



COMMONWEALTH of VIRGINIA

DEPARTMENT OF
BEHAVIORAL HEALTH AND DEVELOPMENTAL SERVICES

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CENTRAL VIRGINIA TRAINING CENTER

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October 8, 2015

The Department of Environmental Quality
Blue Ridge Regional Office
7705 Timberlake Road
Lynchburg, VA 24502

Attn: B. Amanda Winks, Storm Water Compliance Specialist

Re: General Permit for Stormwater Discharges from MS4 for CVTC; Permit #VAR040121;
Permit Year 2 – Annual Report (July 1, 2014 – June 30, 2015)

Dear Mrs. Winks:

As required under our MS4 Permit, attached is the annual report covering the actions conducted by Central Virginia Training Center for Permit Year 2.

If you or your staff has any questions, please contact me at (434) 947-6300 or by email at richard.w.hall@dbhds.virginia.gov.

Sincerely,

A handwritten signature in black ink that reads 'Richard W. Hall'.

Richard W. Hall
Physical Plant Services Director

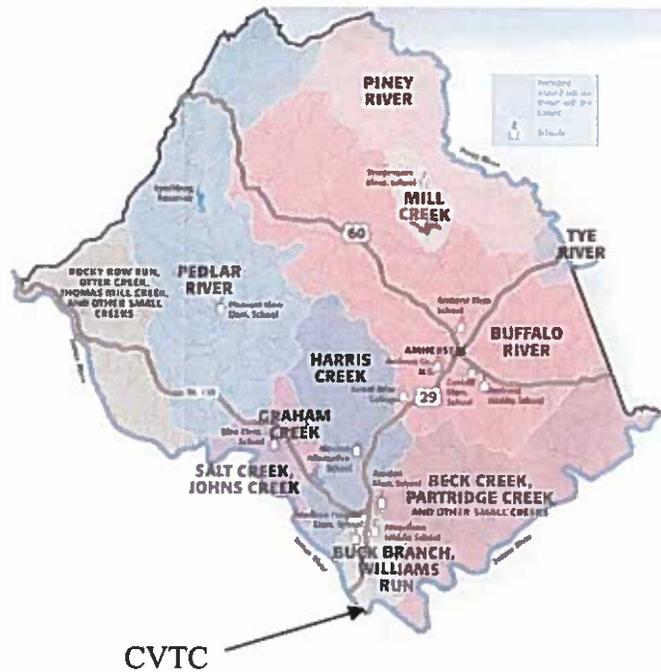
Cc: Mike Bryant, Risk Management

**GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE
STORM SEWER SYSTEMS (MS4) FOR
CENTRAL VIRGINIA TRAINING CENTER**

Permit Number VAR040121

Permit coverage from July 1, 2013 to June 30, 2018

Permit Year 2, Annual Report
Reporting Period: July 1, 2014 to June 30, 2015
Submitted October 8, 2015



Prepared by:

**Central Virginia Training Center
Physical Plant Services Department
521 Colony Road
Madison Heights, VA 24572**

October 8, 2015

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BACKGROUND INFORMATION

This annual report is submitted under Small Municipal Separate Storm Sewer Systems (MS4) Permit Number (VAR040121) for Central Virginia Training Center. This annual report is for the reporting period July 1, 2014 through June 30, 2015.

Mr. Richard Hall is the Director of Physical Plant Services remains the responsible department of the permit.

There are no new MS4 outfalls added during the permit year. There are no significant changes expected for the next reporting period of the MS4 Permit.

STATUS OF COMPLIANCE & ASSESSMENT OF APPROPRIATENESS

Central Virginia Training Center makes every effort to act in accordance with with all permit conditions. The following are Central Virginia Training Center's best management practices (BMPs) that have been developed in order to meet the minimum control measures.

Public Education and Outreach

Up to 2015, Central Virginia Training Center had maintained a webpage for the CVTC Stormwater Management on www.cvtc.dbhds.virginia.gov. During the reporting period, the site had major upgrades due to server replacement/repair. Currently, our web page is incomplete. During Plan Year Three reporting period, CVTC will make every effort to update this web page to include most current reports and pertinent information.

Central Virginia Training Center participates when possible, in various local activities and provides visitors with information on recycling and pollution prevention.

During PY3, CVTC will continue to implement information to the General Public and Education Outreach strategies outlined in the Program Plan. These include distribution of print materials & pamphlets, CVTC's monthly newsletter, bulletin boards in public locations on campus and training for employees via an electronic learning management system.



Date	Event	Audience Reached
8/9/2014	Distributed Living in Your Watershed booklets at the annual Riverside Runners of Lynchburg Half Marathon event	50
11/7/2014	Booth/Table Display at the Community Provider Fair	105
4/18/2015	Booth/Table Display at the Family & Friends Meeting	3
5/5/2015	Distributed Conservation Stewardship, Watershed Connections, and Living In Your Watershed brochures at the Community Provider's Training	5
5/19/2015	Distributed Conservation Stewardship, Watershed Connections, and Living In Your Watershed brochures at the Provider Form	9
7/1/14-6/30/15	Distributed (Pamphlets were taken) Stormwater educational pamphlets in various public locations on CVTC's campus	238

Assessment: This BMP appears to be appropriate and will be continued.

The following is a summary of the PY2 Activities:

Measurable Goal	# of People Reached	% of Target Audience Reached
Attend community events and distribute information	410	146%

The following activities are planned for PY3:

Measurable Goal	Estimate # of People to Reach	% of Target Audience
Attend community events and distribute information	206	20%

Public Involvement/Participation

Central Virginia Training Center maintains a copy of the MS4 Program Plan and the annual report on the CVTC Stormwater Management webpage (www.cvtc.dbhds.virginia.gov.)

Assessment: This is a worthwhile effort and will continue.

CVTC promotes on its webpage and its monthly newsletter opportunities for CVTC to participate in many education and outreach activities during PY2 including the following:

1. CVTC posted on its webpage and Campus Connection *the James River Regional Cleanup* which was held on Saturday, September 12, 2014. For many years the JRRC has hundreds of volunteers who roam the shorelines on foot and cruise the water in boats to clean up trash. More than 600 volunteered to collect trash; 432 garbage bags of trash and 251 bags of recyclable materials. This event occurs annually in September.
2. CVTC also posted on its webpage *Clean the Bay Day* that was held on Saturday, June 6th, 2015. Volunteers all over Virginia work by land and boat to give the Bay a massive spring cleaning yearly. Preliminary results: In this event, it was reported that approximately 6,000 volunteers removed roughly 105,000 pounds of harmful debris from approximately 275 sites along more than 450 miles of streams and shoreline in three hours.
3. CVTC's individuals through participation in its daily workshop, was able to recycle 84,560 lbs. of paper, transporting the shredded products to an appropriate recycling center via 88 trips. This is another example of CVTC's efforts to promote a clean environment by recycling materials.
4. During the PY2 reporting period, CVTC's building 18 continued a successful program to collect plastic water bottles and placing them in appropriate recycling containers as a storm water pollution prevention task.

Assessment: This measure is effective and CVTC will continue to promote and support volunteer events on its web page.

Illicit Discharge Detection and Elimination

CVTC currently maintains a storm sewer system map of storm water outfalls, in which there were no changes to this documentation during this reporting cycle. However, during renovation efforts to CVTC's building 10, repairs were made to existing stormwater curb inlets.

Assessment: This is a worthwhile effort and will continue.

CVTC inspects all storm drain inlets on a semi-annual basis for the collection of debris and litter, including tree limbs. All outfalls are examined for dry changes such as any indications of dying vegetation, excessive build-ups of sediments and solids, as well examine all outfalls for excessive soil erosion, odor, and other indicators to identify for possible illicit discharges. Inspections were conducted on 90 outfalls. Inspections were performed in the late fall of 2014 and early summer of 2015.

Assessment: Continue current program and evaluate annually.

There were 3 illicit discharges in PY2. A summary of illicit discharge observations that were reported to DEQ during PY2 (including a description of the suspected discharge, investigation and resolution):

Date Reported	Location	Problem	Follow-up	Date Closed
10/30/2014	Sonoco Recycling, 168 Recycle Rd., Madison Heights	Soiled water from pressure washing activities are discharged directly into a storm drain.	Referred to DEQ.	10/31/2014
11/10/2014	Amherst County's metering station @ the end of Fertilizer Road	Discharge from a clogged sanitary manhole	The blockage was removed & overflow corrected. A monthly preventative maintenance task to visually inspect the operation of the manhole has been initiated. Notified DEQ.	12/4/2014
3/20/2015	Sonoco Recycling, 168 Recycle Rd., Madison Heights	Caller indicated Sonoco is active in pumping soiled water that may contain oil from the scales directly on the ground adjacent to the scales.	Referred to DEQ.	3/20/2015

Assessment: Continued education and training will be provided to CVTC staff and the public to facilitate the reporting of illicit discharges.

CVTC continues to use their webpage www.cvtc.dbhds.virginia.gov to encourage the community to report illicit discharges or report suspect activity. CVTC uses 434-947-6300 as the contact number. These calls are answered by the Department Program Support Specialist and transferred to the Director of Physical Plant Services.

Another means is that CVTC provides this phone number during the employees yearly (LMS) Training.

Assessment: This measure is effective and CVTC will continue to publicize the 434-947-6300 number.

Construction Site Runoff Control

On 9/22/14, a construction site inspection performed by the Department of Environmental Quality, of CVTC's building 10 renovations, revealed that land disturbing activity was on-going without an approved erosion and sediment control plan. In addition, it was reported that a Stormwater Management Project-Specific Plan as well as a VSMP General Permit for Construction Activities had not been submitted. The Virginia Department of Behavioral Health and Developmental Services construction team responded immediately. Following review of submitted documentation, a conditional approval was granted by DEQ on October 20, 2014. It was understood in the conditional approval of VDBHDS' intention to obtain offsite nutrient offset credits to address stormwater quality requirements. The purchase of nutrient offset credits will be addressed in CVTC's Plan Year 3 report.

A project was initiated during this plan year to replace a water main to CVTC's building 12. Prior to construction and land disturbing activities, based on a review by the Department of Environmental Quality, the Virginia Department of Behavioral Health and Developmental Services received approval of a submitted Erosion and Sediment Control Plan, dated March 30, 2015. The date of the approval letter from DEQ is April 9, 2015. In addition, VDBHDS also obtained an approved Land Use Permit from The Virginia Department of Transportation for boring activities. VDOT's permit also included review of the contractor's Erosion and Sediment Control Contractor Certification and review of the project specific E&S plans.

Assessment: This measure is not only effective, but is required by Virginia Administrative Codes. Notification of deficiencies by DEQ has heightened awareness of requirements and made construction site run-off control a top priority for VDBHDS. This measure will be continued.

Post-Construction Stormwater Management

Building 10's construction activity was not complete during plan year 2 reporting and will be addressed the report for plan year 3.

CVTC's building 12 water line project was complete on the month of June. Disturbed land was stabilized; grass cutting has resumed in the areas of excavation.

Assessment: This measure is effective and will be continued.

Pollution Prevention/Good Housekeeping

CVTC has as an approved Nutrient Management Plan current for the campus grounds. Due to budget restraints and the plan for the facility closure in the year 2020, CVTC does not apply nutrient management chemicals. For this reason, soil samples to insure proper nutrient application rates were not performed. This plan has an expiration date of September 30, 2016.

In addition, CVTC outsources grounds grass-cutting and leaf removal activities. The vendor removes all debris from grounds, including but not limited to storm drains prior to mowing activities. This plan year, CVTC included in its Landscape Contract, the application of herbicide control treatment of its perimeter fencing. This activity is performed once a year and did not occur during this reporting period. Applicator records of application rates and pertinent information is available for review.

Assessment: Pollution Prevention and Good Housekeeping measures are effective tool and will continue to be exercised and monitored.

CVTC maintains a contract with Environmental Options to remove and recycle all waste oil, antifreeze, tires, batteries, lighting ballasts possibly contaminated by PCP's and refrigerants. Sand and Salt stock piles are covered with tarps to protect erodible material from the elements/precipitation.

Assessment: CVTC will continue to recycle chemicals and/or other harmful materials that have a high potential to be discharged in stormwater.

The table below contains the information in regards to training received by CVTC employees during PY2:

Training Date	Training Event	Attendees	Training Objective
6/2/2015	Pollution Prevention & Illicit Discharge & (Rain Check Video)	10	To show employees how to perform good housekeeping practices such as spill response, vehicle fueling and maintenance and materials management.
6/16/2015	Storm Water Prevention Plan & Oil Discharge Contingency Plan	17	To show employees how to perform good housekeeping pollution practices and to properly address spills.
(2 nd Quarter) 1/1/15-3/31/15	LMS Annual Stormwater Training	942	Awareness concerning the negative impact on stormwater and the environment concerning illicit discharges; this class also provides a phone number and contact department to report any possible illicit discharges.

Assessment: CVTC will continue to document the number of individuals which receive training when it is offered. This measure increases the overall awareness of the impacts of stormwater and the measures that the facility is undertaking to improve stormwater quality.

RESULTS OF INFORMATION COLLECTED AND ANALYZED

No information was collected during Plan Year 2.

SUMMARY OF STORMWATER ACTIVITIES PLANNED FOR NEXT REPORTING YEAR

Specific activities pertaining to the minimum controls measures planned for PY3 have been outlined in the proceeding sections of this report.

CHANGE IN ANY IDENTIFIED BEST MANAGEMENT PRACTICES OR MEASURABLE GOALS

There are no changes to CVTC's BMP's or Measurable Goals during PY2.

NOTICE THAT THE OPERATOR IS RELYING ON ANOTHER GOVERNMENT ENTITY

Central Virginia Training Center relied on the City of Lynchburg to satisfy permit obligations regarding stormwater pollution prevention training during this reporting year.

APPROVAL STATUS OF ANY PROGRAMS PURSUANT TO SECTION II.C

CVTC has no programs operating under Section II.C

INFORMATION REQUIRED FOR ANY APPLICABLE TMDL SPECIAL CONDITIONS

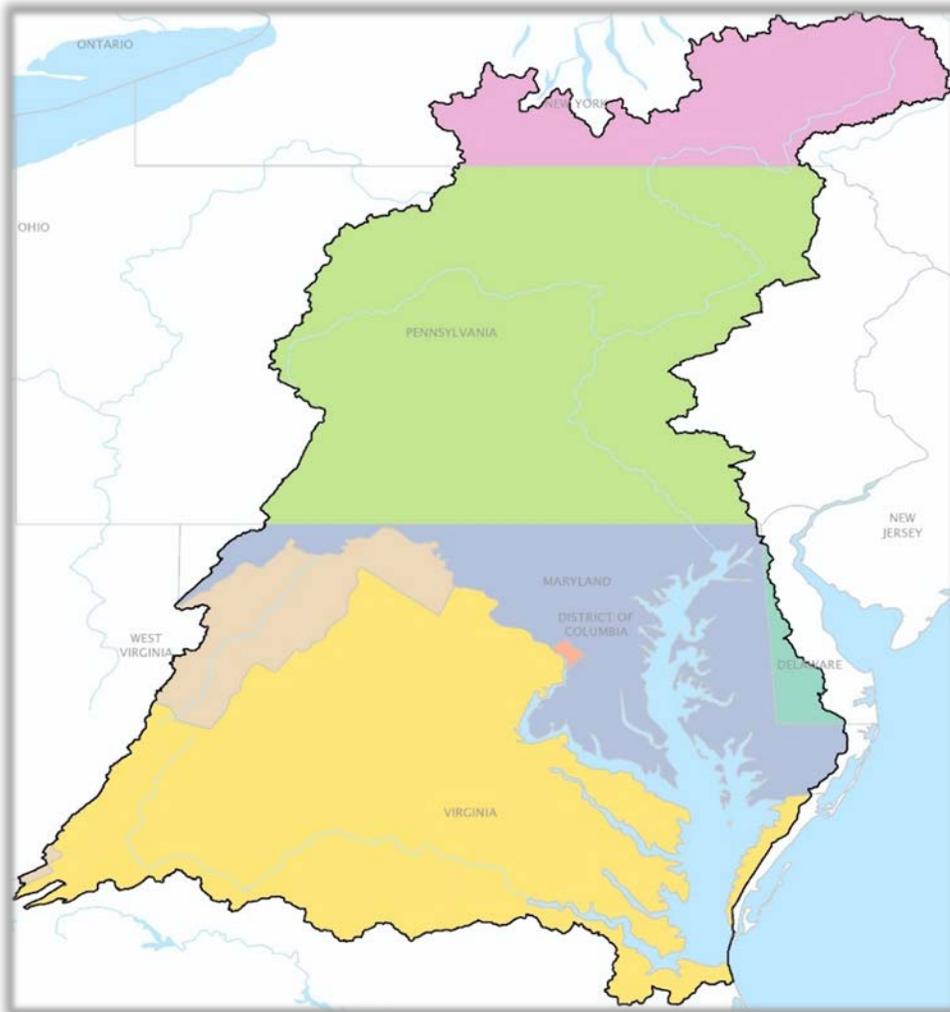
CVTC has not completed assessments for TMDL calculations at this time. However, assistance with this task, along with any required action plan has been initiated via a consulting firm having approved credentials.

CHESAPEAKE BAY TMDL ACTION PLAN

(2013-2018 MS4 General Permit)

**A Plan for Achieving a 5%
Reduction of Existing Loads**

February 2, 2016



Central Virginia
Training Center



Madison Heights, VA

This plan satisfies the requirements of Section I(C) of the MS4 General Permit (9VAC25-890-40) for Special Conditions for the Chesapeake Bay TMDL. This plan is consistent with the Chesapeake Bay TMDL and the Virginia Phase I and II WIPs to meet the Level 2 (L2) scoping run for existing developed lands as it represents an implementation of 5.0% of L2 as specified in the 2010 Phase I WIP.

EEE Consulting, Inc.



EXECUTIVE SUMMARY

Central Virginia Training Center (CVTC), is authorized to discharge stormwater from its municipal separate storm sewer system (MS4) under the Virginia Pollutant Discharge Elimination System (VPDES) General Permit for Discharge of Stormwater from Small MS4s (MS4 General Permit). To maintain permit compliance, CVTC implements an MS4 Program Plan that includes best management practices (BMPs) to address six minimum control measures (MCMs) and special conditions for the Total Maximum Daily Load (TMDL) in which CVTC has been assigned a wasteload allocation (WLA). The Environmental Protection Agency (EPA) describes a TMDL as a “pollution diet” that identifies the maximum amount of a pollutant the waterway can receive and still meet water quality standards. A WLA determines the required reduction in pollutant of concern loadings from the MS4s to meet water quality standards. The MS4 General Permit serves as the regulatory mechanism for addressing the load reductions described in the TMDL, predominantly through the requirement of a TMDL Action Plan.

The Chesapeake Bay TMDL was established by the EPA on December 29, 2010 and initiated WLAs for phosphorus, nitrogen and total suspended solids. In response, the Commonwealth of Virginia developed Watershed Implementation Plans (WIPs) that, in part, identify the MS4 General Permit as a mechanism for enforcing load reductions in urban areas. Subsequently, the Commonwealth included special conditions into the latest MS4 General Permit to address the reductions required by the TMDL for the pollutants of concern. The WIPs intended the reductions to be achieved over the course of three 5-year permit cycles, with the first cycle (2013 – 2018) requiring 5% of the reductions be achieved. Reduction requirements for the following two permit cycles are anticipated to increase substantially, requiring an additional 35% and 60% of the reductions be achieved, respectively.

CVTC has developed an Action Plan consistent with the Chesapeake Bay Action Plan Guidance Memo (Memo No. 15-2005) issued by the Virginia Department of Environmental Quality (DEQ). The guidance was used to determine the required pollutant load reductions and identify the means and methods for achieving the reductions. The means selected by CVTC will be the implementation of street sweeping. Regular employment of street sweeping, along with continued implementation of the CVTC MS4 Program Plan, is consistent with the provisions of an iterative MS4 Program and constitutes compliance with the MS4 General Permit standard of reducing pollutants to the maximum extent practicable.

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Acronyms

BMP	Best Management Practice
CGP	Construction General Permit
CUA	Census Urban Area
CWA	Clean Water Act
DEQ	Virginia Department of Environmental Quality
EOS	Edge of Stream
EPA	Environmental Protection Agency
ESC	Erosion and Sediment Control
CVTC	Central Virginia Training Center
GIS	Geographic Information System
IDDE	Illicit Discharge Detection and Elimination
LA	Load Allocation
L2	Level 2
MCM	Minimum Control Measure
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
MS4 GP	General Permit for Discharge of Stormwater from Small MS4s
NMP	Nutrient Management Plan
POC	Pollutant of Concern
RLDA	Regulated Land Disturbing Activity
SWPPP	Stormwater Pollution Prevention Plan
SWM	Stormwater Management
TMDL	Total Maximum Daily Load
VAC	Virginia Administrative Code
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program
WIP	Watershed Implementation Plan
WLA	Wasteload Allocation

Definitions

Best Management Practices (BMPs) are schedules of activities, prohibitions of practices, maintenance procedures, and other management practices, including both structural and nonstructural practices, to prevent or reduce the pollution of surface waters and groundwater systems.

Census Urbanized Area (CUA) are areas identified as urban by the United States Census Bureau's latest census. MS4 regulations only apply within CUAs.

Existing Sources are pervious and impervious urban land uses served by the MS4 as of June 30, 2009.

Impervious Cover is a surface composed of material that significantly impedes or prevents natural infiltration of water into soil.

L2 Scoping Run is a model run to determine required reductions from urban sources as of June 30, 2009. The L2 reductions are summarized in the following table:

Pollutant of Concern	Regulated Impervious (%)	Regulated Pervious (%)
Nitrogen	9	6
Phosphorus	16	7.25
Sediment	20	8.75

Municipal Separate Storm Sewer System (MS4) is a conveyance or system of conveyances otherwise known as a municipal separate storm sewer system (MS4), including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains that are:

- Owned or operated by a federal state, city, town, county, district, association, or other public body, created by or pursuant to state law that discharges to surface waters;
- Designed or used for collecting or conveying stormwater;
- That is not a combined sewer; and
- That is not part of a publicly owned treatment works.

New Sources are pervious and impervious urban land uses served by the MS4 developed or redeveloped on or after July 1, 2009.

CVTC MS4 Program Plan is the guiding document of the CVTC's MS4 Program and includes best management practices to address conditions of the MS4 General Permit.

Pollutants of Concern (POC) are total nitrogen ("TN"), total phosphorus ("TP"), and total suspended solids ("TSS").

Prior Developed Lands are lands that has been previously utilized for residential, commercial, industrial, institutional, recreation, transportation, or utility facilities or structures, and that will have the impervious areas associated with those uses altered during a land-disturbing activity.

Transitional Sources are regulated land disturbing activities that are temporary in nature and discharge through the MS4.

1.0 INTRODUCTION AND PURPOSE

Mandated by Congress under the Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES) storm water program includes the Municipal Separate Storm Sewer System (MS4), Construction, and Industrial General Permits. In Virginia the NPDES Program is administered by the Department of Environmental Quality (DEQ) through the Virginia Stormwater Management Program (VSMP) and the Virginia Pollutant Discharge Elimination System (VPDES). Central Virginia Training Center (CVTC) is authorized to discharge stormwater from its MS4 under the VPDES General Permit for Discharge of Stormwater from Small MS4s (MS4 General Permit). As part of the MS4 General Permit authorization, CVTC developed and implements a MS4 Program Plan (the Plan) with best management practices (BMPs) to address the six minimum control measures (MCMs) and the special conditions for applicable total maximum daily loads (TMDLs) outlined in the MS4 General Permit. Implementation of these BMPs is consistent with the provisions of an iterative MS4 Program, which constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable" or MEP.

"CVTC's MS4 program strives to improve environmental compliance, quality and stewardship through effective management, implementation, and enforcement."

The CVTC MS4 program strives to improve environmental compliance, quality and stewardship through effective management, implementation, and enforcement of sound technical guidelines, criteria and practices for stormwater management and erosion and sediment control. The plan presented herein demonstrates how CVTC's MS4 Program Plan addresses sediment and nutrients (nitrogen and phosphorus) in its MS4 regulated area consistent with the requirements of the Chesapeake Bay TMDL.

1.1 Total Maximum Daily Loads

A TMDL is the total amount of a given pollutant that a waterbody can assimilate and still meet water quality standards. Typically, TMDLs are represented numerically in three main components: Waste Load Allocations (WLAs), a Load Allocation (LA), and a Margin of Safety. A WLA is the allocated amount of pollutant from areas discharging through a pipe or other conveyance considered a point source. Point sources include sewage treatment plants, industrial facilities and storm sewer systems. In contrast, an LA is the amount of pollutant from existing non-point sources and natural background such as farm runoff and atmospheric deposition. As a point source discharge, MS4's are assigned a WLA representing the annual loading of the pollutant of concern (POC) that can be discharged from its regulated MS4 area.

1.2 MS4 General Permit Special Conditions

CVTC's MS4 General Permit includes a series of special conditions that must be addressed for permit compliance where CVTC has been assigned a WLA as part of an approved TMDL. The special conditions state that any TMDL approved by the State Water Control Board (SWCB) assigning a WLA to an MS4 must be addressed by the Permittee through the measurable goals of their MS4 Program Plan.

In 1998, large portions of Chesapeake Bay and its tidal tributaries within Virginia were identified as not meeting water quality standards and listed as impaired because of excess nitrogen, phosphorus and sediment. Due to the Chesapeake Bay waters remaining on the impaired waters list, the Environmental Protection Agency (EPA) required that a TMDL be developed, which was subsequently approved on December 29, 2010.

1.3 Watershed Implementation Plan and Strategy for MS4s

The Chesapeake Bay Watershed Implementation Plans (WIPs) are plans that detail how and when the six Chesapeake Bay states and the District of Columbia will meet pollutant allocations. In the Phase I and Phase II WIPs for the Chesapeake Bay TMDL, Virginia committed to a phased approach to reducing nutrients and suspended solids discharging from MS4s. The issuance of the 2013-2018 MS4 General Permit set forth special conditions required by all MS4 General Permit holders within the Chesapeake Bay watershed. In part, the special conditions require the permittee to achieve 5% of the required reductions identified in the so-called Level 2 Scoping Run from existing baseline loads by July 1, 2018. Baseline loads are defined as those occurring on June 20, 2009, and are computed using loading rates provided in the MS4 General Permit.

1.4 CVTC Chesapeake Bay Action Plan

The CVTC Action Plan presented herein provides a review of the current MS4 program that demonstrates CVTC's ability to ensure compliance with the special conditions and includes the means and methods CVTC will use to meet 5.0% of the Level 2 (L2) scoping run reductions by July 1, 2018. This Action Plan was developed to comply with the special conditions of the MS4 General Permit (9VAC25-890) and under the advisement of DEQ's Guidance Memo No. 15-2005, which provides background information and procedures to meet the Chesapeake Bay TMDL special condition requirements.

2.0 APPLICABLE OVERVIEW OF CVTC'S MS4 PROGRAM

CVTC's MS4 Permit regulates stormwater discharges from areas included within census urbanized areas (CUAs). CVTC is included in a CUA, as depicted in Appendix A. CVTC's collective efforts, as described in the CVTC MS4 Program Plan, result in significant reduction of pollutants that could potentially be discharged from its regulated MS4. BMPs already included in the CVTC Program Plan that address the Chesapeake Bay TMDL POCs, sediment and nutrients, are described in the following sections. Each subsection is provided to address the referenced special condition in the MS4 General Permit.

2.1 Current Program and Existing Legal Authority

As a non-traditional MS4, CVTC does not have the ability to create legal authorities and has not identified any necessary legal authorities necessary to meet the requirements of the special conditions. However, CVTC's MS4 Program includes Minimum Control Measures (MCMs) that include policies and procedures consistent the goals of the Chesapeake Bay TMDL. A summary of the applicable MCMs is listed below to address the following special condition:

- ✓ *"A review of the current MS4 program implemented as a requirement of this state permit including a review of the existing legal authorities and the operator's ability to ensure compliance with this special condition."* [Section I(C)(2)(a)(1)]
- *MCM 1 (Public Education and Outreach)* – CVTC's MS4 Program includes a Public Education Program that identifies high priority water quality issues. The Public Education Program is described in BMPs 1.a, 1.b, and 1.c of the CVTC MS4 Program Plan and includes the distribution of educational materials regarding methods to reduce introduction of POCs into stormwater runoff.
- *MCM 3 (Illicit Discharge Detection and Elimination)* – CVTC's MS4 Program includes an Illicit Discharge Detection and Elimination (IDDE) Program that includes written procedures to detect, identify, and address non-stormwater discharges, including illegal dumping, to the small MS4 with policies and procedures for when and how to use legal authorities. IDDE BMPs are described in the Minimum Control Measure 3 BMPs in the CVTC MS4 Program Plan. These BMPs are effective at addressing the POC through staff training, prohibition of illicit discharges, and annual outfall screening.
- *MCM 4 (Construction Site Runoff Control)* – CVTC's MS4 Program includes BMPs in Minimum Control Measure 4 that includes mechanisms to ensure compliance and enforcement on regulated construction sites. All plans will be consistent with the Virginia Erosion and Sediment Control and Stormwater Management Laws and Regulations. CVTC relies on DEQ for inspection and enforcement of these requirements in addition to the General Conditions of the construction contract document developed by the Department of General Services.

The Construction Site Runoff Control Program is especially effective at reducing downstream conveyance of sediment from transitional sources. Minimum Control Measure 4 BMPs in the CVTC MS4 Program Plan describes construction site runoff control BMPs.

- *MCM 5 (Post-Construction Stormwater Management)* – CVTC’s MS4 Program includes a Post-Construction SWM Program (MCM 5) that ensures water quality criteria in the Virginia Stormwater Management Regulations has been achieved on new developments and developments on prior developed land since July 1, 2009. CVTC relies on DEQ for implementation of this requirement in addition to submission of plans to the Bureau of Capital Outlay Management (to ensure compliance with Construction & Professional Services Manual).

CVTC’s post-construction program ensures inspections and maintenance of stormwater management BMPs to maintain functionality. Minimum Control Measure 5 BMPs in the CVTC MS4 Program Plan describe post-construction stormwater management BMPs.

Implementation of this program addresses the following MS4 General Permit special conditions for the Action Plan to include:

- ✓ *“The means and methods that will be utilized to address discharges into the MS4 from new sources [Section I(C)(2)(a)(3)]*

- *MCM 6 (Good Housekeeping)* – CVTC’s MS4 Program includes an Operation and Maintenance Program that includes policies and procedures to ensure that day-to-day operations minimize the exposure of pollutants to rainfall on the property to the maximum extent practicable. The program is supported with CVTC’s annual training for applicable staff. Minimum Control Measure 6 BMPs in the CVTC MS4 Program Plan describe pollution prevention and good housekeeping BMPs.

2.2 New or Modified Legal Authorities

Consistent with the MS4 General Permit, CVTC uses an iterative approach to ensure it is minimizing the discharge of pollutants through its MS4 to the MEP. The iterative approach is implemented through the annual reporting process with the review of the effectiveness of each MS4 Program Plan BMP. BMPs are modified, as necessary, to increase effectiveness. If new or modified authorities are identified as part of the annual “measure of effectiveness” as described for each BMP in the CVTC MS4 Program Plan annual reporting, they will be reported through the annual report process. The iterative process addresses the following special condition in the MS4 General Permit:

- ✓ *“The identification of any new or modified legal authorities such as ordinances, state and other permits, orders, specific contract language, and inter-jurisdictional agreements implemented or needing to be implemented to meet the requirements of this special condition.”* [Section I(C)(2)(a)(2)]

As a non-traditional MS4, CVTC does not have the ability to create legal authorities. No new policies and procedures or modifications to existing policies and procedures were identified as necessary to meet the requirements of the special conditions. Means and methods to meet the special conditions are described in Section 4.

3.0 POLLUTANT LOADINGS

The MS4 General Permit requires CVTC to estimate the annual loadings and the POC load reductions (5.0% from the L2 Scoping Run). To complete this requirement, CVTC determined the amount of pervious and impervious land cover for their regulated property and input the data into the appropriate loading and reduction tables provided in the MS4 General Permit. The methodology to determine sediment and nutrient loadings and the required reductions are described in the following sub-sections.

3.1 Baseline Loading Characterization

Before estimating the loads and required reductions, CVTC first evaluated the extent of their regulated MS4 area, including the regulated acres of urban pervious and impervious surface served by its MS4 as of June 30, 2009. These evaluations were conducted using Geographic Information System (GIS) digitization utilizing aerial photography, as depicted in Appendix A.

CVTC’s MS4 regulated area was calculated using the CVTC property boundaries as a conservative estimate of the area the MS4 serves. Property boundaries were based on Amherst County’s GIS data and a boundary and topographic survey completed by Woolpert, Inc. dated December 13, 2006. Aerial photography was obtained from the 2009 Virginia Base Map Program Orthophotography Program Aerials¹. The extent of pervious, impervious and forest areas were digitized based on the aerial imagery and best professional judgment. For areas that were under construction or disturbed in the 2009 aerial imagery, current aerial images were used to determine whether the areas resulted in pervious or impervious surfaces after construction. CVTC has verified that no other land uses exist under the areas designated as forest. Using GIS, forested areas were defined and identified as areas of forest that are at least 900 contiguous square meters to meet requirements outlined in DEQ’s Guidelines Memo 15-2005. Baseline land cover results are provided in Table 1. The determination of regulated area was based on the 2010 CUA.

Table 1: Classification of CVTC Property Land Cover Area (Acres)

Land Cover	CVTC Property
Impervious	41.59
Pervious	105.31
Forest*	233.77
Surface Water*	0.00

* Consistent with methodology described in the DEQ Chesapeake Bay Guidance, these areas are not included in the loading computations described in Section 3.2.

¹ Virginia Base Map Program Orthophotography Program, 2009. <http://www.vita.virginia.gov/isp/default.aspx?id=8412>

3.2 Annual Loadings from Existing Sources

The data summarized in Table 1 was used to estimate pollutant loads from existing sources as of June 30, 2009, using the James River Basin calculation sheet for estimating existing source loads provided in the MS4 General Permit. The calculation sheet was completed for the regulated CVTC property as provided in Table 2, which addresses the following special condition:

- ✓ *“An estimate of the annual POC loads discharged from the existing sources as of June 30, 2009, based on the 2009 progress run. The operator shall utilize the applicable versions of Tables ... based on the river basin to which the MS4 discharges by multiplying the total existing acres served by the MS4 on June 30, 2009, and the 2009 Edge of Stream (EOS) loading rate.” [Section I(C)(2)(a)(4)]*

Table 2: Loadings from the CVTC Property

Pollutant	Regulated Urban Land Cover	Total Existing Acres Served by MS4 (06/30/09)	2009 EOS Loading Rate (lbs/acre)	Estimated Total POC Load Based on 2009 Progress Run (lbs)	Total Load (lbs)
Nitrogen	Impervious	41.59	9.39	390.53	1,126.65
	Pervious	105.31	6.99	736.12	
Phosphorus	Impervious	41.59	1.76	73.20	125.86
	Pervious	105.31	0.5	52.66	
TSS	Impervious	41.59	676.94	28,153.93	38,798.66
	Pervious	105.31	101.08	10,644.73	

3.3 Annual Loadings from New Sources and Grandfathered Projects

In addition to computing baseline loadings from existing conditions as of June 30, 2009, the special conditions require the determination of offsets for increased loads from development occurring on or after July 1, 2009, including grandfathered projects. No offsets are necessary for new sources since:

- Loadings from new sources are addressed with the water quality criteria in the stormwater management regulations. Water quality criteria for new sources from regulated development between July 1, 2009 and June 30, 2014 was based on an average land cover condition of 16% and therefore appropriate offsets were incorporated within the development project’s stormwater management plan.
- No CVTC projects are grandfathered.

Since no offsets for new sources are necessary, the following special conditions are addressed:

- ✓ *“A list of future projects and associated acreage that qualify as grandfathered in accordance with 9VAC25-870-48” [Section I(C)(2)(a)(10)]*
- ✓ *“The means and methods to offset the increased loads from new sources initiating construction between July 1, 2009, and June 30, 2014, that disturb one acre or greater as a result of the utilization of an average land cover condition greater than 16% impervious cover for the design of*

post-development stormwater management facilities. The operator shall offset 5.0% of the calculated increased load from these new sources during the permit cycle.” [Section I(C)(2)(a)(7)]

- ✓ *“The means and methods to offset the increased loads from projects as grandfathered in accordance with 9VAC25-870-48, that disturb one acre or greater that begin construction after July 1, 2014, where the project utilizes an average land cover condition greater than 16% impervious cover in the design of post-development stormwater management facilities.” [Section I(C)(2)(a)(8)]*
- ✓ *“Implementation of the means and methods to address discharges from new sources in accordance with the minimum control measure in Section II ... related to post-construction stormwater management in new development and development of prior developed lands and in order to offset 5.0% of the total increase in POC loads between July 1, 2009, and June 30, 2014. Increases in the POC load from grandfathered projects initiating construction after July 1, 2014, must be offset prior to completion of the project.” [Section I(C)(3)(c)]*

3.4 Required Load Reductions

The MS4 General Permit requires CVTC to reduce 5.0% of the L2 Scoping Run POC reductions for existing sources as of June 30, 2009. The required load reductions for the CVTC property for this permit cycle were calculated using the calculation sheet in the MS4 General Permit for determining POC reductions for the James River basin. The calculation sheet was modified with the corrected loading rates provided in DEQ’s Guidance Memo No. 15-2005. The required load reductions for CVTC are depicted in Table 3. The information in the table addresses the following special condition to provide:

- ✓ *“A determination of the total pollutant load reductions necessary to reduce the annual POC loads from existing sources utilizing the applicable versions of Tables ... based on the river basin to which the MS4 discharges. This shall be calculated by multiplying the total existing acres served by the MS4 by the first permit cycle required reduction in loading rate. For the purposes of this determination, the operator shall utilize those existing acres identified by the 2000 U.S. Census Bureau urbanized area and served by the MS4.” [Section I(C)(2)(a)(5)]*

Table 3: Estimated POC Reductions Required from the CVTC Property

Pollutant	Regulated Urban Land Cover	Existing Acres Served by MS4 (06/30/09)	Reduction in Loading Rate (lbs/acre)	Reduction Required First Permit Cycle (lbs)	Total Reduction (lbs)
Nitrogen	Impervious	41.59	0.042255	1.76	3.97
	Pervious	105.31	0.02097	2.21	
Phosphorus	Impervious	41.59	0.01408	0.59	0.78
	Pervious	105.31	0.0018125	0.19	
TSS	Impervious	41.59	6.7694	281.54	328.11
	Pervious	105.31	0.442225	46.57	

4.0 MEANS TO ACHIEVE POLLUTANT REDUCTIONS

DEQ’s Guidance was used to identify appropriate means and methods for achieving the required reductions computed in Section 3.4. A review of CVTC’s existing stormwater management facilities determined that the required reductions are achieved for the current MS4 General Permit cycle as described in the following sub-sections, addressing the following MS4 General Permit special condition:

- ✓ *“Implementation of means and methods sufficient to meet the required reductions of POC loads from existing sources in accordance with the Chesapeake Bay TMDL Action Plan.” [Section I(C)(3)(d)]*

Reduction credits described in the following sub-sections demonstrate compliance with the reduction requirements for this MS4 General Permit cycle with the understanding that any changes in established BMP efficiencies will not be retroactively applied to projects approved to meet reductions for this MS4 General Permit cycle.

4.1 Reductions Achieved with New BMPs

CVTC will implement street sweeping in order to satisfy the required POC reductions identified in Section 3.4. The “mass loading approach,” as described in the DEQ Guidance, was utilized to determine the extent of street sweeping efforts to be implemented. Per the mass loading approach, the overall weight of material collected through street sweeping is multiplied by a dry weight factor and then a factor specific to each POC in order to quantify the pollutant reductions achieved. Given the target pollutant reductions and the dry weight and POC factors, it was determined that CVTC must collect a minimum of 2,269 pounds of material per year to meet the POC reduction requirements. Required reductions and sweeping efforts are summarized in Table 4.

Table 4: Required Street Sweeping Material to be collected per the Mass Loading Approach

Pollutant	Annual Reductions Required by L2 Scoping Run (lbs/yr)	Dry Weight Factor	POC Multiplication Factor	Required Street Sweeping Material Weight (lbs/yr)
Nitrogen	3.97	0.7	.0025	2,268.57*
Phosphorus	0.78	0.7	.001	1,114.29
TSS	328.11	0.7	0.3	1,562.43

*Necessary to receive required reductions for each pollutant

5.0 IMPLEMENTATION TO THE MEP

Implementation of the Action Plan is dependent on continued execution of the CVTC MS4 Program Plan. MS4 Program Plan BMPs will continue to be implemented per the schedules outlined in the CVTC MS4 Program Plan which demonstrate that the 5% annual reductions will begin and be achieved prior to the end of the 2013-2018 MS4 Permit cycle to address the following special condition:

- ✓ *“The means and methods, such as management practices and retrofit programs that will be utilized to meet the required reductions included in subdivision 2 a (5) of this subsection ... and a schedule to achieve those reductions. The schedule should include annual benchmarks to demonstrate the ongoing progress in meeting those reductions.”* [Section I(C)(2)(a)(6)]

The cost associated with the implementation of street sweeping is estimated to be approximately \$3,475 per year per pound of phosphorous removed. This estimate is based on the document titled “Cost-Effectiveness Study of Urban Stormwater BMPs in the James River Basin” by the Center for Watershed Protection. The study detailed costs associated with street sweeping based on a ten year life cycle and the capital cost of a mechanical sweeper and is deemed appropriate for an estimate at this time. During the current permit cycle, CVTC will evaluate the most cost effective way for implementing a street sweeping program which may include contracting street sweeping services or the purchase of a sweeper. This information addresses the following special condition:

- ✓ *“An estimate of the expected costs to implement the requirements of this special condition during the state permit cycle.”* [Section I(C)(2)(a)(11)]

5.1 Supplemental Means and Methods

In addition, the remaining Minimum Control Measure BMPs described in Section 2.1 will continue to be implemented by CVTC as part of the CVTC MS4 Program Plan. Continued implementation of these BMPs demonstrates implementation of the CVTC Chesapeake Bay Action Plan to the maximum extent practicable and demonstrates adequate progress satisfying the following special conditions:

- ✓ *“Implementation of nutrient management plans ...”* [Section I(C)(3)(a)]
- ✓ *“Implementation of the minimum control measure related to construction site stormwater runoff control in accordance with this state permit shall address discharges from transitional sources.”* [Section I(C)(3)(b)]

5.2 Public Comment Period

CVTC will solicit public comment on this Plan and consider all comments that are provided. Public comment will be provided through the following means:

- A draft of the Chesapeake Bay TMDL Action plan will be posted on CVTC’s website for a minimum of 14 total days.
- An email will be sent to the target audience identified in Minimum Control Measure 1 of the CVTC MS4 Program Plan with a link where comment can be provided on the Action Plan.

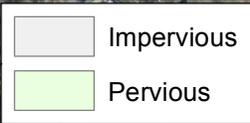
Solicitation of public comment on the Action Plan addresses the following special condition:

- ✓ *“An opportunity for receipt and consideration of public comment regarding the draft Chesapeake Bay TMDL Action Plan.”* [Section I(C)(2)(a)(12)]

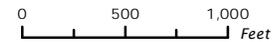
5.3 Annual Reporting

The effectiveness of the Action Plan will be measured through the MS4 General Permit annual reporting. CVTC will report annually on the implementation of the means and methods described in Section 4.1 of this Plan.

Appendix A: Mapping for Characterization of CVTC Property



**CENTRAL VIRGINIA TRAINING CENTER (CVTC)
IMPERVIOUS AND PERVIOUS LAND COVER**



Special Conditions for the Chesapeake Bay TMDL

Proposed BMP	Elements of BMP	Measurable Goal and Effectiveness	Items Included in Annual Report
<p>CB – SC.1. Chesapeake Bay TMDL Action Plan (Section 1.C.2)</p>	<p>CVTC will develop a phased Chesapeake Bay Action Plan that incorporates public comment and includes:</p> <ul style="list-style-type: none"> • A review of the Program Plan BMPs described for consistency with the TMDL and for the purpose of identifying necessary modifications; • An estimate of the annual POC loads discharged from the existing sources as of June 30, 2008, based on the 2009 progress run; • An estimate of the total reductions necessary to reduce the annual POC loads from existing sources to the L2 implementation level; • The means and methods that will be utilized to implement sufficient reductions from existing sources equal to 5.0% of the estimated total reductions necessary; • Mechanism to address any modification to the TMDL or watershed implementation plan that occurs during the term of this state permit as part of its permit reapplication and not during the term of this state permit; • An estimate of the expected costs to implement the requirements of this special condition during the state permit cycle; • An opportunity for receipt and consideration of public comment regarding the draft Chesapeake Bay TMDL Action Plan; • A draft second phase Chesapeake Bay TMDL Action Plan designed to reduce the existing pollutant load by an additional 35%. 	<p>The objective of this BMP is to achieve reductions required by the Chesapeake Bay TMDL for sediment, phosphorus, and nitrogen. The expected result is the development of a TMDL Action Plan. Effectiveness will be determined by the selection of cost effective BMPs supported by model quantification to achieve the required pollutant reductions.</p>	<p>The following items will be included in the Annual Report:</p> <ul style="list-style-type: none"> • Method and dates of public comment period for the Action Plan; • Date of Action Plan submittal to DEQ; • A summary of the pollutant load reduction quantification and whether the selected means and methods outline in the Action Plan are sufficient to achieve the required reductions; • Any BMP modifications necessary to achieve the required reductions in the required time frame.