue to evaluate current program for improvements.

Schedule and Evaluation: Continue to report, trace, and respond to illicit discharges annually during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety and Virginia Tech Facilities Services.

Necessary Documents: Stormwater System Repair Log and Summary of Illicit Discharges Reports.

Measurable Goals: This BMP will be measured by continuing to monitor the effectiveness of the established procedure for reporting and tracing illicit

discharges and enforcement policies. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Stormwater System Repair Log and Summary of Illicit Discharges Reports.

Required Modifications: TBD.

Response: Through the Outfall Reconnaissance Inventory inspections and online reporting, Virginia Tech is able to trace illicit discharges. Individuals can also report spills and illicit discharges on the Environmental Health and Safety webpage: www.ehss.vt.edu/report_issue.

Documentation Provided:
i. Summary of illicit discharges
ii. Stormwater System Repair Log

BMP 3.4.1: Illicit Discharge Reporting by Staff and Students.

Goal: Continue to publicize Environmental Heath & Safety contact numbers for illicit discharge reporting.

Schedule and Evaluation: Continue to provide reporting options on a daily basis for university community during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety.

Necessary Documents: Contact numbers and reporting documentation.

Measurable Goals: This BMP will be measured by continuing to utilize EHS as the primary contact for reporting discharges that are witness by staff and students. Seek alternative methods for raising awareness. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Documented reports of illicit discharges and mitigation efforts.

Required Modifications: TBD.

Response: Summary reports of illicit discharges have been provided in BMP 3.3.1. The summary includes a description of the illicit discharge as well as how the issue was corrected. Through the use of table cards, Virginia Tech is able to educate Students and Staff on how to report illicit discharges to Environmental Health and Safety and the importance of reporting issues. Individuals can also report spills and illicit discharges on the Environmental Health and Safety webpage: www.ehss.vt.edu/report_issue.

Documentation Provided:
i. Example of Table Cards

ii. EHS Illicit Discharge Reporting webpage

BMP 3.5.1: Funding and Staffing Needs for MCM-3.

Goal: Develop of a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-3.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-3 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues to seek methods for reaching the goals of MCM-3 through existing departmental budgets. Funding was provided for students to perform Illicit Discharge Detection and Elimination. Funding was secured to purchase water quality sampling equipment.

Minimum Control Measure No. 4: Construction Site Stormwater Runoff.

BMP 4.1.1: Provide Guidance to Project Managers in University Planning, Design, and Construction Services on Appropriate ESC and SWM Requirements.

Goal: Continue to provide Project Managers of university projects with clear guidance on ESC and SWM requirements.

Schedule and Evaluation: Continue to provide ESC and SWM guidance on all university projects as the projects are developed during each permit cycle. Pre-construction meetings are held for all projects requiring ESC and SWM submittals. Status: on-going.

Responsible Party: Virginia Tech Site & Infrastructure Development.

Necessary Documents: Virginia Tech Annual Standards and Specifications and other documentation as determined.

Measurable Goals: This BMP will be measured by continuing to review and advise project managers on university projects to ensure completeness of the Erosion & Sediment Control measures and Stormwater compliance in accordance with Virginia Tech Annual Standards and Specifications. The Virginia Tech Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management are located on the Virginia Tech Stormwater Management website for access by Project Managers and the public.
http://www.facilities.vt.edu/pdc/project/esc_swm.asp. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection reports, information about land disturbing projects, and other documentation deemed necessary.

Required Modifications: TBD.

Response: The Virginia Tech Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management are located on the Stormwater Management website for access by Project Managers and the public. (http://www.facilities.vt.edu/pdc/project/esc_swm.asp) A copy of the VT Anuual Standards and Specifications has been included in this document as well as a list of all currently active projects noting the start date, completion date, and disturbed area of each project. (See Exhibit 4.1.1)

In April of 2011 a student intern gave three presentations regarding ESC and SWM requirements for construction sites on campus. The following items were covered in the presentations: ESC Design, ESC Measures, Virginia Tech's Annual Standards and Specifications, Inspection Processes, ESC and SWPPP Systems, and the MS4 program.

Documentation Provided:
i. List of Current/Proposed Projects
ii. Approval of VT Annual Standards and Specifications for ESC & SWM
iii. VT Annual Standards and Specifications for ESC & SWM
iv. Virginia Tech ESC Presentations

BMP 4.2.1: Construction Site Inspections for ESC and SWM Compliance.

Goal: Continue to provide ESC and SWM plan review, inspections, and compliance.

Schedule and Evaluation: Projects under construction or reviewed by DCR prior to July 1st will remain with DCR. Projects starting on and after July 1st will be reviewed by Virginia Tech Site Development Department. This is performed throughout the duration of the project. Virginia Tech is working through the budget process to designate two positions for these responsibilities. Status: on-going.

Responsible Party: Virginia Tech University Design and Construction.

Necessary Documents: Sample Inspection reports, Notices, Land-disturbing activities and other associated documents.

Measurable Goals: This BMP will be measured by continuing to accompany DCR evaluation of the Virginia Tech Annual Standards and Specifications. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection report summary, annual report, summary of compliance issues, and associated documents.

Required Modifications: TBD.

Response: Virginia Tech University Design and Construction Department has been issued the responsibility by the Department of Conservation and Recreation to inspect all of the campus projects as of July 1st, 2009. A sample of the Stormwater Pollution Prevention Plan inspection reports for campus projects has been provided in this document. The inspection reports are also available online.

Documentation Provided:

i. University Projects Webpage
ii. Sample Project Webpage: Center for the Arts
iii. Samples: Stormwater Pollution Prevention Plan Inspection Reports
iv. Refer to BMP 4.1.1 for additional Information.

BMP 4.3.1: Construction Site Operators Need to Control Waste at Construction Sites to Avoid Adverse Impacts to Water Quality.

Goal: Continue conducting periodic inspections for each construction project to ensure that water quality impacts are not present.

Schedule and Evaluation: Continue with periodic inspections in accordance with VSMP permitting, where applicable. Require all university projects greater than 1-acre in disturbed area to develop and maintain a SWPPP on-site during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech University Design and Construction.

Necessary Documents: Sample Inspection reports and SWPPP Narratives.

Measurable Goals: This BMP will be measured by continuing to conduct periodic inspections for each construction project on campus, whether being constructed by in-house forces or convention contractors in accordance with VSMP permitting. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection summaries and updated SWPPP summaries.

Required Modifications: TBD.

Response: A copy of each project's SWPPP and SWPPP inspection reports for all projects on campus that require a VSMP Permit have been provided. A copy of the Stormwater Construction Site Inspection Report has been provided in BMP 4.2.1.

Documentation Provided:
i. Abridged Project Specific SWPPP Narratives

BMP 4.4.1: Funding and Staffing Needs for MCM-4.

Goal: Virginia Tech is seeking positions that will perform the ESC/SWM/SWPPP inspections, reviews, and approvals. Currently, Virginia Tech is using outside staff to assist with these inspections. Develop of a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-4.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-4 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: As of June 2011 Virginia Tech has hired a full time ESC Program Administrator to oversee the erosion and sediment control measures on construction sites around campus. This person is also in charge of coordinating and compiling Virginia Tech's Annual Standards and Specifications.

Virginia Tech continues to seek methods for reaching goals of MCM-4 through existing departmental budgets. Through the use of student employees, Virginia Tech is able to work towards accomplishing this goal; however, no alternative funding sources have been identified.

Minimum Control Measure No. 5: Post-Construction Stormwater Management in New Development and Re-Development.

BMP 5.1.1: Watershed Master Plan for Future Development and Re-Development.

Goal: Ensure that all development and redevelopment projects fall under the guidelines of the Master Plan for campus. Finalize the development of a campus-wide stormwater management master plan for existing and future build-out conditions.

Schedule and Evaluation: Continue to provide input on all development and redevelopment in accordance with the Master Plan during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech University Design and Construction.

Necessary Documents: Approved Master Plan.

Measurable Goals: This BMP will be measured by following the approved Master Plan that addresses the impacts to the existing watershed in conjunction with the future build-out plan. The Master Plan has identified specific BMP's and LID techniques along the portions of campus marked for future development as well as design guidelines. Continue investigating the feasibility of retrofitting existing facilities and sites with better BMP's and LID techniques. Stormwater management sub-models are being developed as part of the SWM review process. Gain approval from DCR on stormwater management master plan. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues development in accordance with the current Master Plan set forth in 2006. Provided is the 2006 Master Plan along with the concept overlay for the Corporate Research Center that was not included in the current Master Plan, along with 2009 Amendments and the HABB1 Precinct addition.

Documentation Provided:

i. 2006 VT Master Plan
ii. 2006 VT Master Plan with 2008 CRC Concept Overlay
iii. 2006 VT Master Plan with 2009 Master Plan Amendment
iv. HABB1 Precinct

BMP 5.2.1: O&M Program for Structural Stormwater Control.

Goal: Match inventory of controls with O&M program and develop checklists for inspectors to ensure consistency and completeness during inspections.

Schedule and Evaluation: Continue to develop checklists by the end of year of the second permit cycle. Continue inspecting and implementing corrective actions to adhere to O&M program during each permit cycle. Status: on-going

Responsible Party: Virginia Tech Site & Infrastructure Development.

Necessary Documents: Inventory report, inspector checklists, and O&M documents.

Measurable Goals: Continue to update the comprehensive survey of the campus' stormwater facilities in an effort to further develop an accurate stormwater model for the university. This BMP will be measured by continuing to conduct thorough inspections of the facilities in an effort to address any deficiencies or required maintenance (i.e. sedimentation removal, debris clean-up, etc.). As part of the overall stormwater modeling plan, routine inspections will be scheduled (wet/dry) to assess the functionality of the facility and make recommendations for repairs or maintenance. To better facilitate the incorporation of inspection reports and data with the university GIS and stormwater model, inspection sheets will be developed in a manner consistent with the requirements of the databases. Continue documenting storm events on an occurrence basis. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: The elements of the O&M program include inspections and clean-up of outfalls, inlet structures, channels, and SWM ponds to remove sedimentation, debris and trash that is collected. As part of the O&M manual, inspection and maintenance forms be developed and updated.

Documentation Provided:

i. Summary of O&M for all BMPs
ii. Retention Pond Inspection Form
iii. Retention Pond Maintenance Form
iv. Detention Pond(s) Inspection Form
v. Detention Pond(s) Maintenance Form
vi. Conveyance System Inspection Form
vii. Conveyance System Maintenance Form
viii. Vault Inspection Form
ix. Vault Maintenance Form
x. Biofiltration Swale Inspection Form
xi. Biofiltration Swale Maintenance Form

xii. Bioretention Facility Inspection Form
xiii. Bioretention Facility Maintenance Form
xiv. Bioretention Pretreatment Facility Inspection Form
xv. Bioretention Pretreatment Facility Maintenance Form
xvi. Outfall Reconnaissance Inventory Field Sheet
xvii. Outfall Reconnaissance Inventory (Manhole)
xviii. Sanitary Sewer Pipe Replacement Checksheet
xix. Sanitary Sewer Manhole Replacement Checksheet

BMP 5.2.2: Stormwater Management Facilities Mapping.

Goal: Continue to update existing facility inventory database and mapping showing maintenance on facilities, stormwater conveyance and control structures, and receiving surface water bodies. Status: on-going. Substantial Completion: September 2009. Continual updates: on-going.

Schedule and Evaluation: Continue to update facility inventory database on a monthly basis and project-by-project basis during each permit cycle.

Responsible Party: Virginia Tech Site & Infrastructure Development.

Necessary Documents: Project as-build documentation.

Measurable Goals: This BMP will be measured by continuing to update and improve the comprehensive survey of the stormwater management facilities and channels for campus for integration into a stormwater model and GIS geo-database. The university is currently in the process of redeveloping the stormwater management methods on campus to ensure that the university meets the current DCR SWM Regulations and addresses the needs of the watersheds. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: SWM Mapping.

Required Modifications: TBD.

Response: A map of the Stormwater Management facilities has been included in this document showing locations of all known BMP's. This is updated as new BMP's are added.

Documentation Provided:
i. Existing BMP Location Map with corresponding maps of individual BMP's

BMP 5.2.3: Inspections of Stormwater Management Facilities.

Goal: Inspect Stormwater facilities on an annual basis and identify any maintenance issues.

Schedule and Evaluation: Continue to inspect facilities on an annual basis along with the maintenance inspections per O&M handbook. Inspect at least 25% each year. Status: on-going.

Responsible Party: Virginia Tech Site & Infrastructure Development.

Necessary Documents: Inspection Reports, Photographs and other documents as necessary.

Measurable Goals: This BMP will be measured by inspecting on a routine basis and documenting any necessary maintenance required. This BMP will require documentation and remedy of any needed maintenance. Continue to monitor the effectiveness of this BMP on a regular basis.

Items to be Reported in Annual Report: SWM Inspection Reports.

Required Modifications: TBD.

Response: The majority of BMPs have been inspected for maintenance required and proper functionality. Inspection reports have been documented in the section.

Documentation Provided:

i. Inspection Reports of BMPs

BMP 5.3.1: Green Parking.

Goal: Evaluate and install, where applicable, grass pavers in different areas along campus.

Schedule and Evaluation: Continue to evaluate opportunities for grass paver installation on a project-by-project basis during each permit cycle. Will utilize as opportunities present themselves. Status: on-going.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: Photographs of existing green parking.

Measurable Goals: This BMP will be measured by adhering to the Master Planning efforts and review/assign different BMP's and LID techniques that may include grass pavers, if applicable, to pertinent areas. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Photographs of existing green parking.

Required Modifications: TBD.

Response: Virginia Tech offers green parking where applicable. Due to high traffic flow in certain areas the areas available are minimal. Photographs of green parking on campus have been provided.

Documentation Provided:

i. Photographs of VT Green Parking at Architecture Demonstration and Research Building
ii. Photographs of VT Green Parking at War Memorial Gym
iii. Photographs of VT Green Parking by Shanks Hall

BMP 5.4.1: Staffing and Funding Needs for Program.

Goal: Evaluate and request funding for program support and staffing requirements.

Schedule and Evaluation: Continue to evaluate opportunities for funding during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: TBD.

Measurable Goals: Continue being proactive in responding to reported issues around campus through internal funding from their own budget allocation on an annual basis. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Funding status.

Required Modifications: TBD.

Response: Facilities Services is proactive in responding to reported issues around campus, which is funded from their own budget allocation on an annual basis. No alternative funding sources have been identified that would fund additional support for this program.

BMP 5.5.1: Funding and Staffing Needs for MCM-5.

Goal: Develop a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-5.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-5 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues to seek methods for reaching the goals of MCM-5 through existing departmental budgets. No alternative funding sources have been identified.

Minimum Control Measure No. 6: Pollution Prevention/Good Housekeeping for Virginia Tech Facility Operations.

BMP 6.1.1: Spill Prevention, Control, and Countermeasure Plan.

Goal: Maintain documentation of existing, and publicly accessible SPCC Plans for petroleum storage on main campus and research farms adjacent to campus.

Schedule and Evaluation: Continue to update policies and procedures as necessary. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety.

Necessary Documents: Contact information for Policy and Procedures for Spill Prevention, Control and Countermeasures.

Measurable Goals: This BMP will be measured by maintaining the current required EPA SPCC Plan that covers all petroleum storage on the main campus as well as research farms adjacent to campus. EHS currently maintains full documentation of each individual SPCC Plan for all pertinent sites on and off Virginia Tech's main campus. EHS inspects and tracks spills on a per occurrence basis. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Contact information for plans within Virginia Tech.

Required Modifications: TBD.

Response: Virginia Tech currently maintains SPCC Plans; a list of these can be found at Environmental Health and Safety during normal business hours.

Documentation Provided:
i. Emergency Contact List
ii. Preparedness Statement
iii. General Response Procedure
iv. Sample inspection forms
v. Photographs of Spill Prevention

BMP 6.1.2: Educate Staff on Vehicle and Equipment Washing.

Goal: All departments that own vehicles or conduct equipment and container washing are educated of the policy.

Schedule and Evaluation: Continue to educate university staff on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Site & Infrastructure Development and Environmental Health & Safety.

Necessary Documents: Education and participation records.

Measurable Goals: This BMP will be measured by educating the Physical Plant Grounds Department regarding storm sewer inlet protection for vehicle wash-down areas. Fleet Services continues to provide wash down areas within their facility and connected to the sanitary sewer system via floor drains and oil-water separator. Continue enforcing that all approved wash-down areas must connect and drain into the sanitary sewer system. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Education, participation, and Inspection summaries.

Required Modifications: TBD.

Response: Personnel working with the wash stations continue to be educated on the use of these facilities. An information session will be held to further educate the staff about the importance of stormwater, and how their work plays into keeping the storm drains clean.

Documentation Provided:
i. Pamphlet from information session on washing

BMP 6.1.3: Personnel Training.

Goal: Record annual training schedules and attendance for university staff.

Schedule and Evaluation: Continue to document training schedules and attendance on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Site & Infrastructure Development and Environmental Health & Safety.

Necessary Documents: Training and participation records.

Measurable Goals: This BMP will be measured by developing a training schedule to educate university staff by demonstrating the effects of pollution prevention on water quality through a stormwater model. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Training and participation summary.

Required Modifications: TBD.

Response: Virginia Tech continues to educate individuals on illicit discharge as the issues arise as well as through mandatory training for all personnel. The training shall encompass reasons for not allowing such issues as rinsing or dumping vehicles and equipment over storm drain inlets, in creek beds, and over pavement as well as dumping any discharge other than stormwater into storm drain systems. The impact the illicit discharges, which include sediment and debris, will have on Stroubles Creek will be defined as well as how and when to report illicit discharges. Alternatives to rinsing and dumping vehicles shall be presented.

Virginia Tech is working to improve personnel training for the future in all areas as funding and staff becomes available.

Documentation Provided:

i. Heavy Machinery and Maintenance
ii. Landscape and Grounds Maintenance

BMP 6.2.1: Parking Lot and Street Cleaning.

Goal: Track maintenance program and clean parking lots/roads on an annual basis.

Schedule and Evaluation: Continue maintaining and cleaning parking lots and roadways on a periodic basis and immediately after significant events (i.e. football games, commencement, etc.) during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Operations.

Necessary Documents: Maintenance and cleaning records.

Measurable Goals: This BMP will be measured by ensuring parking lots and roadways are maintained on a periodic basis and immediately after significant events on campus. Continue monitoring the parking lots and roadways on a daily basis between different departments that work around campus on a daily basis. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Maintenance and cleaning records and summary.

Required Modifications: TBD.

Response: Virginia Tech continues to maintain streets and parking lots by sweeping streets as needed as well as before and after sporting events. A log showing dates and locations of street sweeping has been provided. A total of 28,885 pounds was collected from July 2010 through August 2011. On football weekends, 15,600 pounds was collected.

Documentation Provided:
i. Street Sweeper Log

BMP 6.2.2: Road Maintenance and Repair.

Goal: Educate all departments that handle road maintenance about policies and procedures.

Schedule and Evaluation: Continue to educate university staff on an annual basis during permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: Education and participation records.

Measurable Goals: This BMP will be measured by educating departments regarding storm sewer inlet protection for repairing and marking roads. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Education and participation records.

Required Modifications: TBD.

Response: Virginia Tech repairs and maintains the roads on campus and works to resolve potential stormwater issues that may arise during this work;

therefore, information sessions will be set up to educate the employees on what is acceptable for stormwater pollution prevention.

Documentation Provided:
i. Pamphlet on road repair and maintenance

BMP 6.3.1: Storm Drain System Intake Cleaning.

Goal: Track maintenance program and clean storm sewer intakes on an annual basis.

Schedule and Evaluation: Continue maintaining and cleaning storm sewer intakes on an annual basis or immediately after identification of problem prone areas during each permit cycle. Inspect and clean at least 25% per year. Status: on-going.

Responsible Party: Virginia Tech Facilities Operations and Site & Infrastructure Development.

Necessary Documents: Maintenance and cleaning records.

Measurable Goals: This BMP will be measured by developing and maintaining a list of structures and pipe intakes that require attention (i.e. cleaning, repair, and etc.) and develop a mitigation plan for corrective action. Provide routine inspection and documentation on a routine basis. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Maintenance and cleaning summary.

Required Modifications: TBD.

Response: Virginia Tech is working to perform storm drain system intake cleaning as much as possible. Utilities routinely clean the storm drains after the leaves have fallen. The Utilities recently bought a vacuum truck that aids in the cleaning of storm drain inlets. Virginia Tech Facilities student employees inspect inlets for future cleaning. A priority list of inlets will be developed to track which inlets are in greater need of cleaning.

Documentation Provided:
i. Photographs of Vacuum Truck

BMP 6.4.1: Hazardous Materials and Chemical Storage and Management.

Goal: Document locations and methods of hazardous material storage and inspect storage facilities annually.

Schedule and Evaluation: Inspect and monitor hazardous waste facilities on a monthly basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety.

Necessary Documents: Inspection and monitoring records.

Measurable Goals: This BMP will be measured by inspecting hazardous waste facilities at least monthly and maintain an inspection report. Laboratories and chemical stock rooms are inspected on an annual basis and recorded. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection and monitoring summary.

Required Modifications: TBD.

Response: Virginia Tech currently inspects hazardous waste facilities weekly and maintains a report for each respectively. Laboratories and chemical stock rooms are inspected on annual basis and recorded. Virginia Tech has built a Materials Management Facility for storage and proper disposal of hazardous materials.

Documentation Provided:

i. Laboratory Inspections (Sample)
ii. Waste Accumulation Weekly Inspection logs (Sample)
iii. Photographs of Chemical Storage (In Lab)
iv. Photographs of Chemical Storage (Disposal with Secondary Containment)

BMP 6.4.2: Salt Storage and Application.

Goal: Document application locations and methods of storage with annual inspections. If possible, reduce the amount of salt application.

Schedule and Evaluation: Document application areas and record winter application volumes during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Operations.

Necessary Documents: Application and location records.

Measurable Goals: Virginia Tech has partnered with the Town of Blacksburg to successfully construct a combined salt storage facility. This BMP will be measured by ensuring that the facility and any subsequent runoff from the salt storage will be collected and distributed into the sanitary sewer system. Continue to look at alternative methods to reduce salt application. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Facility inspection and salt application records.

Required Modifications: TBD.

Response: Virginia Tech stores bulk salt in a building preventing rain water from coming in contact with the stored salt. Improved Method of storing small quantities of salt near Sterrett is in the works. Provided is a spreadsheet that outlines the application and location of the salt that was used on campus from December 2010 to February 2011.

Documentation Provided:
i. Salt Application History Log

BMP 6.4.3: Oil and Antifreeze Recycling.

Goal: Document oil and antifreeze recycling amounts in accordance with program.

Schedule and Evaluation: Documentation on a daily basis (as required) during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Fleet Services Department.

Necessary Documents: Recycling summary.

Measurable Goals: This BMP will be measured by maintaining documentation of the volume of oil and antifreeze properly recycled annually. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Recycling summary.

Required Modifications: TBD.

Response: Approximately 1200 gallons of oil are collected from Fleet Services. Approximately 1250 gallons are used in an oil burner for space heating in the Fleet Services wash area. Also, approximately 1200 gallons are used in oil burners on Plantation Road. Environmental Health and Safety sends the remaining to be recycled along with the oil collected from the farms and other Virginia Tech operations.

Virginia Environmental Health and Safety is responsible for sending the antifreeze off site to be recycled. Fleet Services recycles approximately 30 to 50 gallons of antifreeze per year.

BMP 6.5.1: Pesticides and Fertilizer Application.

Goal: Inspect facilities on an annual basis and record inspection results. Develop a database of all applicators that are EPA licensed. Maintain accurate and up-to-date applicator database.

Schedule and Evaluation: Inspection on an annual basis or as required during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety.

Necessary Documents: Documentation of products and Certified Applicators.

Measurable Goals: This BMP will be measured by continuing to plant new trees and shrubs; renovating old landscaping sites; mowing and trimming campus turf; applying fertilizer and pesticides; pruning the campus collection of trees and shrubs; and installing and maintaining over 200 perennial and annual flowerbeds in accordance with EPA application guidelines. Applicators, for different departments of campus, are certified and adhere to EPA guidelines and measures. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Documentation of products and Certified Applicators.

Required Modifications: TBD.

Response: There are five groups on campus that are responsible for applying pesticides and fertilizers as needed: Agricultural Operations, Virginia Tech Athletics, Virginia Tech Golf Course, Grounds, 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. Provided is a sample from four of the departments. A map of Agriculture Operations application area is included in BMP 6.5.3.

Documentation Provided:

i. Map of Areas on Campus that Pesticides and Fertilizers are used
ii. List of Certified Applicators
iii. Virginia Tech Agriculture Operations List of Products
iv. Virginia Tech Athletic Department List of Products
v. Virginia Tech Golf Course List of Products
vi. Virginia Tech Grounds Department List of Products
vii. Peggy Lee Hahn Garden Pavilion List of Products
viii. Virginia Tech Recreational Sports List of Products

BMP 6.5.2: Maintenance of Landscaped Areas.

Goal: Track volumes of compost and mulch application.

Schedule and Evaluation: Track volumes on an application-basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: Application Area Maps.

Measurable Goals: This BMP will be measured by inspecting and maintaining landscaped areas on a regular basis to prohibit the potential for soil erosion and debris entry into the stormwater sewer system. Continue to monitor and develop alternative methods to compost and mulch applications and provide recommendations for action. Continue to monitor the effectiveness of this BMP on a routine basis.

Continue monitoring the conversion of 13 areas of campus (approximately 35 acres) from regularly maintained turf grass lawn to low maintenance native grass meadows and wildflowers in an effort to create biodiversity, aid stormwater management, and reduce fossil fuel use.

Items to be Reported in Annual Report: Application Area Maps.

Required Modifications: TBD.

Response: Virginia Tech continues to maintain campus though several different methods. Current projects include reforestation of areas and wildflower gardens each year depending on funding and weather. Volumes of compost and mulch were not able to be tracked, however, each year Virginia Tech Grounds re-mulches flower beds campus wide. Wood chips are being used to improve the infiltration and root growth of the surrounding trees.

Virginia Tech waits to mow the wild flower gardens until late fall for sustainability.

Documents Provided:

i. Maps of Landscaped Areas on Campus
ii. Tree Campus USA 2008 article
iii. Tree Campus USA 2010 article
iv. Tree Campus USA – Virginia Tech Tops Nation in Tree Planters, Wins Free Trees 2010 Article
v. Tree Campus USA 2011 article
vi. Photographs of Green Roofs
vii. Photographs of Native Meadows

BMP 6.5.3: Nutrient Management Plan.

Goal: Continue to update and evaluate existing plan as needed for operations.

Schedule and Evaluation: Periodic review, update, and evaluation of existing plan during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety.

Necessary Documents: Updated Nutrient Management Plan (as applicable).

Measurable Goals: This BMP will be measured by ensuring that the current plan is up-to-date and continues to be effective. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Updated Nutrient Management Plan.

Required Modifications: TBD.

Response: Virginia Tech has a VPA permit for the agricultural areas that was issued in 1995 is still in effect. A copy of the Nutrient Management Plans for the non-agricultural areas as well as a copy of the VPA permit has been provided.

Documents Provided:

i. Nutrient Management Plan (Non-Agriculture Areas) Map
ii. Nutrient Management Plan (Agriculture Areas) Map
iii. Summary of Each Nutrient Management Plan
iv. Nutrient Management Plan Identification for Agriculture
v. DCR Approval for Virginia Tech Campus NMP
vi. Virginia Tech Campus Grounds Soil Test Analysis and NMP
vii. DCR Approval for Virginia Tech NCAA Sports NMP
viii. Virginia Tech NCAA Sports Soil Test Analysis NMP
ix. DCR Approval for Virginia Tech Recreation NMP
x. Virginia Tech Recreational Sports, Soil Test Analysis and NMP
xi. DCR Approval for Virginia Tech Peggy Lee Hahn Garden Pavilion NMP
xii. Virginia Tech Department of Horticulture, Peggy Lee Hahn Garden Pavilion Soil Test Analysis and NMP
xiii. DCR Approval for Virginia Tech Golf Course NMP
xiv. Virginia Tech Golf Course Soil Test Analysis and NMP

BMP 6.5.4: General Maintenance and Upkeep.

Goal: Continue to do general maintenance on campus that will improve stormwater.

Schedule and Evaluation: Perform tasks that will improve the stormwater system and help reduce pollutants from entering the waterways. Status: on-going.

Responsible Party: Virginia Tech Facilities Operations.

Necessary Documents: List of projects on campus that will improve stormwater.

Measurable Goals: This BMP will be measured by documenting any maintenance done on campus that prevents pollutants from entering the stormwater system. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: photographs of improvements.

Required Modifications: TBD.

Response: Virginia Tech re-seeds and places mulch across campus to maintain the grass which helps reduce the amount of runoff. Certain inlets are protected year-round to reduce the amount of sediment that reaches the waterway. Also, ditches where erosion was an issue, Virginia Tech has installed check dams to reduce the velocity of the flow on those slopes.

This year Virginia Tech has re-seeded the Drillfield on campus as well as other areas when necessary. Virginia Tech also installed sidewalks in an area where erosion was a problem.

BMP 6.6.1: Funding and Staffing Needs for MCM-6.

Goal: Develop of a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-6.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-6 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues to seek methods for reaching goals of MCM-6 through existing departmental budgets. No alternative funding sources have been identified.