

**TOWN OF CHRISTIANSBURG  
STORMWATER MANAGEMENT PROGRAM  
ANNUAL REPORT FOR 2013-2014  
NPDES PHASE II: SMALL MS4 (MUNICIPAL SEPARATE STORM SEWER SYSTEM)  
VPDES PERMIT NO. VAR 040025**



29 September 2014

Prepared For:  
**MR. JESSE ROBERTS**  
**VWP PROJECTS MANAGER**  
DEQ Blue Ridge Regional Office  
3019 Peters Creek Road  
Roanoke VA, 24019

Prepared By:  
**TOWN OF CHRISTIANSBURG**  
**ENGINEERING DEPARTMENT**  
100 East Main Street  
Christiansburg, Virginia 24073  
(540) 382-6120  
(540) 381-7238 FAX

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**The following is a summary of the Six Minimum Control Measures that the Town of Christiansburg has implemented in accordance with the Town's MS4 Program Plan. This report covers the period July 1, 2013 – June 30, 2014.**

## **Minimum Control Measure No. 1: Public Education and Outreach**

### **A. BMP 1.1 Public Education and Outreach Plan**

**Objective:** Develop and execute a Public Education and Outreach Plan (PEOP) for Town's MS4. The PEOP shall detail the stormwater education and outreach messages to be presented and the delivery methods. The messages shall include at a minimum 3 high-priority water quality issues including TMDLs. The PEOP shall estimate target audience size and target at least 20% of each high-priority water quality issue's target audience annually. The PEOP shall be revised and updated as necessary based on stormwater quality issues, messages, and delivery methods.

**Measurable Goals Achieved for Reporting Year:** A first draft PEOP was produced and is available in Appendix B. The draft identifies pet waste, IDDE, and commercial and residential yard care as priority issues.

**Assessment and Next Year's Annual Goals:** Pet Waste: The Engineering Department needs to coordinate with Parks and Recreation to develop more specific target areas for pet waste stations and coordinate with Administration to draft a funding schedule. Coordinate with both Rec and Administration on potential dog park site(s) and funding schedule for dog park(s) if they are determined to be feasible. The delivery methods sections need to be further developed from the draft form. Specific efforts and events should be added for the rollout year and revised annually to reflect the PEOP outreach goals in light of an evaluation of previous results. These would include the annual Wilderness Trail booth, Depot Days or a possible NRV Homebuilder's show booth, TMDL meetings, Outreach events to the development community, etc. Methods to determine effectiveness need to be further developed in terms of measures of success in reaching target audience(s). 2014-2015 goals: Address assessment concerns identified above and coordinate to finalize draft version PEOP. Provide meeting for the general public to review and comment on the PEOP. Revise based on public and administration comments and produce working PEOP.

## **B. BMP 1.2 : Stormwater Webpage**

**Objective:** Provide an online platform to promote and support the Town Best Management Practices.

Annual Goals for Reporting Year: Evaluate the stormwater webpages for content and design. Update as needed.

Measurable Goals Achieved for Reporting Year, Assessment and Next Year's Annual Goals: The achievement of measurable goals for this reporting year were not determined since there is no method of registering traffic to the website nor a mechanism for visitors to directly comment or respond at the website. The webpages have been evaluated for content and have been deemed sufficient. The webpage is viewable at: <http://www.christiansburg.org/index.aspx?nid=148>. The webpages will need updates and/or additions to remain relevant and attract visitors. The "TMDLs and the Town of Christiansburg" link (<http://va-christiansburg.civicplus.com/DocumentCenter/Home/View/400>) will be updated as the TMDL IP is finalized and made public. In determining the success in reaching target audience, a method of counting website visitors needs to be employed to provide a numerical means to determine effectiveness in addition to the current assessment by the Director of Engineering. The webpage needs to be evaluated for the opportunity to be updated to provide a means for the target audience to interact and comment; interactivity can be incorporated into the PEOP development and the public participation BMPs.

## **C. BMP 1.3 : Educational Mailers**

Annual Goals for Reporting Year: Create new mailer or update a previous mailer. Send to all addresses in Christiansburg. Record any feedback and file. Hand out mailers at Wilderness Trail and other public outreach events for an additional opportunity to provide target audience the opportunity to review the material

Measurable Goals Achieved for Reporting Year, Assessment and Next Year's Annual Goals: The measurable goals for this reporting year were met. A copy of the 2013-2014 mailer is included as Appendix A. The Town had approximately 13,000 copies printed and mailed. The Town estimates greater than 99% successful delivery of mailers to the listed resident addresses. No feedback was received during the reporting period. 2014-2015 Goals: Create new mailer, or update a previous mailer to include TMDL IP information as IP is finalized. Send to all addresses in Christiansburg. Record any feedback and file. As the 2015-2016 mailer is developed, revise the format to include space for written feedback and include an email address to respond and provide feedback via email.

#### **D. BMP 1.4 : Model Stormwater System**

Annual Goals for Reporting Year: Maintain BMPs and signs.

Measurable Goals Achieved for Reporting Year, Assessment and Next Year's Annual Goals:

Annual Goals: The measurable goals to maintain the BMPs and signage for this reporting year were met. The bioretention filters and signage were maintained as needed. In the upcoming year the Town will continue to maintain BMPs and signs. In the upcoming year the Aquatic Center staff will be contacted to coordinate a method to measure the success of outreach for this BMP. If existing comment forms are available the Department will suggest an inquiry as to whether the BMPs were seen during the visit. Another option is to add interior building signage and comment cards for the BMPs. In the next permit year the Town will reach out to the Christiansburg High School and middle school to propose future field trips and class discussion of the Aquatic Center Bioretention areas including their function, construction, and maintenance, alternate BMPs available, and potential locations for future BMP installations in the Town. Scheduling site visits would be anticipated for the 2015-2016 school year, although current 2014-2015 school year visits may be possible.

#### **E. BMP 1.5 : Storm Drain Labeling**

Annual Goals for Reporting Year: Place or paint message on 100 inlet structures. Update GIS database to reflect inlets' status as 'marked'.

Measurable Goals Achieved for Reporting Year, Assessment and Next Year's Annual Goals:

Annual Goals: The measurable goals for this reporting year were met. The Town installed 100 storm drain markers during the reporting year. Appendix C contains the reference mapping used by the Town intern for the installation. The 2014-2015 goals propose to install 100 additional storm drain markers during the reporting year, verify that the locations are logged in the GIS database, and evaluate the total number of identified marked outfalls and estimate remaining outfalls that remain unmarked.

### **MCM 1 Status of Compliance with Permit Conditions**

For the 2013-2014 reporting year, MCM 1 was in compliance with the permit conditions. The Town executed a public education program that distributed public education materials and conducted public outreach to inform and educate the general public about stormwater impacts. The aim of the public education program was to increase individual, household, public employee, business and general public knowledge about ways to reduce stormwater pollution and associated hazards from illegal dumping. This was in compliance with the Town's MS4 Program Plan and permit conditions.

## **MCM 1 Assessment of the Appropriateness of BMPs**

The BMPs for this category were appropriate for MCM 1. The public education program used mailings, public event outreach, and the Town website to target a diverse group of audiences. The BMP 1.1 draft PEOP was created and will be finalized in future permit year(s). The public event participation successfully employed a DCR surface stormwater diorama as well as a groundwater model to attract participation at public events. The BMP 1.2 Stormwater Webpage provided self-serve education material for anyone on the internet. This BMP needs a numerical evaluation criteria to record the number of 'hits', and assess whether the site needs revision based on the numerical evaluation of access by the public. The BMP 1.2 Stormwater Mailer provided information to all Christiansburg addresses and P.O. Box holders. These mailers were also handed out at public events to provide an additional opportunity for target audience exposure. The mailers will be updated in the 2015-2016 permit year to encourage feedback and comment. The BMP 1.3 Model Stormwater System continued to serve as a full-size functioning model stormwater quality system. Subwatershed delineations are being added as projects focus on small catchment areas. The BMP 1.5 Storm Drain Labeling practice reached into individual neighborhoods providing a No Dumping message on MS4 inlets. These various BMPs were appropriate for providing stormwater education for the Town of Christiansburg's MS4.

## **Progress towards achieving measurable goals for MCM 1**

The measurable goals were achieved goals for MCM 1. The Town website, including a TMDL fact sheet, was maintained to provide basic stormwater education for website users. The stormwater mailer was sent to all business, residential, and commercial addresses and P.O. Boxes in Christiansburg, requiring the printing and mailing of over 10,000 mailers. The model stormwater system, continued to serve as a full-size functioning model BMP, and an additional 100 storm drain structures were marked with No Dumping messages. All these public education items made information about stormwater, stormwater pollution, and stormwater pollution prevention readily available to everyone within the Town of Christiansburg, which were the measurable goals for MCM 1. The Engineering and Public Information Specialist will register for Chesapeake Bay Foundation webinars and access other CBF resources available on PEOP development.

## **Minimum Control Measure No. 2: Public Involvement / Participation**

### **A. BMP 2.1 MS4 Program Plan and Annual Reports Maintained Online**

**Objective:** Maintain updated copies of the MS4 Program Plan and Annual Reports on the Town's website. These will be free for viewing and download by anyone.

Next Year's Annual Goals: Provide updated documents on website within 30 days of completion. Provide contact information for Town representative to receive comments. Contact Information Technology support staff and inquire about the capabilities of webpage to contain a direct feedback form for comment.

### **B. BMP 2.2: Participate in Local Activities.**

Annual Goals for Reporting Year: The annual goal was defined as participation in at least 4 local activities with direct participation or via promotion, or sponsorship. The 2012-2013 BMP 2.1 goal was defined as "Hold at least one TMDL session. Record discussion topics and file." This BMP was to be being combined with BMP 2.2, and renamed to **Participate in Local Activities**. The annual goal was to participate in at least 4 local activities, including by promotion, or sponsorship.

Measurable Goals Achieved for Reporting Year: The continuing TMDL Implementation Plan development and outreach to stakeholders led to the Town to host TMDL meetings within the Town to advertise and promote awareness of the IP development. The 1/10/2014 and 3/13/2014 meeting were held at the Christiansburg Town Hall and three additional meetings are slated to be held at the Town Hall through the remaining IP development process. These meeting will occur in the next permit cycle year. The Town supplied information on stormwater BMPs related to sediment reduction as well as information on sanitary sewer overflow (SSO) and sanitary system analysis plans by the town. The measurable goals for this reporting year were met. The meetings were an opportunity for Town and DEQ staff and to engage in dialog with citizens on the TMDL's for streams located in the Town's corporate limits. The meeting Agenda and notes documenting the Town involvement can be accessed at <http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLImplementation/TMDLImplementationProgress.aspx>

The Town secured a booth at the Annual Wilderness Trail Festival on September 21, 2013 and again at the Depot Daze festival on Saturday May 10<sup>th</sup>. The September booth featured an informational flyer inserted into Town of Christiansburg logo cups to promote the reading of the handout as well as poster board containing information on the Town watersheds and the MS4 program. Appendix D contains Wilderness Trail Festival photographs highlighting the

booth setup and informational posters. Approximately 150 cups with flyers were distributed; estimating that 2/3 of booth visitors declined a cup the total visitors are estimated at 224. Appendix F contains Depot Days Festival photographs highlighting the interactive surface and groundwater models used as well as the lawn care booklet displayed. Poor weather limited attendees to this event at fewer than 25 persons. The Town met with the New River Valley Homebuilder's Association (NRVHBA) to discuss the VSMP program rollout and the Town Ordinance revisions effecting permitting and highlighted the opportunity to reduce sediment loads through better ECS plan adherence to immediate stabilization. The Attendee list is provided on Appendix E.

Next Year's Annual Goals: The annual goal will be to participate in at least 4 local activities. Participation may be via promotion, or sponsorship. Methods of counting visitors to booth exhibits and meeting will be employed to measure the success of outreach activities. 2 to 3 TMDL IP meetings are anticipated and the specific dates will be reported in the next annual report. Booth participation at The Wilderness trail Festival on September 19, 2013 and at the NRV Homebuilders March 2015 exhibitions are planned.

#### **C. BMP 2.3 : Provide MS4 Annual Report to Town Council**

Annual Goals for Reporting Year: Provide MS4 Annual Report to Town Council and general public once the report has been completed

Measurable Goals Achieved for Reporting Year: The measureable goals for this BMP will be met; the report will be provided to Town Council, and will be available for review by the general public on the website.

Next Year's Annual Goals: Annually provide an Annual Report Summary and Program Plan updates (if applicable) at Town Council meeting.

#### **MCM 2 Status of Compliance with Permit Conditions**

For the 2013-2014 reporting year, MCM 2 was in compliance with the permit conditions. The Town hosted TMDL stakeholder meetings that were advertised and open to the general public. The Town participated in public festivals with an information booth and the information and activities provided continue to be updated. The Town also hosted a VSMP program information meeting. Also, the Town provided the MS4 Annual Report to Town Council. This was in compliance with the Town's MS4 Program Plan and permit conditions.

## **MCM 2 Assessment of the Appropriateness of BMPs**

The three BMPs for this category were appropriate for MCM 2. The BMP 2.1 involved the general public with the Town's MS4 Program and provided specific information relating to TMDLs. The VSMP information session served to improve the dialog with the local design community about various stormwater quality design and construction issues. The BMP 2.3 Provide MS4 Annual Report at Town Council Meeting also involved the public at large by providing this report to Town Council and the general public. Accordingly, these various BMPs were appropriate for providing public involvement / participation opportunities for the Town of Christiansburg's MS4.

## **Progress towards achieving measurable goals for MCM 2**

The measurable goals were achieved goals for MCM 2 during the reporting year. The Town provided stormwater and TMDL information to attendees of the festival events. The Town provided outreach to all who attended the VSMP information meeting. The MS4 Annual Report was provided to Town Council, and was available for review and inspection by the general public. All these BMPs promoted public involvement / participation, which were the measurable goals for MCM 2.

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

### **A. BMP 3.1: Storm Sewer System Mapping**

Annual Goals for Reporting Year: Maintain GIS database, and update the database whenever new facilities are accepted as Town infrastructure.

Measurable Goals Achieved for Reporting Year: The measurable goals for this reporting year were met. The Town's GIS database was maintained and updated throughout the course of the year. As new infrastructure was installed and accepted by the Town, it was added to the GIS database.

Next Year's Annual Goals: Maintain GIS database, and update the database whenever new facilities are accepted as Town infrastructure or become known.

### **B. BMP 3.2 : Illicit Discharge Detection and Elimination Plan**

Annual Goals for Reporting Year: Continue to operate within the IDDE Plan. Inspect at least 50% of the Town's MS4 outfalls. Create and maintain records of any illicit discharge events.

Measurable Goals Achieved for Reporting Year: The measurable goals for this reporting year met. Appendix H contains the outfall mapping. The Town inspected 100% of the known MS4 outfalls, and those inspections are included as Appendix I. Illicit discharge records for sanitary sewer overflows (SSO) are being maintained by Public Works personnel at the Town Wastewater treatment Plant (WWTP) Other IDDE are created and maintained as needed.

Next Year's Annual Goals: Continue to operate within the IDDE Plan. Create and maintain records of any suspected illicit discharge events. Coordinate with WWTP staff to incorporate SSO data records into MS4 records.

### **C. BMP 3.3 Dry Weather Outfall Screenings**

**Objective:** Perform dry weather field screenings looking for possible illicit discharges. When a suspected illicit discharge is identified, investigate in accordance with the Illicit Discharge Detection and Elimination Plan. Create and maintain records outfall screening records. Perform screening for at least 50 outfalls per year. Prioritize screenings based on infrastructure age, land use, and historical discharges / dumping.

Assessment of goals and Next Year's Annual Goals: Due to staff turnover and the methods of filing the reports as image scanned files, the planned 50 dry weather outfall screenings did not occur during the 2013-2014 permit cycle. The revised goals for this BMP are to perform field screenings for at least 50 outfalls in the 2014-2015 permit period. A second revised goal to create and maintain a database of BMP outfall inspections carried out under BMP 3.2 to allow a prioritization method by which develop an inspection plan and schedule that will

result in the rational allocation of inspections and the initiation of screenings and screening records.

#### **D. BMP 3.4 : Inflow and Infiltration Reduction Program**

Annual Goals for Reporting Year: Continue to develop and execute the I&I Reduction Program. This will include sanitary sewer manhole inspections, sanitary sewer pipeline inspections, and flow monitoring.

Measurable Goals Achieved for Reporting Year: The measurable goals for this reporting year were met. The Town executed a request for proposals for the Christiansburg Interceptor study. When executed, this study will in part identify and prioritize critical areas needed rehabilitation or repair as a part of the I&I Reduction Program. Appendix G contains the study request for proposals that includes the program goals that state “The interceptor to be studied begins at the Town’s waste water treatment plant and generally follows Crab Creek to its headwaters. The study shall include all sanitary sewer system components and infrastructure necessary to accurately model the Town’s the interceptor. Tasks to be performed include: survey manhole locations, depths and conditions (MACP Level 2 Inspection), monitor flows, evaluate the Town’s base mapping for accuracy, create and utilize a dynamic sanitary sewer model, identify system upgrades that are needed in light of the Town’s existing infrastructure and projected growth, identify alternative solutions for those upgrades with estimated costs, identify areas where future infiltration and inflow, capacity, and rehabilitation studies are needed, prioritize system needs, prepare a recommended course of action taking into account projected costs, priorities, and difficulty, generate a preliminary engineering report that includes all relevant information, address any comments made by the Town or the Virginia Department of Environmental Quality, prepare and deliver six copies of the final report, and prepare and deliver revised base mapping …”.

Next Year’s Annual Goals: Select a firm to execute the Interceptor Study.

#### **MCM 3 Status of Compliance with Permit Conditions**

For the 2013-2014 reporting year, MCM 3 was in compliance with the permit conditions. The Town continued to update the MS4 mapping, perform outfall reconnaissance inspections on known outfalls and finalized the Illicit Discharge Detection and Elimination Plan (IDDE Plan) in accordance with the MS4 program plan. This plan relies on *Article III, Illicit Discharge*, of Chapter 16 of the Christiansburg Town Code. This article prohibits non-stormwater discharges to the MS4 that are not otherwise called out as exempt. The Town also continued to execute the Inflow and Infiltration Reduction Program. These actions were in compliance with the Town’s MS4 Program Plan and permit conditions.

### **MCM 3 Assessment of the Appropriateness of BMPs**

The three BMPs for this category were appropriate for MCM 3. By continuing to update the GIS database of MS4 infrastructure, BMP 3.1 Storm Sewer System Mapping identifies and provides the location of Town facilities for IDDE activities. The BMP 3.2 Illicit Discharge Detection and Elimination Plan identify and address non-stormwater discharges to the MS4 system. The BMP 3.3 Inflow and Infiltration Elimination Program will continue to execute the sanitary sewer I&I Reduction Program. This will work to reduce sanitary sewer peak flowrates and eliminate overflows. Together, these three BMPs were appropriate for MCM 3.

### **Progress towards achieving measurable goals for MCM 3**

The measurable goals were achieved goals for MCM 3 during the reporting year. The stormwater mapping updates allowed the Town to effectively focus on MS4 infrastructure for IDDE activities. IDDE Plan was formally completed and the Town operated in accordance with the plan. During the reporting year, 1 suspected illicit discharge event occurred. This event was investigated and appropriate records were generated. Furthermore, the Town performed outfall reconnaissance on 100% of known MS4 outfalls (MS4 Program plan only required 50% of outfalls) demonstrating that the Town is actively seeking to locate and address non-stormwater discharges. The result of these efforts is that the Town achieved the measurable goals for MCM 3 of prohibiting, preventing, and causing the termination of illicit discharges to the MS4 to the maximum extent practicable.

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

### **A. BMP 4.1 : Construction Site Runoff Control Plan**

Annual Goals for Reporting Year: Continue administering ESC Program and collecting monthly disturbed acreage reports. Require VSMP permit coverage be acquired prior to issuance of a land disturbing permit.

Measurable Goals Achieved for Reporting Year: The measurable goals for this reporting year were met. The ESC Program continued to operate, the disturbed acreage was collected for availability to DCR/ DEQ on a monthly basis, and the Town required applicable projects to acquire VSMP permit coverage prior to the issuance of a land disturbing permit. The Town received a 12 month extension for VSMP program implementation. Included as Appendix J are the disturbed acreage reports.

Next Year's Annual Goals: Continue administering ESC Program and collecting disturbed acreage monthly. Facilitate submission of ESC complaints from the public. Investigate complaints as needed. Administer the VSMP Local Authority Program. Integrate ESC and VSMP program as applicable.

## **New BMP for MCM 4 Construction Site Stormwater Runoff Control**

### **B. BMP 4.2 VSMP General Construction Permit Inspections**

**Objective:** As an MS4 operator, the Town will become a Virginia Stormwater Management Program Authority in accordance with state regulations. When this occurs, the Town will perform VSMP construction inspections in accordance with Town Code and state regulations. These inspections include checking for compliance with the SWPPP, which includes the ESC, SWM, and Pollution Prevention Plan.

Next Year's Annual Goals: Develop VSMP inspections program. Reach out to neighboring localities to discuss VSMP program implementation. Develop templates for single family detached (SFD) SWPPPs, non-SFD SWPPPS, and pollution prevention plan templates for local projects. Develop inspection and maintenance checklists appropriate to the Town for the VSMP Program.

### **MCM 4 Status of Compliance with Permit Conditions**

For the 2013-2014 reporting year, MCM 4 was in compliance with the permit conditions. The Town continued to operate a DCR approved Erosion and Sediment Control (ESC) program. This program operates in accordance with *Article I. Erosion and Sediment Control* of Chapter 16 of Christiansburg Town Code and Virginia VESCP Law and regulations. This program required all land disturbances of larger than 10,000 square feet to occur in accordance with an approved ESC plan. The Town developed an ordinance in conformance with DEQ guideline to incorporate local VSMP laws that included authority to require VSMP permit coverage prior to issuance of a local land disturbance permit. This program operates in accordance with *Article II. Stormwater Management* of Chapter 16 of the Christiansburg Town Code and Virginia EVSMP Law and regulations. The ESC program provided for ESC plan approval, routine site inspections, enforcement, and tracking of land disturbance activities.

### **MCM 4 Assessment of the Appropriateness of BMPs**

The BMP for this category was appropriate for MCM 4. The ESC Program addressed the required elements for MCM 4 as provided in the regulations.

### **Progress towards achieving measurable goals for MCM 4**

The measurable goals were achieved for MCM 4 for the reporting year. The Town enforced and updated as needed, the programs and procedures that reduce pollutants in stormwater runoff from land development projects larger than 10,000 square feet.

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

### **A. BMP 5.1 : Land Development Stormwater Management**

Annual Goals for Reporting Year: Continue to review and approve plans in compliance with Town Code. Review and update Town Code to ensure compliance with current state law and regulations.

Measurable Goals Achieved for Reporting Year: The measurable goals for this reporting year were met. All new plans approved for development or redevelopment were reviewed and approved in compliance with Town Code. Also, the process to revise Town Code for compliance with the new stormwater regulations was started with the preparation of draft revised Town Code, for submission with VSMP program information.

Next Year's Annual Goals: Continue dialogue with DEQ as correspondence and memorandums provide guidance on VSMP law and regulation interpretations to ensure Town Code compliance with current state VSMP law and regulations. Review and approve plans compliant with Town ESC and SWM Code. Maintain records and report in conformance with VSMP regulations

### **B. BMP 5.2: Stormwater Management Facility Inspections**

Annual Goals for Reporting Year: Inspect all Town-owned stormwater management facilities. Inspect all complete and operational private facilities for which the Town has a recorded maintenance agreement.

Measurable Goals Achieved for Reporting Year: The measurable goals for this reporting year were met. All known stormwater management facilities in the Town were inspected. At the end of the reporting year, the number of completed and operational private facilities with Town maintenance agreements remained at 17. The Town inspected all 17 facilities. Attached as Appendix K are copies of the completed inspection forms and photographs for the SWM facilities.

Next Year's Annual Goals: Inspect all Town owned / operated stormwater management facilities. Inspect all facilities for which the Town has a recorded maintenance agreement. Begin Development of a database application to record observations to identify maintenance needs on a numerical basis and to prioritize facilities for inspection.

### **MCM 5 Status of Compliance with Permit Conditions**

For the 2013-2014 reporting year, MCM 5 was in compliance with the permit conditions. The Town continued to implement and enforce procedures to address postdevelopment stormwater runoff for all land development project disturbing greater than 10,000 square feet. This included requiring BMPs, adequate site design, a maintenance plan and maintenance agreements for regulated projects. The Town also performed BMP inspections for Town facilities and private facilities with maintenance agreements. The Town also completed the process to revise Town Code for compliance with the new stormwater regulations in order to assume Local VSMP Authority. These actions were in compliance with the Town's MS4 Program Plan and permit conditions.

### **MCM 5 Assessment of the Appropriateness of BMPS**

The two BMPs for this category were appropriate for MCM 5. The Town reviewed and approved stormwater management plans that were complaint with *Article II. Stormwater Management* of Chapter 16 of Christiansburg Town Code and Virginia Stormwater Management Law and regulations. These plans included appropriate maintenance plans and long-term maintenance agreements. Furthermore, the Town inspected all Town owned / operated facilities and those facilities which have maintenance agreements. The Town required stormwater management plans for projects disturbing 10,000 square feet or more in an effort to address the various impaired waters draining from Town. This requirement was more stringent than minimum state standards and was appropriate for the 305(b)/303(d) Impaired Waters draining from and downstream of Town. These actions were appropriate for MCM 5.

### **Progress towards achieving measurable goals for MCM 5**

The measurable goals were achieved for MCM 5 for the reporting year. The Town only approved plans with adequate stormwater management components for land development projects larger than 10,000 square feet. The Town inspected all required facilities as laid out in the MS4 Program Plan. This resulted in meeting the MCM 5 measurable goals.

## **Minimum Control Measure No. 6: Pollution Prevention / Good Housekeeping for Municipal Operations**

### **A. BMP 6.1 : Town's MS4 Program Plan Updates**

Annual Goals for Reporting Year: At the end of the reporting year, perform a general review to ensure permit compliance, and to gauge the effectiveness of the program.

Measurable Goals Achieved for Reporting Year: The measurable goals for this reporting year were met. No major deficiencies were discovered in the program review process.

Next Year's Annual Goals: Incorporate information about the upcoming plans for VDOT and DEQ SLAF funded capital projects into the MS4 Program Plan. The benefits of these projects and schedule for construction will be incorporated into the action plan. Consider the TMDL IP plan final draft, or final plan, if available, in the action plan schedule. Maintain and update the MS4 Program Plan as needed.

### **B. BMP 6.2 : Daily Operation and Maintenance Activities**

Annual Goals for Reporting Year: Sweep streets on a regular basis and whenever specific complaints are taken for debris or sediment in the roadway. Pick up leaves in the fall of the year, beginning after the Town's Fall Clean-up activities. Continue picking up leaves as needed through the winter and spring. Take as many loads as feasible to composting facilities rather than the landfill. Continue to store salt indoors, use wash bays, and perform at least one employee training session per year. Perform a facilities inspection at the Public Works complex looking for possible improvement for stormwater pollution prevention practices and procedures. Inspect, clean, and verify our storm sewer system in an ongoing manner. As manpower allows, keep a crew detailed to this task.

Measurable Goals Achieved for Reporting Year: The measurable goals for this reporting year were met. All the streets in Town were swept at least once and specific areas were swept when complaints were received. Approximately 272 tons of debris was removed from the streets with the sweeper. Appendix L contains copies of the street sweeping logs. Tonnage is down from the previous permit year due to sweeper maintenance and winter weather that precluded street sweeping. The measurable goals for leaf cleanup this reporting year were met. The leaves were picked up following Fall Clean-up, and they were picked up as needed throughout the winter and spring. The Town continued to store salt in the salt dome and use the wash bays for vehicle washing.

Next Year's Annual Goals: BMPs 6.3, 6.4, and 6.5, were combined and renamed to BMP 6.2. The annual goals for this BMP are: Create draft policies and

procedures for daily operations and maintenance activities that reduce or prevent stormwater pollution and include in a developing SWPPP. These activities include sweeping streets, storing salt indoors, washing public works vehicles in wash bays, and picking up leaves.

### **BMP 6.3 Municipal Facility Stormwater Pollution Prevention Plans**

Annual Goals for Reporting Year: Identify all high priority municipal facilities. Identify which high priority facilities have a high potential for discharge of excess stormwater pollutants and begin to develop SWPPPs for those facilities.

If the pollutant from the Wades Lane facility are discharged at rates above those allowed in the TMDL WLA, develop plans and a schedule to minimize pollutant discharge in a manner consistent with the approved TMDL.

Measurable Goals Achieved for Reporting Year: The measurable goal for identifying high priority areas eligible for SWPPP development was met this reporting year. Appendix O contains the evaluation of sites.

Samples were not taken for TSS and settleable solids at the Wades Lane facility due to staff turnover. The analysis results from the previous permit year will be analyzed this permit year. The pollutant levels were higher than expected, and the Town is planning to produce a new waste soil fill plan with additional ESC measures, to reduce sediment discharge. The Town also installed new ESC measures after the June 6<sup>th</sup>, 2013 sample results were received, and samples taken in the current permit cycle will be compared to the previous sampling.

Next Year's Annual Goals: Begin development and drafts of activities and training to be covered under the Public Works Station B SWPPP.

### **C. BMP 6.4 Nutrient Management Plans**

**Objective:** Report all contiguous land exceeding 1 acre of area and owned by the Town for Nutrient Management Planning. Create and follow Nutrient Management Plans (NMPs) for applicable Town lands as specified in the permit conditions in order to prevent the application of excess nutrients and associated stormwater pollution. Obtain certification for staff or have plans prepared by a certified nutrient management plan writer.

Measurable Goals Achieved for Reporting Year: Appendix N identifies sites eligible for Nutrient Management Plan coverage.

Next Year's Annual Goals: Obtain NMP certification for a staff member. Begin the development of NMPs for at least 15% of the identified lands.

**D. BMP 6.5 Employee Training**

**Objective:** Develop and follow a 5-year Training Plan that provides training to relevant employees in order to prevent stormwater pollution. The training shall include: illicit discharge identification; good housekeeping and pollution prevention for road, street and parking lot maintenance; good housekeeping and pollution prevention for maintenance and public works facilities; good housekeeping and pollution prevention for recreation facilities; and spill response for emergency services.

Measurable Goals Achieved for Reporting Year: Staff turnover occurred in positions that will address this BMP both the Public Works and the Engineering department. Replacement staff continued annual training under BMP 6.5 as reported under that BMP.

Next Year's Annual Goals: Begin to develop a 5-Year Training Plan. This BMP development will proceed in step with SWPPP development and will require a multi-year effort. The 2014-2015 goal is to outline a development schedule to provide public works and emergency services personnel stormwater pollution prevention training.

**E. BMP 6.6 : Household Hazardous Waste Collection**

Annual Goals for Reporting Year: Participate via advertising and staffing for this event.

Measurable Goals Achieved for Reporting Year: The measurable goals for this reporting year were met. The annual Household Hazardous Waste Collection event was held at the Montgomery Regional Solid Waste Authority facility, just outside of Christiansburg Corporate Limits.

Next Year's Annual Goals: Participate via advertising and staffing for this event.

**F. BMP 6.7 TMDL Action Plans**

**Objective:** Develop TMDL Action Plans that contain the steps or activities the Town will take to address the assumptions and requirements of TMDL Waste Load Allocations.

Measurable Goals Achieved for Reporting Year: The Town devoted resources for this BMP to the TMDL IP plan development process running from 2013 through the planned final draft presentation planned for late 2014 and final plan assumed for early 2015. The Program plan outlines plans to incorporate the construction of upcoming capital projects into the action plan as action items. Education and outreach BMPs will also be incorporated into the developing Action Plan.

Next Year's Annual Goals: Develop Action Plan schedules for TMDL streams based on known capital project forecasts, reasonable assumptions of future capital

investments and funding availability, and continuing education, outreach, NMP development, and SWPPP and training BMPs.

#### **G. BMP 6.8 Annual Characterization**

Annual Goals for Reporting Year: Estimate the volume of stormwater discharged by the Town's MS4 in units of cubic feet. Estimate the quantity of pollutants contained in that stormwater volume, in units consistent with any TMDL WLA.

Measurable Goals Achieved for Reporting Year: The measurable goals for this reporting year were met. The assumptions of land cover conditions based on zoning remain unchanged from permit year 2012-2013, therefore the annual characterization results also remain unchanged. Included as Appendix P are calculations that estimate the volume of stormwater discharged by the Town's MS4, and the pollutants contained in that stormwater. For the reporting year, the Town's MS4 has released an estimated 25,415,518 cubic feet of stormwater to Crab Creek. This stormwater contained an estimated 41.9 tons of sediment (suspended solids) and 1.23E+10 E. coli cfu. For the reporting year, the Town's MS4 also released an estimated 3,057,041 cubic feet of stormwater to Falling Branch (Roanoke River). This stormwater contained an estimated 5.7 tons of sediment (suspended solids) and 1.59E+9 E. coli cfu. Approximately 2,561,764 cubic feet of stormwater was released to Slate Branch. Because Slate Branch does not have an approved TMDL, the estimated amount pollutants contained in this stormwater will not be stated in this report, but the calculations for these amounts have been performed and are included in Appendix Q.

## **MCM 6 Status of Compliance with Permit Conditions**

For the 2013-2014 reporting year, MCM 6 Program and Action Plan development schedules were revised due to staff turnover that delayed these schedules. The annual goals for 2014-2015 were revised accordingly to account for the delay. In justification of the delay, these items are critical schedules moving forward in the long term and require careful consideration and evaluation. The Town continued to participate in an annual household hazardous waste collection event, perform employee training, sweep Town maintained streets, perform leaf pickup, perform daily operations in a stormwater conscious manner (store road-salt indoors, use vehicle wash-bays draining to sanitary sewer) clean storm sewers, and perform MS4 Program Plan updates as needed. The Town also completed a public works facility stormwater inspection in accordance with the MS4 Program Plan. These actions were in compliance with the Town's MS4 Program Plan and permit conditions.

## **MCM 6 Assessment of the Appropriateness of BMPs**

The eight BMPs for this category were appropriate for MCM 6. The BMP 6.1 Household Hazardous Waste Collection event collected and properly disposed of hazardous waste that otherwise would have ended up in regular municipal garbage or being illegally dumped. The BMP 6.2 Street Sweeping Program picked up sediment, road grime, trash, and other gross pollutants which would have been washed into the nearest stream, had sweeping not occurred. The BMP 6.3 Leaf Pickup Program picked up leaves and other organic waste in an effort to properly dispose of these residential wastes. The BMP 6.4 Stormwater Pollution Prevention Measures in use during Municipal Operations provided stormwater training for municipal employees, required that road-salt be stored indoors such that it is not exposed to excess precipitation, and required that public works vehicles be cleaned in a wash facility that drains to the sanitary sewer. Also, the BMP 6.5 Storm Sewer Cleaning Program cleaned storm sewer system piping and structures, resulting in gross pollutants not being washed into receiving waters. These good housekeeping items appropriately target municipal operations to prevent unnecessary stormwater pollution. BMP 6.6 Town's MS4 Program Updates required updates as necessary by permit, regulation, or law updates. BMP 6.7 Evaluate Properties Owned or Operated by the Town required the Town to evaluate properties in light of stormwater compliance, which is appropriate for MCM 6. Finally, with BMP 6.8 Annual Characterization, the Town estimated the volume of stormwater and pollutants discharged by the Town's MS4. In total, these BMPs were appropriate for MCM 6.

## **Progress towards achieving measurable goals for MCM 6**

The measurable goals were achieved for MCM 6 for the reporting year. The Town achieved the measurable goals by working to preventing unnecessary stormwater pollution by aiding in the collection and proper disposal of household waste. The Town also prevented unnecessary stormwater pollution by removing excess roadway dirt and sediment, by picking up fallen leaves, and by providing stormwater training

for Public Works employees. The Town also performed a public works facility inspection in accordance with the MS4 Program Plan. The Town did update the MS4 Program Plan as needed, evaluate Town properties, and perform an Annual Characterization. These measures resulted in achieving the measurable goals for MCM 6.

## **2013-2014 MS4 Annual Report Certification:**

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

Wayne O. Nelson 10/1/14  
Wayne O. Nelson, P.E. Date  
Director of Engineering and Special Projects  
Town of Christiansburg VPDES Permit Number 040025