Town of Christiansburg

Municipal Separate Storm Sewer System

Program Plan & Annual Report

For

General Permit No. VAR040025

And

Annual Reporting

July 1, 2017 through June 30, 2018

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

Submitted: October 1, 2018

Program Plan Revised: November 28, 2018

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CERTIFICATION

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

Printed Name: Wayne O. Nelson Title: Engineering Director

Signature: Wayne O. Nelson Date: 11/28/18

DEFINITIONS

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

"Best management practice" or "BMP" means schedules of activities, prohibitions of practices, including both structural and nonstructural practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters and groundwater systems from the impacts of land-disturbing activities.

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

"Department" means the Department of Environmental Quality.

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

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

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

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

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

"Land disturbance" or "land-disturbing activity" means a man-made change to the land surface that potentially changes its runoff characteristics including clearing, grading, or excavation except that the term shall not include those exemptions specified in Section 30-133(B) of the Town of Christiansburg's Stormwater Management Ordinance.

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

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

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

“Public” means, for the purpose of this Program Plan, the general population who work and/or live within the Town’s limits

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

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

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

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

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

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

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

1.0 PROGRAM PLAN STRUCTURE

The Town of Christiansburg's Program Plan is structured to serve as a stand-alone document that, when implemented, meets the requirements of the VAR04 *General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s)*, referred to in the remainder of this Plan as the General Permit. The Plan is intended to be subject to modifications as part of an iterative process that seeks to improve the effectiveness of best management practices (BMPs) and therefore may change from time to time. Modifications will occur per Section 1.5 of this Plan. The Program's effectiveness will be measured with "Measure(s) of effectiveness" that are incorporated into each BMP's annual reporting form in Section 3.

1.1 Minimum Control Measures

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

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

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

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

1.2 Special Conditions for TMDLs

The Town of Christiansburg is subject to Special Conditions for the following approved TMDLs where a waste load allocation (WLA) has been assigned to the Town:

- Crab Creek Watershed for E. Coli, approved December 2, 2004
- Crab Creek Watershed for Sediment, approved December 2, 2004
- Upper Roanoke River Watershed for Sediment, September 7, 2006
- Upper Roanoke River Watershed for E. Coli, approved June 27, 2007
- Roanoke (Staunton) River Watershed for PCB, approved December 9, 2010

The Special Conditions require the Town to update its Program Plan to incorporate implementation of TMDL Action Plans that identify best management practices and milestones to be implemented during the remaining term of this permit which concludes July 1, 2018. BMPs are provided in Section 3.2 for development of Action Plans for the TMDLs listed above. Additional BMPs will be added for implementation of the Action Plans, once they are developed, in accordance with the schedules prescribed in each BMP in Section 3.2.

1.3 Annual Reporting

The Town of Christiansburg will submit an Annual Report to the Department of Environmental Quality (DEQ) by October 1st of each year with the reporting period spanning from July 1st through June 30th. This Program Plan includes annual reporting forms in "fillable form" format. The completion of these forms provides all of the reporting requirements to satisfy the General Permit and are incorporated into the:

- Cover sheet, which will be updated with the specific reporting year;
- Certification that follows the table of contents and will be signed each year by the appropriate signatory. Certification is required by a principle executive officer or a duly authorized representative. The duly authorized representative must have overall responsibility of the Town operations and written authorization must be provided to the Department. ;
- "Annual Reporting – General Information Form" on the following page, completed annually;
- The "Annual Reporting Form" following each BMP in Section 3, completed annually; and
- The Measure(s) of Effectiveness Form following each BMP in Section 3.

Information compiled for effectiveness for each BMP in Section 3.0 will be utilized to evaluate and, if necessary, modify the respective BMP. Any modifications will be reported in the "Annual Reporting – General Information Form." Modifications to the Program made by the Town will be done in accordance with the General Permit requirements described in Section 1.4.

1.4 Annual Reporting – General Information Form	
➢ The BMPs described in Section 3 of this Program Plan/Annual Report are the stormwater activities that the Town of Christiansburg plans to undertake during the remainder of the permit cycle. ➢ The Town does not rely on another entity to implement portions of their MS4 Program Plan ➢ Completed Annual Reporting Forms for each BMP in Section 3 provide an assessment of the appropriateness of each BMP, progress towards achieving each measurable goal, and results of collected information analyzed for appropriate assessments and effectiveness of the BMP. ➢ The updated Outfall Inventory in Appendix B includes any MS4 outfalls that came online or were identified during the reporting year. Note that associated drainage areas will be provided per the schedule in BMP 3.1.	
➢ Did modifications to the responsible individual of any program role or responsibility or specific BMP included in the Program occur during the reporting year? (yes/no)	☒ Yes ☐ No
If yes, list modifications (provide BMP # to reference modification rationale): BMP 1.2 and 2.2 have been modified. Actual events were adjusted based on site and scheduling issues. The annual reporting form and Appendix A detail the actual education and outreach events and documents. The public survey reissue did not include specific questions related to PCB concerns, stream restoration and sediment reducing yard care as detailed in the Public Education and Outreach Plan. It was determined that a more accurate comparison would be obtained by reissuing the exact same survey. The Public Education and Outreach Plan has been modified for 18-19 to address specific outreach methods and topics noted as being deficient in the Stormwater Survey re-issue. BMP 6.4: Nutrient Management Plans were not followed as written. Fertilizer applications were halted at one site due to construction and are being reconsidered entirely at another site. NMP will be followed at remaining site during 18-19 permit year. BMP 5.1 was modified. The Land Development checklist and internal procedures were changed to require a recorded BMP inspection and maintenance agreement prior to permit issuance. BMP 5.3 was modified. The latest edition of the Virginia Stormwater Management Handbook, Chapter 9, appendix 9C, is being used as a reference inspection and maintenance guide. Aseta software online inspections were used in the field for the 17-18 permit year. A formal Town of Christiansburg Post Construction Stormwater Management Program Manual will be developed. The Aseta Inspection Schedule was not added to the SWM facility database, as public facilities need to be inspected every year and the private facilities can be inspected once every 5 years. It was determined that for publically maintained facilities the use of the existing Public Works maintenance request system would be adequate. A Standard Operating Procedure for Post-construction BMP inspection and maintenance is being developed to address inspection and maintenance on both public and privately owned facilities. BMP 6.2 was modified. The Town will continue monthly SWPPP inspections at High Priority Facilities and improve training for appropriate Public Works personnel on any recurring items.	
➢ Based on a review of the reporting forms completed for the reporting year within Section 3 of this Program Plan, does the Town finds itself compliant with the permit conditions (yes/no):	☒ Yes, the Town is compliant ☐ No (see below)

If no, listed below are additional BMPs and/or changes made to BMPs or measurable goals for any of the MCMs, including steps to address any deficiencies (Refer to Section 1.5):
N/A, the Town finds itself compliant.

➢ Does the Town's MS4 directly discharge to waters that are identified as impaired in the 2010 § 305(b)/303(d) Water Quality Assessment Integrated Report? (yes/no)	☒Yes ☐No

If yes, list the impaired waters and pollutant impairment: Crab Creek, VAW-N18R CBC04A00, Sediment, E. Coli.; tributaries of Slate Branch, VAW-N22R XEJ01A08 and VAW-N22R XEH01A08: Aquatic Life impairment, no TMDL; Wilson Creek, VAW-L02R WLN03A00, E. Coli, VAW-L02R WLN02A00, E. Coli.

➢ Based on the water quality issues identified in BMP 1.2 and impairments identified above, does a review of the effectiveness of the BMPs listed in the program indicate they are appropriate? (yes/no)	☒Yes ☐No

Explain why they are effective for the water quality issues identified in BMP 1.2 and listed impairments or identify potential modifications if not effective: BMPs are effective as they address all required aspects of the General permit, including BMP 1.2. since they incorporate education and practices to address the pollutants of concern for the impairments (i.e. sediment and bacteria).

1.5 Program Modifications

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

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

2.0 SCHEDULE

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

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

BMP	Necessary Action	Due date
2.2	Public participation activities	Stormwater Education Days: BMS 11/18, SMS & AMS 4/19, CMS 4/19 Stream Cleanup: October 4, 2018 at Walnut Branch/Kiwanis Park and one additional Location & Date TBD NRV Home Builders Expo: 3/2019 Christiansburg Aquatic Center Summer Camp session: 8/2018 Others as opportunity arises
2.1	Post Annual Report on website	30 days after submittal annually
6.3a	Staff training on pollution prevention	Completed 6/21/18
1.1, 1.2	Provide for public participation for education and outreach plan	**Complete for 17-18 Permit Year** Survey re-distributed summer 2018
1.2	Public Education/Outreach Plan	Modified 9/2018
3.1	Notification of MS4 Interconnections	Update as necessary
3.3	Develop IDDE Program Manual	**Complete**
6.3a	Written Training Program (see BMP 6.3a)	**Complete**
6.2	Identify high priority areas (see BMP 6.2)	**Complete**
5.3	Post-Construction Stormwater Management Program Manual	**Modified 17-18 Permit Year**
3.4, 6.1	Good Housekeeping/Pollution Prevention Program Manual	**Complete**
1.2, 3.4, 4.2	Website/Facebook postings (see BMPs for details)	Update as necessary
6.3b, 6.5	Good housekeeping contract language for municipal contractors	**Complete for large capital projects** **Completed for smaller contracts 18-19 permit year**
SC.1 & 2	Crab Creek E. Coli & Sediment Action Plan	**Complete**
SC.4 & 5	Upper Roanoke River E.coli & Sediment Action Plan	
3.3	Methodology for prioritizing outfalls	**Complete**

SC.3	Roanoke (Staunton) River PCBs Action Plan	**Complete**
3.1	Storm sewer mapping/information table	Continuing Updates
5.2	Update BMP database attributes	Continuing Updates
6.2	High-priority facility SWPPP implementation	**Complete**

3.0 PROGRAM PLAN BEST MANAGEMENT PRACTICES

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

3.1 Minimum Control Measure BMPs

BMP 1.1 Public Participation for Public Education and Outreach Plan (Section II B.1.c.4)
Description: The current Public Education and Outreach Plan (PEOP) was limited to comment from Town staff and information from other MS4 public surveys. The Town will provide for participation from the Christiansburg public with a survey distributed to households. The survey will be developed to assess the Town's knowledge regarding stormwater issues with the intent of assisting with the selection, or confirmation, of high priority water quality issues in the PEOP. Opportunity to provide written comment will be provided with the survey. **Necessary documentation for implementation:** (1) Public Survey; (2) Public Survey results **Responsible individuals for implementation:** Town Engineer **Objectives and expected results in meeting measurable goals:** The objective is to include the public in the selection of water quality issues identified in the Town's PEOP. **Implementation schedule**: The public survey was distributed in the early summer of 2016. A second survey was distributed in early summer of 2018. Results will be used to examine MS4 efforts from the 16-17 and 17-18 permit years. **Method to determine effectiveness:** Effectiveness will be measured by the number of individuals responding to the survey and the incorporation of survey results into the PEOP.

BMP 1.1 Annual Reporting Form (Completed once during the development of the Public Education and Outreach Plan)	
Dates that survey was distributed:	6/16/16 – 7/31/16 6/19/18 – 7/31/18
Number of survey responses:	2016 – 314 2018- 87
Description of how survey results and responses were incorporated into the Program: The survey spanned the 15-16 and 16-17 permit years. The survey responses were weighted towards an older demographic, leading in part to the Public Education and Outreach Plan water quality issue #1 being modified to target sixth grade students at public schools. The survey responses indicated that there is understanding of the storm drain marking program but more outreach and education that inlets drain to streams is warranted. There is indication that citizens are willing to participate in events. 2018 survey will be used to examine MS4 efforts for the 16-17 and 17-18 permit years. For the 2018 survey we left off the question about age as it did not seem relevant to the knowledge survey. The main difference seems to be a more positive response about willingness to volunteer and that more people had seen the storm drain markers. We did add 100 storm drain markers in late summer 2016. All the other questions really show no change. Survey results were not incorporated into the 17-18 permit year PEOP because the survey results were not available until August 2018. Survey responses have been incorporated into the 18-19 PEOP. Results suggest that we should expand our storm drain marker program, which will be explored during the 18-19 permit year. Survey results are documented in Appendix H.	

All necessary documents for implementation may not be provided in the annual report, but will be retained on file for 3 years.

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

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

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

Necessary documentation for implementation: (1) Survey results from BMP 1.1; (2) Written PEOP describing the rationale of the selection of each water quality issue, identification of target audience and estimated population, and relevant message; (3) Materials described in the Public Education and Outreach Plan such as pamphlets and training materials.

Responsible individual for implementation: Town Engineer

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

Implementation schedule: Outreach will be conducted a minimum of once a year to at least 20% of each target audience for each water quality issue identified in the PEOP. A public survey will be distributed in the Spring of 2016 and again in 2018 with questions to gauge the public's knowledge on stormwater issues.

Method to determine effectiveness: Results from the two public surveys will be assessed to determine the effectiveness of the message delivered for each water quality issue. The first survey will occur near the start of implementation of the PEOP and the second in the final year of the permit cycle. Effectiveness will be measured by using a scoring system to compare results of the two surveys to determine if public knowledge regarding each water quality issue has increased.

BMP 1.2 Annual Reporting Form				
Has a written Public Education and Outreach Plan been developed?				☒ Yes ☐ No
If no, explain, is yes, summarize below:				
Water quality Issue #	List of educational and outreach activities identified in Public Education and Outreach Plan Update	Target Audience	# people reached for reporting year	% of target audience to be reached in reporting year
1	Youth education on stormwater impacts	± 250 sixth grade students	230	92
2	Education on special water quality concerns (E.coli, PCBs)	±9,400 households	E. Coli 4165 Facebook accounts, PCBs: 9051 copies mailed	100
3	Education on Stream Health (Role of Stream Restorations, Role of lawn care.)	±9,400 households	Stream restorations: 1988 Facebook accounts, 2 articles in Christiansburg Connnection each mailed to 9051 water accounts.; Lawn Care: 1408 Facebook accounts	100
Water quality Issue #	List of educational and outreach activities that will be conducted during the ***next*** reporting year	Target Audience	# people to be reached for reporting year	Minimum % of target audience to be reached
1	Education on special water quality concerns (PCBs)	±9,400 households	> 1,880 households	20
2	Education on special water quality concerns (E.coli)	±9,400 households	> 1,880 households	20
3	Education on Stream Health (Role of Stream Restorations, Role of lawn care.)	±9,400 households	> 1,880 households	20

Necessary documents for implementation are not provided in the annual report, but will be retained for a minimum of 3 years and are available upon request. Updated Public Education and Outreach Plan is contained within this Program Plan as Appendix L.

Measure of Effectiveness Form	
Average "knowledge" score from 2015-2016 survey:	43%
Average "knowledge" score from latest survey:	42%
Has the "knowledge" score gone up over the permit cycle?	☐ Yes (BMP effective) ☒ No (See below) ☐ N/A
If no, discuss potential ineffectiveness of the BMP (outreach materials, training approach, etc.). We have documentation showing that the website hits are low. Facebook posts appear to reach a larger number of people. Additionally, the second survey was only completed by 87 people which does not make a good comparison to the 314 who completed the first survey. The specific knowledge needed to answer the survey questions directly was not adequately covered in the outreach material.	
If no, Suggest BMP modifications to the Program Plan with rationale to increase effectiveness: We will use shorter, more direct articles as well as Facebook posts to address the water quality issues. Also, direct mention will be made of the ranking of how different pollutants affect our surface waters.	

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

Description: The following documentation will be maintained on the Town's stormwater website:

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

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

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

Responsible individual for implementation: Town Engineer

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

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

Method to determine effectiveness: Same as BMP 1.2.

BMP 2.1 Annual Reporting Form
Web link to the Town's Program Plan/Annual Report is provided below:
http://www.christiansburg.org/index.aspx?NID=481

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

BMP 2.2 Public participation (Section II B.1.b)
Description: The Town of Christiansburg will participate, through promotion, sponsorship, or other involvement, in a minimum of four local activities annually. **Necessary documentation for implementation:** (1) A list of public participation opportunities; (2) Documentation of participation for each activity. **Responsible individual for implementation:** Town Engineer **Objectives and expected results in meeting measurable goals:** The objective is to increase public participation to reduce stormwater pollutant loads; improve water quality; and support local restoration and clean-up projects, programs, groups, meetings, or other opportunities for public involvement. Measurable goals include a measure or estimation of the number of people that participate in each local activity. **Implementation schedule**: Public participation will be conducted a minimum of four times a year. **Method to determine effectiveness:** Effectiveness will be determined by successful public turn-out or exposure to each event. Selection of specific events may be modified from year to year based on opportunity, the potential impact of the audience that can be reached, and anticipated public turn-out.

BMP 1.2 2.2 Annual Reporting Form			
Local activity	Type of education, outreach, participation (e.g. education materials, promotion, sponsorship, other)	Estimated # of people reached	Summary of documentation* that demonstrates participation
Downtown Park Tree Planting	MCM 2 Public Participation 08/19/2017	24 attended	Group photo in Appendix A
Downtown Watershed Study Open House	MCM1 and 2 10/26/2017 Open House for study to evaluate drainage and flooding along Towne Branch. Included information boards and a presentation by	11 at event 6031 Facebook accounts received notice and link to article	Sign in sheets and social media analytics in Appendix A

	consultant. Town staff and consultant available to answer questions and talked with participants		
Towne Branch Open House	MCM 1 and 2 10/31/2017 Open house for citizens and Town staff to see the project and ask questions. Leaflets were available as well as a look at the site plans.	1 citizen/newspaper reporter 10 Town staff Facebook post on event reached 1988 accounts	Estimate of staff member. Social media analytics in Appendix A
Towne Branch leaflets pre construction	MCM 1 Public Education Leaflets explaining benefits of stream restoration were available at Depot Park before construction and posted on Town website	100 flyers placed at Depot Park and 100 placed at the Christiansburg Aquatic Center. Not all flyers were taken.	Leaflet is in Appendix A Information on website is at http://va-christiansburg3.civicplus.com/969/Towne-Branch-Stream-Restoration Distribution numbers from Town Public Relations staff.
MCPS Stormwater Education days November for Blacksburg Middle School	MCM 1 & 2 11/3/2017 Blacksburg Middle School sixth grade students attended an educational event at the Izaak Walton League of America Christiansburg – Montgomery Chapter Property	295 sixth grade students 24 adult chaperones 24 presenters	Summary email in Appendix A
Stream Restorations Education articles (WQ issue #3)	MCM 1- Articles in July/Aug Christiansburg Connection - http://www.christiansburg.org/DocumentCenter/View/9109/JulyAug-Newsletter-	9051 paper copies sent with utility billing plus website posting	Email from staff member noting number of paper water bills mailed. In Appendix A

	Final?bidId Nov/Dec Christiansburg Connection http://www.christiansburg.org/DocumentCenter/View/7108/NovDec-Newsletter---Corrected?bidId		
PCB Article in Mar/April Christiansburg Connection. (WQ issue #2)	MCM 1 Articles in March/April Christiansburg Connection http://www.christiansburg.org/DocumentCenter/View/7355/MarchApril-Newsletter-Final?bidId	9051 paper copies sent with utility billing plus website posting	Email from staff member noting number of paper water bills mailed. In Appendix A
Bacteria Education and Pet waste article (WQ issue #2)	MCM 1 Facebook post article on pet waste and bacterial pollution in streams	4165 Facebook accounts reached	Social media analytics in Appendix A
Lawn Care and Stream Health article (WQ Issue #3)	MCM 1 Facebook post article on how vegetative cover reduces erosion and stream sedimentation	1408 Facebook accounts reached	Social media analytics in Appendix A
New River PCB TMDL Development	MCM 2 1/25/2018	2 Town employees on Technical Advisory Committee	DEQ New River PCB TMDL webpage. Meeting summaries include attendee lists.
New River Valley Homebuilders Association Show	MCM 1&2 Stormwater Information Booth March 9-11, 2018	overall attendance numbers of 1755	Email from event organizer in Appendix A
Crab Creek/Diamond Hills Park Stream Clean up	MCM 1&2 4/14/2018 Stream Clean up	18	Group photo in Appendix A and social media analytics documenting the posts reaching 2066 Facebook accounts in Appendix A

Erosion and Sediment Control products Demonstration Day	MCM1 &2 4/19/2018 Local municipal employees and local contractors saw new ESC control measures installed on the Christiansburg Aquatic Center Overflow Parking site Manufacturer's specs were provided.	50	Sign in sheet and email from Kyle White at Environmental Construction Solutions in Appendix A
MCPS Stormwater Education days April 2018 for Christiansburg Middle School	MCM 1 & 2 4/12/2017 Blacksburg Middle School sixth grade students attended an educational event at the Izaak Walton League of America Christiansburg – Montgomery Chapter Property	230 sixth grade students 24 adult chaperones 32 presenters	Summary in Appendix A
MCPS Stormwater Education days April 2018 for Auburn Middle School	MCM 1 & 2 4/13/2017 Auburn Middle School sixth grade students attended an educational event at the Izaak Walton League of America Christiansburg – Montgomery Chapter Property	90 sixth grade students 10 adult chaperones 16 presenters	Summary in Appendix A
MCPS Stormwater Education days April 2018 for Shawsville Middle School	MCM 1 & 2 4/13/2017 Shawsville Middle School sixth grade students attended an educational event at the Izaak Walton League of America	85 sixth grade students 10 adult chaperones 16 presenters	Summary email in Appendix A

	Christiansburg – Montgomery Chapter Property		
Downtown Watershed Study Public Meeting # 2	MCM1 &2 5/10/2018 Public meeting to address results of Downtown Watershed Study and receive public comment	11 people attended. Event was promoted on social media and through water bill inserts. 1231 Facebook accounts reached. 9401 utility bills mailed	Sign in sheets and email documentation of number of mailed utility bills in Appendix A
Stormwater Survey reissue	MCM1&2 6/2018 -7/2018	Results and numbers detailed in BMP 1.2 measure of effectiveness form and in Appendix H	Documentation in Appendix H
2017 Drinking Water Quality Report	MCM 1 June 2018 rear cover of 2017 Drinking Water Quality Report discussed watershed protection from contaminants	Link to web version provided in the Christiansburg Connection May/June 2018 http://www.christiansburg.org/DocumentCenter/View/8833/MayJune-Newsletter?bidId plus posted on Facebook. Website hits of less than 500 and 2563 Facebook accounts reached	Social media analytics in Appendix A. Communication with TOC Public Relations Director indicated that the new website host does not track pages with less than 500 hits.

* Documentation is attached in Appendix A

Measure of Effectiveness Form	
Local Activity (same as above)	Rationalization of effectiveness or ineffectiveness
Downtown Park Tree Planting	Effective – 24 attendees were a reasonable amount for a small park and small tree planting event. **Modification**: Document the water quality issues mentioned.
Downtown Watershed Study Open House	Effective –Although only 11 citizens attended, social media analytics indicated that 6031 accounts were reached. Citizens who did attend asked questions of both the consultants and Town staff. .
Towne Branch Open House	Effective – Town staff included the Parks and Recreation staff who will be managing the site. The one citizen who attended is a local newspaper reporter who wrote an article on the stream restoration. Facebook posts indicated 1988 accounts reached MODIFICATION: hold an open house event in the early evening or late in the day to increase attendance.
Towne Branch leaflets pre construction	Partially effective: Leaflets were taken but not documented MODIFICATION: Document how many leaflets were left when collected. –
MCPS Stormwater Education days for the 4 Middle Schools in Montgomery County including Christiansburg Middle School.	Effective – Positive feedback from school personnel, volunteers, and students for all four school outreach events 230 students attending, 92% Christiansburg Middle School 6th grade student participation. All four middle schools were reached this year, ensuring watershed wide education efforts.
Stream Restorations Education articles (WQ issue #3)	Effective. Two Christiansburg Connection articles reached over 96% of the target audience. A short Facebook post went to 1408 accounts
PCB Article in Mar/April Christiansburg Connection. (WQ issue #2)	Effective – The Christiansburg Connection article went to 9051 households which is 95% of the target audience. PCB questions were not included on the reissued Stormwater survey
Bacteria Education and Pet waste article (WQ issue #2	Effective –The Facebook post went to 4165 accounts and generated a lively discussion in the comments. .
Lawn Care and Stream Health article (WQ Issue #3)	Partially Effective – The Facebook post went to 1408 accounts which is 15% of the target audience. The article was posted after the spring gardening season. MODIFICATION – change the timing and picture associated with the post to encourage more viewing

New River PCB TMDL Development	Effective – met a proposed PCB Action Plan measurable goal
New River Valley Homebuilders Association Show	Effective – 1755 adults attending. In previous years 33% of persons responding to a query of residence responded as Christiansburg residents.
Crab Creek/Diamond Hills Park Stream Clean up	Effective: 18 participants. Based on the lengths of stream reaches where cleanups are feasible the expectation is that the town will keep groups small for safety and organization. Also 2066 Facebook accounts reached were documented and Facebook comments are available.
Erosion and Sediment Control products Demonstration Day	Effective: 50 participants from local governments, VDOT, DEQ and local contractors saw newer ESC methods
Downtown Watershed Study Public Meeting # 2	Effective —Although only 11 citizens attended, social media analytics indicated that 1234 Facebook accounts were reached. Citizens who did attend asked questions of both the consultants and Town staff.
Stormwater Survey reissue	Not Effective : 87 surveys filled out compared to 314 with the first survey. Survey questions did not indicate much change in knowledge of stormwater issues. MODIFICATION: Create a “fun fact” quiz or other short Facebook/Twitter /other media interactive after a short article to determine public knowledge
2017 Drinking Water Quality Report	Partially effective: Although the link was published in the Christiansburg Connection, which is sent to 9051 water accounts, the website had less than 500 views. A Facebook post with a link to the site reached 2563 Facebook accounts. MODIFICATION: Contact the website hosting service to determine if it is possible to track pages with less than 500 views.
For an ineffective activity identified above, describe modifications to be made for next reporting year (e.g. different activity or different approach): Modifications are included with the rationalization of effectiveness for each local activity in the above table.	

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

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

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

The information table, at a minimum, will:

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

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

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

Responsible individual for implementation: Town Engineer

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

Implementation schedule: The storm sewer mapping and information table will be updated in accordance with the current general permit and as described above by June 30, 2017.

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

BMP 3.1 Annual Reporting Form	
Storm Sewer System Information Table is available in Appendix B	
Has the Information Table been updated per the current General Permit and as described in this BMP? (yes/no)	☒ Yes ☐ No
• If no, explain: The data base is continually being revised. One outfall discovered at the end of June 2018 (NE58CC19-B) will be investigated this fall to determine its inlets and connections. One other outfall (NE58TBA31) is also being investigated to determine its drainage area.	
Notifications to interconnected MS4s	
➢ During the reporting year, were any new outfalls installed or identified that physically interconnect to another MS4? (yes/no)	☐ Yes ☒ No
If yes, has the interconnected MS4 received written notification from the Town regarding the interconnection? (yes/no or not applicable)	☐ Yes ☐ No ☒ N/A
If yes, list the notified MS4 written notifications by providing the MS4 entity notified, date of notification, and location information of the interconnection): N/A no new outfalls identified.	
If an interconnected MS4 was not notified of a new interconnection, please explain why and indicate when the notification will be provided: N/A – no new interconnections	

Estimated drainage acreage to each HUC and impaired water		
RU07 = 1020 acres (Wilson Creek)	NE59 = 1525 acres (Stroubles Creek)	RU05 = 63 acres (Brake Branch)
NE58 = 5343 acres (Crab Creek)	RU04 = 989 acres (Elliott Creek)	NE56 = 14 acres (Mill Creek)

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

Measure of Effectiveness Form
If any potential illicit discharges were identified or reported (refer to reporting for BMP 3.2 and 3.3), was outfall mapping used to address the issue: Yes, outfall and storm sewer system mapping was used to determine that the potential illicit discharge entering the Aquatic Center East Bioretention pre-treatment area was air conditioning condensate coming from the Aquatic Center. Outfall mapping was also used to determine that the oil spill at Phoenix and Roudabush was not entering jurisdictional waters. .

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

Description: The Town of Christiansburg prohibits non-stormwater discharges, including illegal dumping, into the storm sewer system through Chapter 16, Article IV of the Town Code (Illicit Discharges). Article IV prohibits illicit connections and discharges to the storm sewer system and establishes legal authority to inspect, conduct surveillance, and monitor to ensure compliance. The Article also gives the Town the authority to initiate enforcement actions and establishes enforcement penalties and for violations.

Necessary documentation for implementation: (1) Chapter 16, Article IV of the Town Code; (2) A list of any instances of violation and summary of actions taken by the Town; (3) Completed IDDE Tracking Forms, as provided in Appendix D of the Town's IDDE Program Manual.

Responsible individual for implementation: Town Engineer

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

Implementation schedule: Implementation of Chapter 16, Article IV of the Town Code will continue with implementation consistent with the methods described in BMP 3.3.

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

BMP 3.2 Annual Reporting Form
Reported or observed non-stormwater discharges are provided in Appendix C. Information in Appendix C includes a memo for each reported or observed discharge, including: • Date of violation the potential illicit non-stormwater discharge • Location of the potential illicit non-stormwater discharge • Description of the potential illicit non-stormwater discharge • Necessary corrective or disciplinary action taken * Note that subsequent reporting will utilize the IDDE Tracking Form in Appendix D of the Town's IDDE Program Manual instead of the memo format provided in Appendix C of this annual report. The IDDE tracking form is being revised as it proved difficult to use.

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

Measure of Effectiveness Form	
Number of potential illicit non-stormwater discharges reported or observed, as described in Appendix C:	10
Number of potential illicit non-stormwater discharges resolved, as described in Appendix C:	7
➢ Is the number in the two boxes above is the same? (yes/no)	☐ Yes (BMP effective) ☒ No (See below)
If no, based on information provided for non-resolved potential illicit non-stormwater discharges, describe any necessary modifications to the BMP to improve effectiveness in resolving potential illicit non-stormwater discharges: The BMP is effective. The three unresolved potential illicit discharges were reported as potential. To date they have been investigated but not verified by Town staff, and are still within the 6-month investigation window. All other reported actual or potential illicit discharges are resolved.	

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

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

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

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

The Town of Christiansburg Illicit Discharge Detection and Elimination Program Manual and the Town of Christiansburg Illicit Discharge Detection and Elimination Field Guide have been developed and are incorporated by reference into this Program Plan. Both documents are posted on the Town's MS4/Stormwater webpage.

Responsible individual for implementation: Town Engineer

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

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

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

BMP 3.3 Annual Reporting Form	
Outfall Screening Record Summary	
Total number of outfalls (refer to BMP 3.1):	139
Total number of outfalls screened during the reporting year:	60
Were at least 50 outfalls screened during the reporting year? (yes/no)	☒ Yes (Objective achieved) ☐ No (Objective not achieved)
If 50 outfalls were not screened during the reporting year, explain why with a schedule to screen additional outfalls the following reporting year: N/A	
Were the outfalls screened selected based on prioritization criteria (land use, age of infrastructure, historical issues, etc.)? (yes/no)	☒ Yes (Objective achieved) ☐ No (Objective not achieved)
If no, explain why with a schedule for prioritizing outfalls: The numerical prioritization methodology previously proposed will be incorporated into screening for the 18-19 permit year. For the 17-18 permit year, any outfalls identified as needing to be rescreened from the 16-17 permit year were considered a priority. The one outfall that was identified as needing to be rescreened in the 16-17 permit year was rescreened in 17-18.	
Were follow up investigations performed for all outfalls where screening characterized the outfall as potential, suspected or obviously having an illicit discharge? (yes/no)	☐ Yes (Objective achieved) ☐ No (See below) ☒ Partially (See below)
If no, explain why with a schedule for investigating outfalls characterized as potential, suspect or obvious for being subject to an illicit discharge: There were no potential, suspect, or obvious illicit discharge characterizations for the outfalls inspected in the permit year.	
Screening results are summarized in Appendix D. **Refer to Appendix C for detail of any follow-up actions necessary based on screening results.**	

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

Measure of Effectiveness Form	
Number of outfalls characterized as potential, suspect or obvious for an illicit discharge that received a follow up investigations:	0
Number of investigations that were closed:	0
Based on the percentage of investigations closed, provide rationale for the effectiveness or ineffectiveness of the BMP. If ineffective, describe modifications to the BMP to improve efficiency: There were no potential, suspect, or obvious illicit discharge characterizations for the outfalls inspected in the permit year.	

BMP 3.4 Facilitate public reporting of illicit discharges and provide response (Section II B.3.d)
Description: The Town will promote, publicize, and facilitate public reporting of illicit discharges into or from the Town's MS4 with information describing an illicit discharge and contact information on the Town's stormwater website and with inclusion of educational material described in BMP 1.2. The Town will investigate all reports using methods and procedures described in the Town's IDDE Program Manual described in BMP 3.3. Tracking of reports will be recorded in the IDDE Tracking form in Appendix D of the IDDE Program Manual. **Necessary documentation for implementation:** (1) Web address of posted material; (2) Educational material with illicit discharge reporting information; (3) Completed IDDE Tracking Form for each incident. **Responsible individual for implementation:** Town Engineer **Objectives and expected results in meeting measurable goals:** The objective is to first educate the public to recognize an illicit discharge and provide contact information that allows for the reporting of an observed illicit discharge. The ultimate objective is to investigate and eliminate reported illicit discharges. **Implementation schedule**: Illicit discharge material and contact information will be placed on the website by July 1, 2015. Response to illicit discharge reports will be on-going, occurring in response to reports per the IDDE Manual. **Method to determine effectiveness:** Effectiveness will be measured by the percentage of illicit discharge reports that are closed (as will be documented in the IDDE Tracking Forms).

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

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

Measure of Effectiveness Form	
Total # of potential illicit discharges reported by the public for the reporting year:	2
Total # of potential illicit discharge reported by the public for the reporting year that have been resolved:	1
Percentage of reported illicit discharge instances that have been resolved:	50
Were all potential illicit discharge reports generated by public reporting resolved? (yes/no)	☐ Yes (BMP Effective) ☒ No (See below)
If no, provide explanation of why reports were not resolved and, if necessary, modifications needed for the BMP to improve effectiveness: One potential illicit discharge was reported by email to Montgomery County, and they forwarded the report to the Town. This report was resolved. The second potential illicit discharge was reported through the Ordinance Violation form on the Town's homepage. This potential illicit discharge is still under investigation as it was reported in May 2018 and after repeated visits Town staff have yet to verify its occurrence. MODIFICATION: The illicit discharge reporting link did not result in any reports. It was removed from the Engineering section of the Town website on May 17, 2018 when the website was relaunched. Recreate the webform and simplify the path to the website reporting page from the Town of Christiansburg home page. Also publish the link on all appropriate outreach materials.	

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

Description: Regulated land disturbance activity in the Town of Christiansburg is subject to Chapter 16, Article II of the Town Code (Erosion and Sediment Control). Regulated land disturbance activities are those defined in §62.1-44.15:51 of the Code of Virginia that result in the disturbance of 10,000 square feet or greater and those on individual residential lots or sections of residential developments being developed by different property owners and where the total land disturbance of the residential development is 10,000 square feet or greater. The Town utilizes an agreement in lieu of a plan as provided in §62.1-44.15:55 of the Code of Virginia for this category of land disturbances.

Section 16-25 of Article II requires a land disturbance permit from the Town prior to engaging in land disturbance activity that is conditioned on an approved erosion and sediment control plan or an agreement in lieu of a plan in accordance with the Erosion and Sediment Control Law (§62.1-44.15:51 et seq. of the Code of Virginia). Plans shall be compliant with the minimum standards identified in 9VAC25-840-40 of the Erosion and Sediment Control Regulations.

Section 16-27 of Article II provides legal authority for the Town to conduct inspections with an inspector holding an ESC Inspector's Certification from DCR/DEQ. Inspections will be conducted:

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

Section 16-24 of Article II also provides legal authority for the Town to require compliance with the approved plan and require changes to an approved plan when an inspection finds that the approved plan is inadequate.

Necessary documentation for implementation: (1) Chapter 16, Article II of the Town Code; (2) ESC Plan(s) approved by the Town, including procedures and documents used in plan review (e.g. checklists). The procedures and documents used in plan review have been developed and are incorporated by reference into this program plan. They are available on the Town website as a Development Handbook; (3) Documentation of ESC Inspector Certification; (4) Completed ESC Inspection Forms for each regulated project; (5) Notice to Comply and/or Stop Work Orders documentation and documentation of follow-up actions.

Responsible individual for implementation: Town Engineer

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

Implementation schedule: The implementation of this BMP will be on-going with all regulated land disturbance activities in the Town that disturb greater than 10,000 square feet.

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

BMP 4.1 Annual Reporting Form	
Total sites for reporting year subject to Chapter 16, Article II of the Town Code (Erosion and Sediment Control) and equal to or greater than 10,000 sf, including those issued an agreement in lieu of a plan.	106 sites 323.9 acres under permit for land disturbance 1,358 Erosion and Sediment Control and VSMP inspections This number includes single family residential inspections.
Did the Town implement and enforce Article II of the Town Code (Erosion and Sediment Control), requiring an approved plan or agreement in lieu of plan, where appropriate, prior to commencement of land disturbance for all sites included in the number above? (yes/no)	yes
If no, explain: N/A - The Town implements and enforces the ESC Program as a VESCP Authority.	
Did the Town inspect land-disturbing activities for compliance with an approved erosion and sediment control plan or agreement in lieu of a plan in accordance with the ESC Laws and Regulations minimum standards? (yes/no)	yes
If no, explain specific instances per project: N/A - The Town implements and enforces the ESC Program as a VESCP Authority. The Town did chose to hire a third party to complete the Town oversite inspections on the Church, Rigby, Ellett, Storm Drain Improvement Capital Project.	
If yes, summarize enforcement actions taken: During the reporting year: 4 notices to comply were issued, 5 stop work orders were issued. These actions are listed by enforcement type in Appendix F.	
If yes, were the Town's Inspector's DEQ Certified ESC Inspectors? (yes/no)	yes

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

Measure of Effectiveness Form	
For the sites subject to Chapter 16, Article II of the Town Code (Erosion and Sediment Control), do the number of enforcement actions (notice to comply or stop work orders) seem excessive?	☒ No (BMP effective) ☐ Yes (See below) ☐ N/A (No activities)
Discuss the nature of excessive enforcement action issues. Provide rationale that determines if the BMP is effective or ineffective. If ineffective, what modifications could improve effectiveness? The Town's ESC Program is implemented and enforced and effective at minimizing sediment transport from construction sites.	

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

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

Necessary documentation for implementation: (1) Web address of posted material; (2) Land disturbance complaint/report tracking record with date, description, and resolution for each complaint (the Town will utilize its current ESC tracking software for documentation).

Responsible individual for implementation: Town Engineer

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

Implementation schedule: Information regarding ESC controls for land disturbance activities and for reporting complaints will be placed on the website by June 1, 2016.

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

BMP 4.2 Annual Reporting Form			
The total number of complaints from the public related to land disturbance activity during the reporting year:			37
Complaint address/ Project Name	Date of complaint	Description of complaint	Resolution of the investigation
The Adams at Peppers Ferry	7/31/2017	Residents from the Villas of Peppers Ferry were concerned about the location of the outfall entering the wetlands. J Burke, C Webster and A Shaw came out and met with the residents as well as Bandy and KBS.	Residents satisfied with proposed work after detailed explanation
60 Phoenix Blvd/100 Roudabush Dr	8/11/2017	Got a complaint of mud being track off of site.	No mud found. Site OK.
670 Tarrytown Rd / Oak Tree Ph 11-13	8/22/2017	Lois Edmonds, 670 Tarrytown Rd, has sediment in her backyard. It appears to be from Oaktree XI-XIII.	C. Webster investigated. Contractor/owner of Oak Tree removed the sediment and fixed the channel
Kensington Estates, Phase IV	9/15/2017	C. Webster investigated the complaint of the pond smelling like a pig farm."	Nothing unusual was observed. Mr. Thurman was contacted. Webster will continue to monitor.
Stafford Dr. / The Adams at Peppers Ferry	10/11/2017	Complaint about Stafford Dr. being blocked by construction trucks for delivery. A. Shaw went to investigate..	AEP blocked the road and had all of the required items to legally due so. The Christiansburg PD also investigated
35 Siena Dr	11/29/2017	Complaints of trash in pond. Investigated and the site is not kept in good shape. Builder is contacted.	Builder cleaned up trash.
Stafford Dr. / The Adams at Peppers Ferry	12/6/2017	Checked on a complaint of tracking mud on Stafford Dr.	A. Shaw checked
Stafford Dr. / The Adams at Peppers Ferry	12/11/2017	Checked on a complaint of tracking mud on to Stafford Dr.	Mud is being tracked on to the Street and they are sweeping it off. A. Shaw also did not see any sign of the Street coming apart due to the construction.
The Adams at Peppers Ferry	12/11/2017	The complaint is for mud on the street.	C. Webster inspected. Upon inspection, there is staining on the street, but the contractor has been sweeping the street routinely.

Clifton (Stateson Homes)	12/11/2017	Got a complaint of mud being tracked off of this site.	A. Shaw checked and did not see anything.
Stafford Dr. / The Adams at Peppers Ferry	12/13/2017	Checked on two complaints of tracking mud on Stafford Dr.	A. Shaw checked
Stafford Dr. / Vinnie Dr. / The Adams at Peppers Ferry	12/15/2017	Called about mud on Stafford and Vinnie.	A. Shaw investigated and took photos. Street has been swept
Stafford Dr. /The Adams at Peppers Ferry	12/18/2017	Stafford Dr. is covered in mud. Issue a SWO.	Stop Work Order issued 12/18/2017 by C. Webster
Stafford Dr./ 10 Heather Dr./The Adams at Peppers Ferry	12/18/2017	A. Shaw got another complaint of mud on Stafford Dr. today from Sharon Miller on Heather Dr.	See next row.
Stafford Dr./ 10 Heather Dr./The Adams at Peppers Ferry	12/19/2017	Complaints about mud in the street and nails. Her neighbors have reported several flat tires. S. Miller is at 10 Heather Dr.	Stop Work Order violation additions by C. Webster
Heartwood St	12/21/2017	Complaint regarding trees getting cleared and tracking on the street." Complaint was valid. ISSUE SWO"	Stop Work Order issues. Site was stabilized and SWO still in effect.
Aldi	1/22/2018	Got a call to come by the site today. There is a problem with the underground detention	Aldi dug up and reinstalled the underground detention facility with the manufacturer rep, Aldi's 3rd party inspector and the engineer on site. Facility appears to be functioning.
505/515 Harless St	1/22/2018	Got a complaint of mud being tracked on to the Street.	A. Shaw checked on it and it was not bad. looked like it had been swept before he got there.
Stafford Dr. / Quin W Stuart Blvd./The Adams at Peppers Ferry	2/2/2018	Checked on a complaint of rock in the Street and the asphalt braking up at Stafford and Quin W. Stuart.	A. Shaw investigated. Did not see any rock or asphalt breaking up from the construction.
Dunlap Dr.	2/14/2018	Public Works discovered Dunlap Dr. was torn apart as a result a filling operation.	See next two rows.
Dunlap Dr. / Virginia Furniture Market	2/14/2018	Haling dirt to 405 Dunlap Dr. today. Also Dunlap is being torn up from the haling operation. Make sure the off-site operation is in their SWPPP.	Virginia Furniture Market amended the SWPPP

Dunlap Dr. / Virginia Furniture Market	2/15/2018	C. Webster and P. Colatosti inspected the site. There is an associated fuel spill from a dump truck overturning. The fuel spill occurred in TOC.	Affadavit provided by owner of 405 Dunlap swearing that the fill operation is agricultural. Fuel spill is a vehicle accident and the Christiansburg Fire Department coordinated the cleanup by HAZMAT firm. Webster also had A. Shaw contact Va. Furniture Market to stop the hauling while this hazmat activity was getting resolved. B. Hanks, Fire Chief and W.E.L. HazMat Company was present during the time of inspection.
Robin Hood Estates Ph I	2/15/2018	Jerry H. called A. Shaw and said that there was work being done in Robin Hood beside the SB. [sediment basin]	A. Shaw went by and checked and what they're doing is OK. [Taking topsoil from lots there going to build houses on and taken it to the commercial lot
New River Village Townhomes	2/27/2018	Got a complaint about construction vehicles blocking the Street	A. Shaw checked and it looks to have been the phone Com[pany]. The work was completed by the time A. Shaw got the complaint.
The Adams at Peppers Ferry /Clifton (Stateson Homes)	3/2/2018	Got a call from KBS about water from the Clifton site running in to their SB. It is right now because they have not installed the inlet for the water from there site to run in to. Also this inlet should be already installed per approved plan.	A Shaw investigated. Current conditions necessitate this arrangement. Clifton project will install needed inlet.
Quin W Stuart Blvd /The Adams at Peppers Ferry	3/8/2018	Got a complaint of rock on Quin W Stuart. Checked on and it was rock from the CE. Told the contractor about it and he said he will take care of it.	Rock on Quin W Stuart was swept.
1040 Plum St NE	3/15/2018	Got a complaint about the drainage off of this site. A. Shaw checked and found grading more than 10,000 Sq Ft. with no paper work through the Engineering Department.	Stop Work Order issued 4/10/2018

Aldi	3/26/2018	Got a call from Aldi about water running off of Lidl site on to their site. Checked and found out that it was. Check on what to do about this.	As of 7/1/2018 the Lidl site stabilization were redrawn and the new stabilization plans did not solve the runoff problem. Work continues to solve issue.
1040 Plum St NE	4/9/2018	Land Disturbance exceeds 10,000 sq ft without permit or plan. ISSUE a STOP WORK ORDER.	Stop Work Order issued. Plans received, permit issued, SWO lifted
725 Church St	4/9/2018	Land Disturbance exceeds 10,000 sq ft and the TOC has no approved grading plan or land disturbance permit on file. ISSUE a STOP WORK ORDER	Stop Work Order issued. Plans received, permit issued, SWO lifted
Quin w Stuart / The Adams at Peppers Ferry	4/12/2018	Got a complaint about rock in the road and rock being dumped. Also complaint of trucks not being tarped	A Shaw checked and the only rock on the road was at the CE on Quin W. Stuart. They are stockpiling rock for bedding utilities and back filling retaining wall. The only trucks that were not tarped were the ones returning to the site empty.
35 Phoenix Blvd NW	4/23/2018	Got a complaint of tracking mud	A. Shaw checked and found they had taken a piece of equipment around the back of the house and pushed some topsoil on to the alley way road. Called Patrick Blevins about it. He said he will take care of it. Topsoil was removed from alleyway.
1040 Plum St NE	5/1/2018	Got a complaint from Mr. Quesenberry of water running off of this site in to his building. I (A. Shaw) checked and it is. I called Jimmy on 5-2-2018 and we are going to meet on site again.	See Resolution next row
1040 Plum St NE	5/3/2018	Garnett Franklin, 730 Montgomery St, Complained about work behind his building. The contractor cut a swale and outfall between two buildings. This is not how the back yard grading was	C. Webster and A. Shaw visited the site (numerous times today) on 05-03 due to neighbor concerns regarding the grading. A channel was graded with an outlet discharging between two buildings. We told Jones and Sons that this would put more water on

		discussed. TOC investigated, took photos of the buildings and discussed grading the yard with a wide, shallow channel in the back yard.	the 720 Montgomery building and this channel was not discussed previously. Jones was going to fill the channel back in, sod it and grade the yard so that it reflected the original discussion with Radford. Photos were taken of the TLC Unlimited building for future reference. TOC will continue to monitor the grading of this back yard.
235 Robin Hood Dr NE	5/2/2018	Got another complaint about no controls installed on this site. I called Roger to let him know and he said he would take care of it. May not be today but he will get it.	See next row.
235 Robin Hood Dr NE	5/25/2018	Sill NO E&S controls. New street asphalt has been messed up. Check in to a NTC.	Contractor installed silt fence and later fixed the construction entrance.
225 Robin Hood Dr NE	5/25/2018	Still NO E&S Controls. Tracking mud. Check into sending a NTC.	Contractor installed silt fence and later fixed the construction entrance.

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

Measure of Effectiveness Form	
Were all complaints resolved?	☐ Yes (BMP effective) ☒ No (See below) ☐ N/A (no complaints)
Describe the reason for any unresolved complaint and any necessary program modifications to ensure complaints are resolved in the future. If no modifications are needed, provide rationale: The 3/26/2018 complaint of water and sediment running off the Lidl site on to the Aldi property has gone through a second plan revision after the first stabilization plan did not completely work. As of 9/24/2018 that second revision was approved and work should start shortly. Modifications are not needed since resolution of this one complaint has been actively addressed and all other complaints were resolved.	

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

Description: Regulated land disturbance activities are subject to Chapter 16, Article III of the Town Code (Stormwater Management Ordinance). Chapter 16 of the Town Code requires evidence that the General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR 10 General Permit) is obtained prior to the issuance of a land disturbance permit. The VAR10 General Permit and Section 16-54 of Article III requires a Pollution Prevention Plan for regulated land disturbances equal to or greater than an acre. Through the development and implementation of the Pollution Prevention Plan, appropriate controls to prevent non-stormwater discharges such as wastewater, concrete washout, fuels and oils, and other illicit discharges will be implemented. ESC inspections described in BMP 4.1 will include inspection components that ensure implementation of Pollution Prevention Plans.

Necessary documentation for implementation: (1) Chapter 16, Article III of the Town Code; (2) Project-specific Pollution Prevention Plan (maintained within SWPPPS on construction sites by the site operator); (3) Record of evidence of General Permit coverage for regulated construction activity.

Responsible individual for implementation: Town Engineer

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

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

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

BMP 4.3 Annual Reporting Form	
The total number of regulated land disturbance activities during the reporting year requiring a VAR10 General permit (greater than or equal to 1-acre).	42
Did the Town ensure each regulated land disturbance activity secured coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR 10 General Permit)? (yes/no)	yes
If no for any of the activities, explain: N/A - The Town verifies regulated activities have VAR10 coverage.	
Did the Town verify that project-specific SWPPPs were developed and maintained on-site for each activity? (yes/no)	no
If no, for any activity, explain: The Town verifies SWPPPs are developed during preconstruction meetings prior to town permit issuance, and during inspections. Some current permit holders that were granted permits by DEQ as reissuances at the 2014 permit rollover have yet to seek Town Land Disturbance Permits and initiate land disturbance.	
Did any illicit discharge reports stem from any of the regulated activities? (also see reporting for BMPs 3.2, 3.3, 3.4, and 4.2) (yes/no)	No
If yes, for any activity, explain:	

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

Measure of Effectiveness Form	
Do all regulated activities have VAR10 permit coverage and SWPPP?	☐ Yes (BMP effective) ☒ No (See below) ☐ N/A (No activities)
Were any instances of an illicit discharges from any regulated activity resolved? (also see reporting for BMPs 3.2, 3.3, 3.4, and 4.2)	☐☐ Yes (BMP effective) ☐ No (See below) ☒ N/A (No incidents)
If no was answered for either effectiveness question, explain any necessary BMP modifications to improve implementation of the goals of the BMP? See BMP 4.3 explanation of sites that received CGP permits through DEQ prior to Christiansburg assuming VSMP authority. SWPPPS are not required for projects with CGP coverage obtained directly from DEQ that have not applied for and received Christiansburg Land Disturbance Permit coverage.	

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

Description: New development and development on prior developed lands in the Town of Christiansburg is subject to Chapter 16, Article III of the Town Code (Stormwater Management Ordinance) that ensure post-construction stormwater management (SWM) for all regulated land disturbance activities over 10,000 square feet through plan approval by the Town. Approval from the Town will ensure the SWM Plan has been prepared per the VSMP Regulations that, in part, require that stormwater runoff controls:

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

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

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

Responsible individual for implementation: Town Engineer

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

Implementation schedule: The implementation of this BMP began July 1, 2014 with the adoption of Chapter 16, Article III of the Town Code. Written policies and procedures utilized to ensure that stormwater management facilities are designed and installed in accordance with Section II B 5 b are the Development Handbook Development Review Checklist (design) and the Final Inspection Checklist and Post-Construction Compliance Certificate (installation).

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

BMP 5.1 Annual Reporting Form	
Total sites for reporting year subject to Chapter 16, Article III of the Town Code (Stormwater Management Ordinance) and equal to or greater than 10,000 sf, including those issued an agreement in lieu of a plan.	79
Does each activity have an approved SWM plan per the BMP? (yes/no)	no
If no, explain specific instances per project: The Town implements and enforces the SWM program as a VSMP Authority. Johnson Heights Subdivision, TOC Project Number 2143, 505/515 Harless St, had two lots develop as a duplex under an approved ESC plan.	
Does the Town have written internal policies and procedures to implement and enforce Chapter 16, Article III of the Town Code (Stormwater Management Ordinance)? (yes/no)	yes
If no, explain: N/A - The Town implements and enforces the SWM Program as a VSMP Authority.	
Was a BMP inspection and maintenance plan recorded at the local courthouse for each project that included a SWM BMP? (yes/no)	no
If no, explain specific instances per project: Panda Express, TOC project number 2030, was a 0.81-acre disturbance project that was required to address stormwater management under Town Code Chapter 16. The Montgomery County courthouse would not record the notarized agreement because the landowner provided a copy, rather than the original notarization. We are still pursuing an original notarization to record. The AEP substation at Kirby Drive was permitted through DEQ as a part of a larger AEP power transmission line installation. The 0.70 acre project area at the station was required to address stormwater management under Town Code Chapter 16. A maintenance agreement will be sent to AEP for notarization. A maintenance agreement is being sought for Regent Plaza, TOC Project Number 2039. Maintenance agreements for New River Village Townhomes, TOC Project Number 2008, Wingate, TOC Project Number 2069, and Clifton, TOC Project Number 2046, will be obtained prior to termination of the CGP. Falling Branch School Expansion, TOC Project Number 2113, and CHS Athletic Improvements, TOC Project Number 2141, were determined to fall under Montgomery County's MS4 and will be maintained as part of that MS4 permit. A maintenance agreement for Red Oak Self Storage, TOC Project Number 2002, is being sought. The following sites obtained CGP coverage prior to July 1, 2014: Harmon / Shelor Parking Lot, and 670 Scattergood Dr.	

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

Measure of Effectiveness Form	
Do all sites subject to the Stormwater Management Ordinance have an approved plan?	☒ Yes (BMP effective) ☐ No (See below)
Do all sites subject to the Stormwater Management Ordinance have a recorded inspection and maintenance agreement?	☐ Yes (BMP effective) ☒ No (See below)
If no was answered for either effectiveness question, explain any necessary BMP modifications to improve implementation of the goals of the BMP? Maintenance Agreement issues are described in the section above. We have modified our Land Development checklist to insure the recordation of the inspection and maintenance agreement prior to permit issuance.	

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

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

- The unique SWM facility ID #;
- The stormwater management facility type;
- A general description of the facility's location, including the address or latitude and longitude;
- The acres treated by the facility, including total acres, as well as the breakdown of pervious and impervious acres;
- The date the facility was brought online (MMYYYY); (June 30, 2005 will be default date if no date is known)
- The sixth order hydrologic unit code (HUC) in which the stormwater management facility is located;
- The name of any impaired water segments within each HUC listed on the 2010 § 305(b)/303(d) Water Quality Assessment Integrate Report to which the stormwater management facility discharges;
- Whether the stormwater management facility is operator-owned or privately-owned;
- The date of the last inspection.

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

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

Responsible individual for implementation: Town Engineer

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

Implementation schedule: The maintenance of a BMP database will be on-going. Additional information required by the current MS4 General Permit, such as the impervious/pervious breakout of the drainage area to each BMP, will be completed by July 1, 2018.

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

BMP 5.2 Annual Reporting Form	
➢ The Stormwater Management Facility database is maintained electronically in Excel and enclosed in pdf format in Appendix E. Facilities brought online in the reporting year are also listed in a separate table. The electronic database will be submitted in conjunction with the Annual Report submittal.	
Did any new SWM facilities come online during the reporting year? (yes/no)	☒ Yes ☐ No
If yes, was the electronic database updated? (yes/no)	☒ Yes ☐ No ☐ N/A (No new facilities)
If the database was not updated, explain why and describe any necessary modification to ensure the database is update when new facilities come online: New facilities came online during the reporting year and are updated.	

Measure of Effectiveness Form	
Is the database complete to include all of the attributes for each new BMP described in this BMP and as required by the MS4 General Permit?	☐ Yes (BMP effective) ☒ No (See below) ☐ N/A (No facilities)
Describe the reason for that the database is incomplete and provide rationale that determines whether or not the BMP needs to be modified to ensure completion of the data base: Required data including drainage area, % impervious, and "impaired waters discharge to" information continues to be updated on BMPs from previous years.	

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

Description: The Town will perform long-term inspections and maintenance on all Town-owned or maintained stormwater facilities utilizing the inspection and maintenance plans obtained from implementation of BMP 5.1. Where inspection and maintenance plans are not available from approved SWM plans, the Town will utilize the inspection and maintenance guidelines in appendix 9C of the DEQ Stormwater Handbook as a reference in conjunction with Aseta software online inspection forms. Inspections will be performed either:

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

Inspections will be performed using the Aseta online inspection forms. BMP-type specific inspection and maintenance checklists provided in the Stormwater Handbook lists potential issues and methods to address each issue. Necessary maintenance identified during inspections will be conducted in a timely manner or no later than the next scheduled inspection.

Necessary documentation for implementation: (1) BMP Database described in BMP 5.2; (2) BMP-specific Inspection and Maintenance Plan, if available; (3) The Virginia Stormwater Handbook, latest edition, Chapter 9; (4) Completed BMP Inspection Forms; (5) Documentation of maintenance performed, where necessary

Responsible individual for implementation: Town Engineer

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

Implementation schedule: The implementation of this BMP will be on-going, with the procedures specified in this BMP.

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

BMP 5.3 Annual Reporting Form
Stormwater Management Facility Inspection Record*
The following information is provided in the SWM Facility database described in BMP 5.2: • SWM Facility ID • Dates of inspection(s) for the reporting year • If inspected, any identified necessary maintenance per inspection form • If maintenance is necessary, type and date the maintenance was performed or inspected

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

Measure of Effectiveness Form	
➢ Do dates in the database indicate that inspections were performed for Town-owned (public) BMPs at least once within the reporting year?	☒ Yes (BMP effective) ☐ No (See below)
Describe the reason for inspections that were not performed on Town-owned BMPs and provide rationale that determines whether or not the BMP needs to be modified to ensure completion of inspections: N/A - Inspections performed	
➢ Do dates in the database indicate that maintenance was performed, where necessary and in a timely manner?	☐ Yes (BMP effective) ☒ No (See below)
Describe the reason maintenance was not performed on Town-owned BMPs in a timely manner (e.g. minor repair needed that does not affect function of the facility) and provide rationale that determines whether or not the BMP needs to be modified to ensure completion of inspections: Routine and non-routine maintenance occurs on Town owned BMPs based on inspections as needed but the database has not been fully utilized to document maintenance. Modification: Public Works will provide documentation in the future. Maintenance requests will be entered into the existing Public Works maintenance ticket system which provides documentation.	

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

Description: The Town will ensure long-term operations and maintenance of all privately-owned stormwater facilities utilizing the maintenance agreements and inspection and maintenance plans obtained from implementation of BMP 5.1. Where inspection and maintenance plans are not available from approved SWM plans, the Town will utilize the inspection and maintenance guidelines in appendix 9C of the DEQ Stormwater Handbook as a reference in conjunction with Aseta software online inspection forms. Inspections of all privately owner stormwater BMPs will be performed by the Town at least once during every permit cycle (once per 5-years). Inspection for each facility may be satisfied by either:

- A field inspection conducted by the Town using the inspection and maintenance guidelines in appendix 9C of the DEQ Stormwater Handbook as a reference in conjunction with Aseta software online inspection forms ; or
- Documentation of an inspection conducted by the Owner or designee, provided the inspection was performed by a DEQ Certified SWM Inspector.

Chapter 16, Article III of the Town Code (Stormwater Management Ordinance) requires maintenance, inspection and repair of stormwater management facilities, where necessary.

Necessary documentation for implementation: (1) BMP Database described in BMP 5.2; (2) BMP-specific Inspection and Maintenance Plan, if available; (3) The Virginia Stormwater Handbook, latest edition, Chapter 9; (4) Documentation of inspections and maintenance performed, where necessary.

Responsible individual for implementation: Town Engineer

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

Implementation schedule: The implementation of this BMP will be on-going, with the procedures specified in this BMP.

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

BMP 5.3 Annual Reporting Form
Stormwater Management Facility Inspection Record*
The following information is provided in SWM Facility database described in BMP 5.2: • SWM Facility ID • Dates of inspection(s) for the reporting year • If inspected, any identified necessary maintenance per inspection form • If maintenance is necessary, type and date the maintenance was performed or inspected.

* Maintained as electronic database with hard copy as Appendix E. This BMP applies to those identified as "private" in the database.

Measure of Effectiveness Form	
➢ Do dates in the database indicate that inspections were performed for at least 20% of the privately owned BMPs as necessary for each for the reporting year to achieve the 5-year objective?	☒ Yes (BMP effective) ☐ No (See below)
If less than 20% of privately-owned BMPs were inspected during the reporting year, provide a schedule to ensure 100% can be inspected prior to the end of the permit cycle (July 1, 2018): N/A - Inspections performed	
➢ Where inspection resulted in the identification of required maintenance, has the Town notified the entity responsible of the maintenance needs with reference to the Stormwater Management Ordinance and a specified timeframe for completing the maintenance?	☐ Yes (BMP effective) ☒ No (See below)
If the entity responsible for maintenance has not been notified, explain: The Town continued to work with BMP owners who were finishing maintenance that they were notified of in the 2016-2017 permit year through December 2017. Most inspections for the 2017-2018 permit year were conducted in June 2018, and those owners were not notified before June 30, 2018.	
Have notified entities performed maintenance within the time period specified by the Town?	☐ Yes (BMP effective) ☒ No (See below) ☐ N/A (No instances)
If no to the previous question, was enforcement action taken?	☐ Yes (BMP effective) ☒ No (See below) ☐ N/A (No instances)
If enforcement action was taken, did it resolve the issue?	☐ Yes (BMP effective) ☐ No (See below) ☒ N/A (No instances)
If the issue was not resolved from enforcement action, described necessary modifications to the BMP to improve effectiveness: Many notified entities did perform maintenance from the 2016-2017 permit year, and some of the maintenance continued into the 2017-2018 permit year. The Town continues to use the SWM BMP inspection reports to notify private SWM BMP Owners of maintenance needs and follow up as needed. The Town will develop a Standard Operating Procedure for Post-construction BMP inspection and maintenance to standardize and expedite this process.	

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

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

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

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

Necessary documentation for implementation: (1) The Town of Christiansburg Good Housekeeping/Pollution Prevention Program Manual. This document contains the written protocols being used to satisfy the daily operations and maintenance requirements. This document is incorporated into the MS4 Program Plan and can be accessed here, or https://www.christiansburg.org/DocumentCenter/View/9571/Christiansburg-Good-Housekeeping-Manual-v4-18-1108?bidId= (2) Site-specific SWPPPs; (3) Training documentation; (4) Completed SWPPP Site Evaluation forms (see BMP 6.2).

Responsible individual for implementation: Town Engineer

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

Implementation schedule: The Good Housekeeping/Pollution Prevention Manual is complete. Training will be provided biennially with the initial training performed by July 1, 2015. Site-specific evaluations will be performed with the schedule described in BMP 6.2.

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

BMP 6.1 Annual Reporting Form	
Good Housekeeping/Pollution Prevention Manual	
Has a Good Housekeeping/Pollution Prevention Manual been developed? (yes/no)	☒Yes ☐No
*** See BMPs 6.2 and 6.3 for additional reporting. ***	

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

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

Description: The Town has implemented site-specific Stormwater Pollution Prevention Plans (SWPPPs) for Town owned properties that have been identified as "high-priority" facilities according to Section II of the General Permit. These "high-priority" facilities are the Public Works Operation Center located at 300 Scattergood Dr., and the Wades Lane Landfill Staging and Stockpile Area located at the end of Wades Lane. Both SWPPPS are maintained at the Public Works Operation Center and are available by calling the Town of Christiansburg Engineering Department at 540-382-6120. The SWPPPs are also located in this document in Appendix M .

For each high-priority facility, the SWPPP includes:

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

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

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

Responsible individual for implementation: Town Engineer

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

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

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

BMP 6.2 Annual Reporting Form	
Stormwater Pollution Prevention Plan	
➢ Have SWPPPs been completed for each high priority facility identified in the BMP?	☒Yes ☐No
If no, explain: SWPPP inspections at the Town Public Works Station and Town Landfill/Stockpile site will be initiated in Fall 2016. Roles and responsibilities as listed in section 1.4 will be updated in the 2016-2017 permit year to include the public works personnel maintaining the SWPPPs.	
➢ Did any changes on high priority facilities that could potentially affect stormwater runoff occur during the reporting year (e.g. new outfalls,	☒Yes ☐No
If yes, are the changes reflected in the SWPPP? (yes/no)	☒Yes ☐No ☐N/A
If no, explain why: N/A – Changes to outside storage sites and outfalls at the Public Works Facility were noted and changed on the SWPPP in June 2018. Changes continue to be made as conditions on the site change.	

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

Measure of Effectiveness Form	
➢ Results from Comprehensive High Priority Site Compliance Evaluations	
Total number of recurring items originating from site-specific activities identified Spring 2017*:	3
Total number of recurring items originating from site-specific activities identified Spring 2018:	0 at Landfill site, 2 at Public Works Facility
Total number of recurring items originating from site-specific activities identified Spring 2019:	TBD Per BMP Schedule
Has the # of recurring items trended downward or remained at zero from year to year?	☒ Yes (BMP effective) ☐ No (See below)
If no, discuss the specific recurring items and describe how the BMP can be modified to improve effectiveness to specifically address recurring items (e.g. improved training, improved inspection form) or describe why modification is not necessary: A year of monthly SWPPP inspections for the Town Public Works Station was not documented. Based on the completed site-specific inspections at the Town Public Works Station drip pads and minor salt tracking are repeat issues. . **Modification**: Continue monthly SWPPP inspections instead of yearly inspections to ensure follow-up on site-specific activities. Improve training for appropriate Public Works personnel on the recurring items.	
* Note that measure of effectiveness begins in 2017 since recurring items would not be available in 2016 with the first inspection.	
➢ Were any illicit discharges reported or identified in the reporting forms for BMPs 3.2 and 3.3 found to originate from high-priority facilities activities?	☐ Yes (See below) ☒ No (BMP effective)
If yes, describe how the BMP can be modified to improve effectiveness to specifically address the cause of the illicit discharge(s) or describe why modification is not necessary: BMP is effective.	

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

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

- Biennial training to relevant field personnel in the recognition and reporting of illicit discharges. Training will utilize the Town's IDDE Manual described in BMP 3.3.
- Biennial training to relevant employees in good housekeeping and pollution prevention practices that are to be employed during road and parking lot maintenance, around maintenance and operations facilities, and in and around recreational facilities. Training will utilize the Town's Good Housekeeping/Pollution Prevention Manual described in BMP 6.1. Additionally, the high-priority area SWPPPs implemented for the Public Works Operations Center at 300 Scattergood Drive, and the Wades Lane Stockpile and Fill Site located at the end of Wades Lane, will be reviewed and used during training with employees employed in and around these two sites

The plan will also require the following:

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

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

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

Responsible individual for implementation: Town Engineer

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

Implementation schedule: The written training plan is complete and incorporated in the Town's Good Housekeeping/Pollution Prevention and IDDE Program Manuals. Training and certification requirements will occur prior to July 1, 2015, with illicit discharge and good housekeeping training occurring once every two years thereafter. All relevant employees will be trained biennially with field supervisors trained on an annual interval.

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

BMP 6.3a Annual Reporting Form	
Training Plan	
Has the Town's Written Training Plan been developed? (yes/no)	☒Yes ☐No
Training & Certifications	
Has employee training been provided? (yes/no)	☒Yes ☐No
Date of latest training to relevant field personnel in the recognition and reporting of illicit discharges:	6/21/2018
Number of employees that participated in the latest training in the recognition and reporting of illicit discharges:	62
Date of last training to relevant employees in good housekeeping and pollution prevention practices:	6/21/2018
Number of employees that participated in the latest training in good housekeeping and pollution prevention practices:	62
Do the number of individuals reported above that participated in training represent all employees that conduct daily activities that could potentially affect stormwater runoff? (yes/no)	☐Yes ☒No
If no, explain: All field staff attended as well as Engineering staff. Supervisory Public Works staff were not able to attend and will be trained at a later date.	
Did any employees apply pesticides and herbicides? (yes/no)	☒Yes ☐No
If yes, identify the employee and their certification: Public Works provided four certifications that were provided to DEQ during review of the 2014-2015 permit year report and are available upon request.	
Provide a summary of the training or certification program provided to emergency response employees that includes training in spill response: 38 Hazmat Operations level certification were provided to DEQ during review of the 2014-2015 permit year report and are available upon request.	

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

Measure of Effectiveness Form	
Did scores from the "Knowledge Check" quiz improve from the previous training? (yes/no)	☒ Yes (BMP effective) ☐ No (See below) ☐ N/A
If no, describe modifications to the BMP to increase effectiveness (e.g. training frequency, training material, etc.): The "Knowledge Check quiz" scores increased from 84 % to 90.6 %.	

BMP 6.3b Contractor Certification for Pollution Prevention (Section II B.6.d.4)
Description: The Town will require, through contract language, the certification for contractors applying pesticides and herbicides in accordance with the Virginian Pesticide Control Act (§ 3.1-249.27 et seq. of the Code of Virginia). Contract language will require contractors provide proof of the appropriate certification prior to contract execution. **Necessary documentation for implementation:** (1) Contract language; (2) Proof of certifications. **Responsible individual for implementation:** Town Engineer **Objectives and expected results in meeting measurable goals:** The objective is to ensure the proper application of pesticides and herbicides. The expected result is that contractors used by the Town will have appropriate certifications for application of pesticides and herbicides. **Implementation schedule**: The Town will develop and begin implementation of contract language by July 1, 2016. **Method to determine effectiveness:** Effectiveness will be measured by evaluation of trends in confirmed reports of illicit discharge related to herbicides and pesticides.

BMP 6.3b Annual Reporting	
Pesticides and Herbicides	
Number of contracts executed during the reporting year that includes application of pesticides and herbicides?	0
Was proof of certification provided for each contract that includes the application of pesticides and herbicides? (yes/no)	☐ Yes ☐ No ☒ N/A (no contracts)
If no, explain:	Our current contract language requires certifications. Language explicitly requiring proof of appropriate certification will be implemented when contracts are rebid and for any new contracts.

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

Measure of Effectiveness Form	
Were any illicit discharges related to herbicides and pesticides application by contractors reported or identified in the reporting forms for BMPs 3.2 and 3.3?	☐ Yes (See below) ☒ No (BMP effective)
If yes, describe how the BMP can be modified to improve effectiveness to specifically address the cause of the illicit discharge(s) or describe why modification is not necessary: No illicit discharges reported related to herbicide and pesticide application.	

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

Description: The Town will implement a turf and landscape nutrient management plan (NMPs) that has been developed by a certified turf and landscape nutrient management planner in accordance with §10.1-104.2 of the Code of Virginia on all lands owned or operated by the Town where nutrients are applied to a contiguous area greater than one acre. Turf and nutrient management landscape plans have been developed for Harkrader Sports Complex at 1209 Buffalo Dr., Depot Park at Depot and Stone St., and the Christiansburg Aquatic Center at 595 North Franklin St. The turf and nutrient management plans for Harkrader Sports Complex and Depot Park are maintained by the Parks and Recreation Department at 1600 N. Franklin St. The turf and nutrient management plan for the Christiansburg Aquatic Center is maintained by the Public Works Dept. at 300 Scattergood Dr. All plans are available by calling the Town of Christiansburg Engineering Dept. at 540-382-6120. The plans are also available on the Town's website on the MS4/Stormwater page, at http://www.christiansburg.org/DocumentCenter/View/9556/Nutritional-Management-Plans.

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

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

Responsible individual for implementation: Town Engineer

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

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

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

BMP 6.4 Annual Reporting Form		
Nutrient Management Plans		
Were nutrients used during the reporting year?	☒ Yes ☐ No	If no, no further reporting necessary for this BMP
Total acreage of lands where nutrient management plans are required:		10.4
Acreage of lands upon which nutrient management plans have been implemented:		0
Date of last NMP update:		July 1, 2017
Total percentage of land where nutrient management plans are required and being implemented =		0
Does the percentage meet the schedule described in the BMP? (yes/no)		☐ Yes ☒ No ☐ N/A (No application)
If no, explain and provide a schedule for achieving the require implementation requirement: Depot Park was under construction for all of 2017-2018 and no nutrients were applied. The NMP will be followed if nutrients are applied in 2018-2019. The necessity of nutrient applications to the Christiansburg Aquatic Center is being re-evaluated. Harkrader Sports Complex kept nutrient application records for July 1, 2017 – June 30, 2018 but the nutrient management plan will be followed for 18-19 permit year		

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

Measure of Effectiveness Form	
Was the NMP's fertilizer application record maintained and in adherence to the NMP? (yes/no)	☐ Yes (BMP effective) ☒ No (See below) ☐ N/A (No application)
If no, describe how the BMP can be modified to improve effectiveness. Provide rationalization for modification or if modification is deemed unnecessary: NMP and record keeping have been developed and training has occurred. NMP on properties where nutrients are applied will be initiated in the 18-19 permit year.	

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

Description: The Town's current contract language will be enhanced to incorporate references to sections within the Town's Good Housekeeping and Pollution Prevention Manual to require Town contractors to use appropriate control measures and procedures for stormwater discharges, when applicable. Oversight will be provided by the Town with inspections and generated reports on the measures of adherence to the contract documents; effectiveness of the measures to control illicit discharges; and the Contractor's maintenance of the measures. Contract language will require contractors to address items identified during inspections within a time period appropriate to prevent the potential of non-stormwater discharges. When needed, if the Contractor fails to take immediate action or remediate to the satisfaction of the Town, the Town shall remediate the pollution and receive a credit in the existing contract for the cost of remediation.

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

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

Responsible individual for implementation: Town Engineer

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

Implementation schedule: By July 1, 2017, the Town will have developed and begun execution of the enhanced contract language to require contractors to use appropriate control measures and procedures for stormwater discharges. The language will be incorporated into contracts the 2017-2018 reporting year.

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

BMP 6.5 Annual Reporting Form	
Contractor Safeguards	
Has contract language, as described above, been included in contracts with all contractors where the work performed could require appropriate control measures and procedures for stormwater discharges? This does not include regulated land disturbance activity addressed with BMPs 4.1, 4.2, and 4.3 (yes/no)	☐ Yes ☒ No
If no, explain: Contract language is in use for capital projects and extended or large scale work. A short version of the contract language has been developed for contracts such as landscaping, painting, plumbing, electrical, heating work, sidewalk or other small scale installation, routine maintenance, or repair work. This language was inserted into the Town's General Terms and Conditions on September 21, 2018, and will be used for all contracts during the 18-19 permit year. The Town's Good Housekeeping/Pollution Prevention manual in use by municipal employees is referenced as a guidance document. Recurring contracts, such as landscaping services, will have the language added at the next contract renewal.	
Were bi-weekly inspections performed to ensure oversight? (yes/no)	☐ Yes ☒ No ☐ N/A (no contracts)
If no, explain: The current contract with the new contract language has only been used for capital projects that also required land disturbance permits and thus oversight was done through the ESC and VSMP programs. The development of a full SWPPP with self-inspections and Town oversight inspections will be required for capital projects. Bi-weekly inspections will be employed for small scale installation or repair work. Routine maintenance such as landscaping will employ periodic review and inspection.	

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

Measure of Effectiveness Form	
Were any illicit discharges related to municipal contracted work (other than regulated land disturbance activity) reported or identified in the reporting forms for BMPs 3.2 and 3.3?	☐ Yes (See below) ☒ No (BMP effective)
If yes, describe how the BMP can be modified to improve effectiveness to specifically address the cause of the illicit discharge(s) or describe why modification is not necessary: N/A, no illicit discharges related to contracted work were reported in the permit year.	

3.2 Special Conditions for Approved TMDL BMPs

BMP SC.1 Crab Creek and Upper Roanoke River *E. Coli* TMDL Action Plan (Section I B)

Description: Christiansburg has been assigned a waste load allocation (WLA) for E. coli in the following TMDLs:

- Crab Creek Watershed TMDL approved on December 2, 2004
- Upper Roanoke River Watershed TMDL approved on June 27, 2007

Christiansburg will develop an action plan to address the WLA that includes:

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

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

Necessary documentation for implementation: (1) *E. coli* TMDL Action Plan; (2) Christiansburg Program Plan Updates, as necessary.

Responsible individual for implementation: Town Engineer

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

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

Method to determine effectiveness: Effectiveness will be determined by the implementation of programmatic BMPs.

BMP SC.1 Annual Reporting Form	
E. coli Action Plan	
Has the *E. Coli* Action Plan been developed?	☒ Yes ☐ No
If no, please explain and provide expected date of completion: _____	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years. The Town of Christiansburg Bacteria (*E. coli*) Action Plan is located in Appendix I.

Measure of Effectiveness Form	
Are programmatic BMPs implemented per the Action Plan?	☒ Yes ☐ No
Are the implemented programmatic BMPs effective?	☒ Yes ☐ No

BMP Summary:

- Legal authorities outlined in the plan remain in place
- MCM BMPs listed in the plan were implemented
- FOG program authority was moved to Wastewater Treatment Plant (WWTP) personnel
- Pet waste disposal was addressed as a water quality issue in the May/June Christiansburg Connection, as a Facebook post in the 17-18 permit year, and on both the original and re-isue of the Stormwater Survey. Effectiveness is discussed in the BMP 1.2, 2.2 Annual Reporting Form
- The Crab Creek Interceptor Study identified the Arrowhead Sewershed, College Street Sewershed, and the Bank Street Area as focus areas. The Arrowhead Basin is the basin identified as being the highest priority in the collection system in terms of normalized I&I based on diameter and length of pipe. Additionally, the College Street Rehabilitation and Replacement project, Phase I will go to bid this fall and will include pipe bursting and replacement to increase capacity and limit the number of SSOs in the lower part of the basin. This will increase capacity from the junction with the Crab Creek Interceptor to Hickok Street. This is the area from Crab Creek up to Hickok St. Phase II will go from Hickok upstream addressing other areas identified in the study. Addressing these issues will reduce SSOs. Additionally, the Arrowhead SSES (sanitary sewer evaluation survey) will be wrapping up this fall and has identified areas where inflow and infiltration may have been occurring which will be addressed in the future.
- The IDDE issue complaint link was non-effective and was removed at the May 2018 relaunch of the Town's website. MODIFICATION: Create a web form that is accessible off the "How Do I?" link at the top of the new Town homepage.

If BMPs were not effective, explain how the Action Plan can be modified to achieve the required reductions in the required time frames: N/A

BMP SC.2 Crab Creek and Upper Roanoke River Sediment TMDL Action Plan (Section I B)

Description: Christiansburg has been assigned a waste load allocation (WLA) for sediment in the following TMDLs:

- Crab Creek Watershed TMDL approved on December 2, 2004, includes a required reduction of 27.57 Tons of sediment for VAR040025 (Christiansburg) and VAR040016 (VDOT) combined. The published WLA of 27.57 Tons of sediment represents a 50% reduction in the calculated sediment loading.
- Upper Roanoke River Watershed TMDL approved on September 7, 2006, includes a required reduction of 159.3 Tons of sediment for VAR040025 (Christiansburg). The WLA of 69.90 tons of sediment represents a 69.5% reduction in the calculated sediment loading. This MS4 load includes an instream erosion component using an area weighted method (page E-5, 2006 TMDL Study), however, the instream sediment loading for each MS4 is not provided in the TMDL study.

Christiansburg will develop an action plan to address the WLA that includes:

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

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

Necessary documentation for implementation: (1) Sediment TMDL Action Plan; (2) Christiansburg Program Plan Updates, as necessary.

Responsible individual for implementation: Town Engineer

Objectives and expected results in meeting measurable goals: The objective is to achieve reductions required by the TMDs. The expected result is the development of a TMDL Action Plan.

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

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

BMP SC.2 Annual Reporting Form	
Sediment Action Plan	
Has the Christiansburg Sediment Action Plan been developed?	☒ Yes ☐ No
If no, please explain and provide expected date of completion: _____	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years. The Town of Christiansburg Sediment Action Plan is located in Appendix J.

Measure of Effectiveness Form	
Does load reduction quantification demonstrate the selected means and methods in the completed Action Plan can achieve the required reductions in the required time frames?	☒ Yes ☐ No
Are the implemented programmatic BMPs effective?	☒ Yes ☐ No

BMP Summary:

Sediment was addressed as a TMDL pollutant of concern in a Lawn Care and Stream Health Facebook post documented in BMP1.2 and 2.1

The sediment reductions reported below show that the street sweeping and stream restoration practices are effective. Stream restoration projects targeted to the Roanoke River watershed will be planned and scheduled as DEQ Stormwater Local Assistance Funding is made available and the Town Stormwater Capital Improvement Plan is developed.

The Christiansburg Industrial Park Stormwater Management Facility is an existing facility that serves portions of the Christiansburg Industrial Park. A consultant has been retained to evaluate options to reduce peak discharge and sediment runoff. At this stage, there are no runoff reduction calculations available. Additionally, we are preparing a SLAF application to get DEQ funds for construction in subsequent years. This pond drains to the Roanoke River.

Street sweeping continues to be done and logged on a regular basis. Street sweeping is increased in the winter when salt and grit are applied to the roads. The wet weight of sweepings are recorded on truck scales at the quarry and the Town WWTF laboratory calculates the dry weight percentages.

The Towne Branch Stream Restoration Project is nearing completion. The 1,995 linear feet restoration reduces an estimated 137 pounds of phosphorous load and 163 tons of sediment annually to Crab Creek. Currently, the Town is evaluating the efficacy of continuing the stream restoration upstream to North Franklin Street

The Blue Leaf Stream Restoration Project consists of 880 linear feet of restoration of an unnamed tributary to Crab Creek near Blue Leaf Drive. The calculated annual pollutant reductions for this project are 18.45 tons of sediment, 529.2 pounds of total nitrogen, and 63.2 pounds of total phosphorous. The Town has provisions for the long-term responsibility and maintenance of the

project site. The calculated sediment reductions will be credited annually. A five year recertification cycle is scheduled to recertify the pollutant load reductions.

The Diamond Hills Park Stream restoration is a 2,322 linear foot stream restoration on an unnamed tributary to Crab Creek. 822 tons per year of sediment reduction is calculated in the November 15, 2013 Christiansburg Stream restoration and Stormwater BMP Assessment Technical Memorandum.

The MCM standards provide in the Action Plan and the 10,000 square foot threshold for SWM regulation continue to be implemented.

The IDDE issue complaint link was non-effective and was removed at the May 2018 relaunch of the Town's website. MODIFICATION: Create a web form that is accessible off the "How Do I?" link at the top of the new Town homepage.

Regional MS4 program implementation of public education and outreach goals has been achieved through regional cooperation to organize 6th grade Stormwater Days events and staff a booth at the NRVHBA Home Expo. These events are documented in BMP 1.2 and 2.1

If BMPs were not effective, explain how the Action Plan can be modified to achieve the required reductions in the required time frames.

BMP SC.3 Roanoke (Staunton) River PCBs TMDL Action Plan (Section I B)
Description: Christiansburg has been assigned a waste load allocation (WLA) for PCBs in the Roanoke (Staunton) River Watershed TMDL approved on December 9, 2010. Christiansburg will develop an action plan to address the WLA that includes: • A list of legal authorities applicable to reducing PCB; • Identification and methods for maintaining a list of practices, methods, and controls implemented to reduce the PCB; • Description of means for incorporation of identified practices, methods, and controls into the public education and outreach and employee training programs; • Results of an assessment of facilities of concern for significant contribution of PCB; • Develop methodology for assessing effectiveness of the TMDL Action Plan using modeling tools (in-lieu of water quality monitoring), specifically the Excel spreadsheet based Watershed Treatment Model (WTM). Assessment will also incorporate methodology for evaluation of facilities identified to significantly contribute to the POC; • An annual reporting worksheet consistent with the TMDL Action Plan and the General Permit. Additional BMP(s) will be included in this Section of the Program Plan, as necessary, to include implementation of the Action Plan. **Necessary documentation for implementation:** (1) Roanoke (Staunton) River Watershed TMDL Action Plan; (2) Christiansburg Program Plan Updates, as necessary. **Responsible individual for implementation:** Town Engineer **Objectives and expected results in meeting measurable goals:** The objective is to achieve reductions required by the Roanoke (Staunton) River Watershed TMDL for PCB. The expected result is the development of a TMDL Action Plan. **Implementation schedule**: The Roanoke (Staunton) River Watershed Action Plan will be developed by July 1, 2016. The schedule developed in the Action Plan will be implemented thereafter. **Method to determine effectiveness:** Effectiveness will be determined by the implementation of programmatic BMPs.

BMP SC.3 Annual Reporting Form	
Roanoke (Staunton) River Watershed Action Plan	
Has the Christiansburg Roanoke (Staunton) River Watershed Action Plan been developed?	☒ Yes ☐ No
If no, please explain and provide expected date of completion: _____	

Necessary documents for implementation are not provided in the annual report, but will be retained on file for 3 years. The Town of Christiansburg PCB TMDL Action Plan is located in Appendix K.

Measure of Effectiveness Form	
Are programmatic BMPs implemented per the Action Plan?	☒ Yes ☐ No
Are the implemented programmatic BMPs effective?	☒ Yes ☐ No

BMP Summary:

The measurable goals of the Action Plan have been addressed as follows:

- The "Draft PCB Potential Strategies" document supplied to Town staff by DEQ was selected as the reference for social media and residential outreach strategies.
- Information on hazardous waste disposal in general was included in the annual potable water quality report. This document was made available online instead of mailed as a hard copy in the permit year. This represents a change from the plan to physically mail the report along with PCB information. The document continues to be available online and in 2017-18 was also promoted on the Town's Facebook page as well as in the Christiansburg Connection. See documentation in BMP 1.2 and 2.1
- The New River PCB TMDL Implementation Plan is under development and is currently in a public comment period. Employees Ryan Hendrix and Patricia Colatosti served on the TAC committee as a part of the indicated Roanoke River Action Plan goals. Upon completion of the Crab Creek TMDL the Town will develop a plan compatible with both TMDLs.
- The WWTP Discharger Survey short form was revised to include the following question- "Does the business operation include the potential for continued or inadvertent environmental release of Polychlorinated Biphenyls or PCBs (e.g. recycling, chlorinated solvents, paints, printing inks, agricultural chemicals, plastic materials, etc.)? ". SIC code information continues to be required, which may assist in identifying potential new PCB sources.
- Potential IDDE ordinance revisions to Chapter 16 were documented for discussion, as referenced from the city ordinance of Laredo, Texas, for Christiansburg Town Code Chapter 16, Article IV Sec. 16-109. "Prohibited discharges or connections to the storm sewer system. Polychlorinated biphenyls (PCB) elimination. It is the purpose of this section to reduce the possibility of contamination of stormwater by PCB's (polychlorinated biphenyls). No person shall discharge, introduce, cause or permit any PCB or any substance known or suspected of containing PCB's, or technical products classified as PCB's, or derivatives of PCB's into the MS4 and/or water bodies, or any location that is susceptible to stormwater runoff within the city limits. Implications: This subsection implies that no PCB's, substance containing PCB's, or substance suspected of containing PCBs shall be introduced into any water body and/or MS4. The public utility companies such as power, gas, telephone, shall notify the city's engineering department of any such spills, leaks, overflows from sources including, but not limited to, transformers and capacitors within six (6) hours of such upset."
- Potential PCB-free purchasing ordinance language was researched: No effective ordinance language was located.

- Any potential investigations into historical land uses that may have generated legacy PCBs will be researched through access to databases typically used in Phase 1 Environmental Assessments.
- Montgomery County Solid Waste Authority was contacted and the access to MRSWA website information and outreach events has been made a part of the MCM 1 and MCM 2 outreach, education, and participation.
- The Good Housekeeping SWPPP was updated to include reference to potential PCB sources.
- The June 2018 Town Staff IDDE/Good Housekeeping training included references to the Good Housekeeping SWPPP.
- An article on possible household PCB sources, the importance of proper disposal methods, and contact information for MRSWA hazardous waste disposal was published in the May/June 2018 Christiansburg Connection. This is documented in BMP 1.2 and 2.1.

If BMPs were not effective, explain how the Action Plan can be modified to achieve the required reductions in the required time frames: N/A, Measurable goals were achieved and MCMs 1 and 2 will be revised to best address PCB outreach and education.

Appendix A – BMP 1.2 and 2.2 Documentation of Public Participation and Outreach Activities

Downtown Tree Planting

Towne Branch Stream Restoration Leaflet available at site pre-construction

TOWNE BRANCH STREAM RESTORATION

Contractors will begin work in November 2017 on a stream restoration project for Towne Branch, a tributary of Crab Creek that flows through Depot Park. This project - which involves restoring approximately 1,995 linear feet of Towne Branch and approximately 210 linear feet of unnamed tributaries of Towne Branch - will improve water quality along the stream and reduce erosion.

CAN I STILL PLAY IN THE AREA?

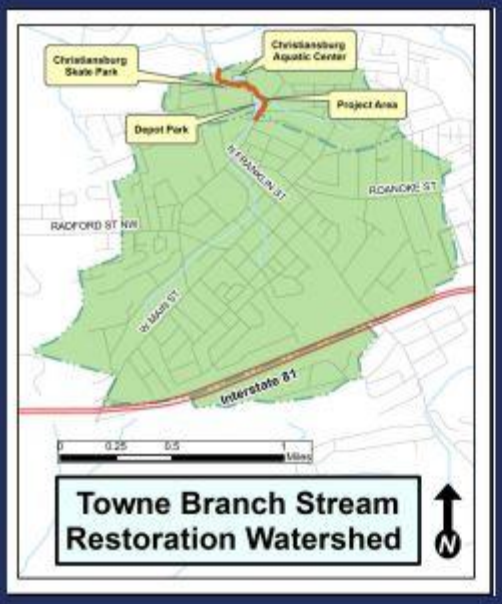
Construction will close Depot Park for a few months, with an anticipated reopening in Spring 2018. The neighboring Skate Park will also be temporarily closed at some point during construction. Signs will be posted when the parks are closed. The closures are necessary to ensure the safety of our residents while work is ongoing. After Depot Park reopens, you may occasionally see orange safety fences or barriers in some areas. For your safety, please respect these barriers and follow any posted instructions. If you're looking for other places to play during this time, don't forget about the other eight parks in town, including Downtown Park on College Street, Kiwanis Park off Roanoke Street and Circle Park on Ellett Drive. Head inside during the colder months and walk on the track at the Christiansburg Recreation Center or take a dip at the Christiansburg Aquatic Center.

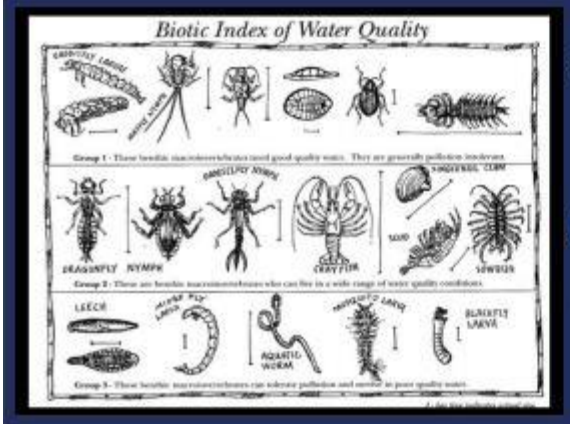
QUESTIONS? JOIN US FOR A PUBLIC INFORMATION SESSION AT DEPOT PARK ON OCT. 31 AT 1:30 P.M.

More on back.

PROJECT DETAILS

This stream restoration work will create a properly-sized channel cross section with streambed material and will install stone and log control structures within the stream channel to provide a stable environment. Native trees, shrubs, herbaceous grasses and wildflowers will be planted streamside and in buffer areas to provide stability, slow down out-of-bank flows, filter out pollution and provide native plant biodiversity to the stream corridor.





WHY DOES THIS MATTER?

Christiansburg's Municipal Separate Storm Sewer (MS4) Permit requires that we address impairments to our stream environment. The Crab Creek watershed has been evaluated, and the number and types of aquatic creatures that live there do not meet the number and quality that a healthy stream environment would support. This stream restoration should create an environment where Benthic Macroinvertebrates can thrive.

BENTHIC WHAT?

This term describes insects and small animals that are large enough to see with the naked eye (macro) and have no backbone (invertebrate). This includes animals and insects that live above and among the streambed stones, logs, aquatic plants and sediments. The Crab Creek impairment assessment, called a Total Maximum Daily Load (TMDL) study, identifies sediment as the primary stressor that reduces the number and diversity of the benthic macroinvertebrates in the Crab Creek watershed. In addition to creating a healthy streambed environment, this stream restoration will provide a quantifiable reduction of the sediment load to our streams, addressing regulatory requirements for reductions.

HOW IS THIS FUNDED?

This project is supported by the Virginia Department of Environmental Quality (DEQ) Stormwater Local Assistance Fund (SLAF) and the Town of Christiansburg.

SIGN IN SHEET

Christiansburg Downtown Watershed Study
Community Meeting on October 26, 2017

Name	E-Mail	Phone Number	Check for Updates?
Bryant Phillips	bryant@bglk.net	434-363-5486	N
HAROLD SHELTON			
G Reg Duncan	gduncan134@AOL.com	5403810438	
Susan Trulove (for Crab Creek)	mail@thegablesatcrabcreek.com	540-818-9679	
Justin Sanders Downtown Christiansburg Inc	jsanders@downtownchristiansburg.org	276-608-1640	y
Yvonne Alderman	hyvonne alderman	540-250-8921	y
Michael + Connie Jones	MJONES502745@yahoo.com	818-1386	Yes
Scott Woodrum	scott.woodrum@gmail.com	540-641-3688	y
JOHN BURKE	john.burke@vt.edu		✓
Phillis Shelif		382-0401	

SIGN IN SHEET

Christiansburg Downtown Watershed Study
Community Meeting on October 26, 2017

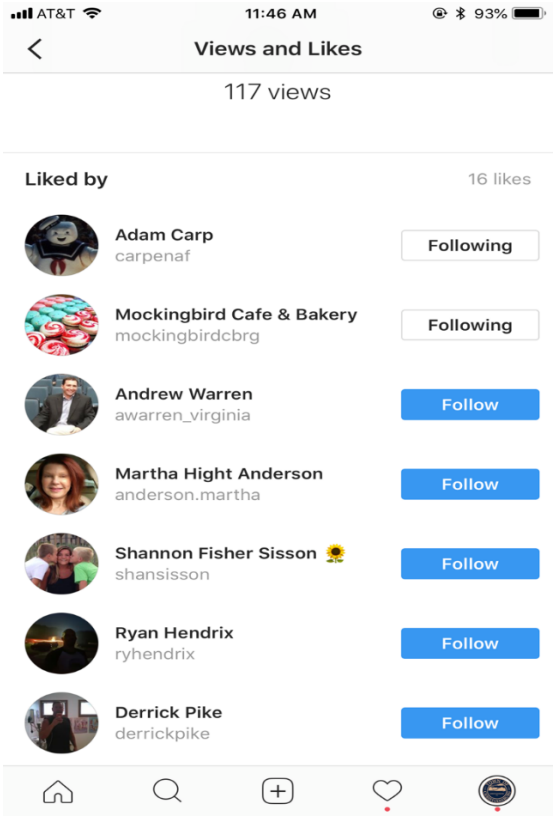
Name	E-Mail	Phone Number	Check for Updates?
Daniel maderic	danielmaderic@gmail.com	382-2018	

Town of Christiansburg @CburgVA_Gov
Check out our annual drinking water quality report here: https://bit.ly/2HoOmIT
(Spoiler: our drinking water is safe and meets all state and federal requirements.)
pic.twitter.com/UKTzgzmXMH

Promote your Tweet
Your Tweet has 1,536 total impressions so far.
Get more impressions on this Tweet!
Promote your Tweet

Impressions	1,536
Total engagements	20
Media engagements	9
Link clicks	6
Likes	2
Retweets	1
Detail expands	1
Profile clicks	1


AT&T
11:46 AM
93%
Video
cburgva_gov
Depot Park
117 views · Liked by mockingbirdcbrg and carpenaf
cburgva_gov The Town and its Engineering Department #ValueWater by working hard to protect our creeks and streams - improving water quality and preserving aquatic life.
SEPTEMBER 15, 2016


AT&T
11:46 AM
93%
Views and Likes
117 views
Liked by
16 likes
Adam Carp
carpenaf
Following
Mockingbird Cafe & Bakery
mockingbirdcbrg
Following
Andrew Warren
awarren_virginia
Follow
Martha Hight Anderson
anderson.martha
Follow
Shannon Fisher Sisson
shansisson
Follow
Ryan Hendrix
ryhendrix
Follow
Derrick Pike
derrickpike
Follow

Town of Christiansburg, VA
Published by Ana Miller [?]
Page Liked · June 28 ·

Summer days means more time to spend outside with your pets, but please to remember to pick up after them!

Bacterial tracking studies in Virginia have shown that pet waste is a significant source of excess fecal coliform bacteria in urban/suburban streams. Bacterial levels increase dramatically during storm events, indicating that stormwater washes pet waste off grass and pavement. Christiansburg's streams are classified as impaired for fecal coliform bacteria, which means that the levels are significantly above the levels of bacteria found in streams in heavily forested areas. Picking up after your pet will help reduce these bacterial levels. Please place bagged pet waste in the trash.

Tag Photo | Add Location | Edit

4,165 people reached **Boost Post**

56 10 Comments 26 Shares

Like Comment Share

Oldest

Town of Christiansburg, VA
Published by Ana Miller [?] · June 27 ·

Want to learn a trick that will keep your garden healthier without creating more work for you? Cover exposed soil, either by planting vegetation or spreading water-permeable mulch!

A thick, continuous lawn helps soil retain water and prevents soil erosion. Likewise, water-permeable mulch helps hold water in the soil, prevents rain from eroding soil and suppresses weed seeds from germinating. Planting vegetation and spreading mulch has the additional benefit of reducing the amount of sediment that is washed into our streams, which keeps our waterways clearer and local ecosystems healthier.

Interested in learning more? The links below from Virginia Cooperative Extension will help get you started!

- https://ext.vt.edu/.../turfandgard.../tips/Springtime_mulch.html
- https://pubs.ext.vt.edu/.../pubs_.../430/430-019/430-019_pdf.pdf
- https://pubs.ext.vt.edu/.../pubs_.../426/426-326/426-326_pdf.pdf

EXT.VT.EDU
Springtime Mulching
Mulching is a practice that trees have been doing all by themselves for...

1,408 people reached

Boost Post

Devon Eckstein, Bonnie Dulaney and 7 others

Town of Christiansburg, VA
Published by Ana Miller · June 6 ·

The results are in, and we're happy to say that our drinking water is safe and meets all state and federal requirements! Read our annual drinking water quality report below to learn more.

CHRISTIANSBURG.ORG
www.christiansburg.org

2,563 people reached **Boost Post**

Shana Clarke Wolfe, Penny Hagee and 68 others 3 Comments 5 Shares

Like Comment Share

Town of Christiansburg, VA
Published by Ana Miller · May 9 ·

We are hosting a community meeting tomorrow from 4-7 p.m. in Council Chambers at Town Hall, 100 E. Main St., to discuss findings from a downtown watershed study. In addition to going over the study's findings, we will talk about proposed solutions to flooding and drainage issues in the Towne Branch Watershed.

For more information about the meeting, please visit www.christiansburg.org/watershed.

CHRISTIANSBURG.ORG
Christiansburg, VA - Official Website - Downtown Watershed Study
+myConnections: Engage your community - connect to news, events and information you care about. View more information...

1,231 people reached **Boost Post**

Henry Showalter, Mathew Clemons and Mona Lindsey 1 Comment 1 Share

Town of Christiansburg, VA
Published by Ana Miller [?] · April 17 ·

Thank you to everyone who came out for our annual Diamond Hills Stream Cleanup this past Saturday! Together, participants collected 12 large bags of trash, including a snowboard and a bowling pin. We are proud of how healthy this area looks three years after the Diamond Hills Stream Restoration project was completed, and picking up trash helps keep this "green space" green!

2,093 people reached

Boost Post

Justin St. Clair, Karen Laiacona and 37 others

2 Comments 1 Share

Town of Christiansburg, VA
Published by Ana Miller [?] · April 13 ·

We had a great time participating in Stormwater Day yesterday with sixth graders from Christiansburg Middle School! Students learned about stream ecosystems, soil percolation, protecting groundwater from pollution and more.

Stormwater Day is one of the public education initiatives we hold as part of our MS4 (Municipal Separate Storm Sewer System) permit. Another public outreach event, the annual Diamond Hills Stream Cleanup, will be held tomorrow!

In addition to Montgomery County, VA and Montgomery County Public Schools in Virginia who helped organize the event, thank you to everyone from Virginia Department of Conservation and Recreation, Virginia Department of Environmental Quality, Virginia Tech, Town of Blacksburg Government, Radford University, Skyline Soil and Water Conservation District and New River Geographics, LLC who helped run an activity station yesterday!

2,152 people reached **Boost Post**

Mathew Clemons, Mona Lindsey and 35 others 2 Comments

Town of Christiansburg, VA added an event.
February 21 ·

EVENT RESCHEDULED FOR APRIL 14

Join us for the second annual cleanup of the Diamond Hills Conservation Area from 10 a.m. to noon on Saturday, April 14! The Town is partnering with ReNew the New and the New River Valley Regional Commission for this event.

Participants will meet at the end of Scattergood Drive NW. Please carpool if possible, as parking is limited. Please follow signage to the parking area. Trash will be collected along Crab Creek and then along the Diamond Hills Conservation Area stream.

Bags and water will be provided. Gloves will also be available, but participants are encouraged to bring their own. Don't forget to dress comfortably!

We're hoping for a warm, sunny spring day, but a rain date has been tentatively scheduled for April 14. See you out there!

SAT, APR 14

Diamond Hills Stream Cleanup

Town of Christiansburg, VA · Christiansburg

You like Town of Christiansburg, VA

★ Interested

2,066 people reached by this event

Boost Unavailable

Sarah Thacker, Jennifer Sowers and 4 others

Town of Christiansburg, VA
Published by Mel Demm [?] · October 25, 2017 ·

Thanks to a grant from the Virginia Department of Conservation and Recreation, we're kicking off a downtown watershed study to evaluate drainage and flooding problems along Towne Branch and to develop a list of planned drainage improvements.

We want to hear from you! If you've experienced flooding issues at your home or business, join us Thursday, Oct. 26, from 6-8 p.m. at Town Hall. Even if you live outside of the downtown area, your feedback could be extremely helpful as we prioritize drainage projects moving forward.

Check out this piece by Erin Brookshier WSLS 10 News to learn more or visit www.christiansburg.org/watershed!

About this article

WSLS.COM

Study focuses on reducing flooding in Christiansburg

The town of Christiansburg is working to address issues with flooding in th...

6,031 people reached

Boost Post

Leah Wolford, Debbie Breon and 22 others

2 Comments 8 Shares

Town of Christiansburg, VA added an event.
October 23, 2017 ·

Contractors will begin work in November 2017 on a stream restoration project for Towne Branch, a tributary of Crab Creek that flows through Depot Park. This project – which involves restoring approximately 1,995 linear feet of Towne Branch and approximately 210 linear feet of unnamed tributaries of Towne Branch – will improve water quality along the stream and reduce erosion.

Construction will close Depot Park for a few months, with an anticipated reopening in Spring 2018. The neighboring Skate Park will also be temporarily closed at some point during construction. Signs will be posted when the parks are closed. The closures are necessary to ensure the safety of our residents while work is ongoing.

Come on out to Depot Park on Oct. 31 to meet Town engineering staff and learn more about the project, why it's necessary, what it will impact and how it'll affect Depot Park.

More information: www.christiansburg.org/branch

TUE, OCT 31, 2017

Towne Branch Stream Restoration: Community Meeting

★ Interested

You like Town of Christiansburg, VA

1,988 people reached by this event

Boost Unavailable

D Michael Barber, Phil Lawalin and 27 others

Town of Christiansburg, VA shared an event.
Published by Ana Miller [?] · July 24, 2017 ·

Mark your calendars! Renew the New is hosting a cleanup of the New River on August 26. You can choose to help out at one of four locations, including Montgomery County. The New River is where Christiansburg's drinking water is sourced from, so we've got a pretty good reason to help keep it clean!

SAT, AUG 26, 2017

ReNew the New - Fall 2017

Giles County, Virginia · Pearisburg

Causes · 133 people

★ Interested

1,093 people reached

Boost Unavailable

Renew the New, Jessica Davis and 10 others

Like Comment

Patricia Colatosti

From: Patricia Colatosti
Sent: Monday, December 18, 2017 4:46 PM
To: Dail, Mary (DEQ); 'mansij@montgomerycountyva.gov'; araflo@vt.edu; Katelyn Kast (katelyn5@vt.edu); Lauren Keim (lgrimes@exchange.vt.edu); 'Dan Swafford'; 'jason@newrivergeographics.com'; 'drdodd@vt.edu'; Serena Emanuel; Vinod K. Lohani; Kafi Howard (khoward@blacksburg.gov); 'nina95@vt.edu'; 'chession@vt.edu'; Jennifer L. Hawthorne
Cc: Patricia Gaudreau (pgaudreau@mcps.org); Scott Woodrum (woodrumsa@montgomerycountyva.gov); John W. Burke
Subject: MCPS Nov 3rd Stormwater Day wrap up
Attachments: NewsMessengerArticle20171115.pdf

Thank you all for a great day. The students and teachers appreciated it. And we were able to troubleshoot and reorganize during lunch to make the afternoon run more smoothly.

Here are the numbers of students and adults at the event. Everyone except those running the drone station spoke to half of the total attendees.
Sixth grade students: 295 (total)
Teachers/chaperones: 12 in the morning and 12 in the afternoon
Station presenters: 24

I attached the article that ran in the News Messenger. It is the same one John Burke sent to most of you earlier, I'm just making sure everyone received it.

Additionally, here are the results from the pre/post evaluation the students completed at school. The comparison isn't perfect, since we had 287 students take the pre evaluation and only 170 took the post evaluation. The questions the students typed in are very interesting, as well as the responses to "what did you learn?"

Pre evaluation link (you don't need a Google account to see any of these, but the form is live.)
https://goo.gl/forms/ZangRjFPxDnAM3Hs1

Pre evaluation results
https://docs.google.com/forms/d/1ThTf63Wqotjxbs6UJgtzUdmdEZwMeY0CEP8ItMwOsBc/viewanalytics

Post evaluation link
https://goo.gl/forms/AEiRK7tMDjtHWYo53

Post evaluation results
https://docs.google.com/forms/d/1luqVFbqNYmJJzTOL_wP0H_1qyBSkk_5b4Sc6V6nkqIk/viewanalytics

Please let me know of any suggestions you may have. We want the event to be worthwhile for all.

We will be having TWO stormwater days in April for the three remaining middle schools. Christiansburg Middle School will be an all day, two session event just like the one for Blacksburg Middle. The second day will have all of Shawsville Middle on site in the morning and all of Auburn Middle in the afternoon. Any amount of time you can help is welcome!

Patricia

Patricia Colatosti
Environmental Program Coordinator
Engineering Department
Town of Christiansburg
100 E. Main St.
Christiansburg, VA 24073
(540) 382-6120 x 1157

The Christiansburg Connection

Newsletter for the Town of Christiansburg

July/August 2018

Community Corner

Coming soon: roam NRV Bike Share

A new public transportation option is coming to town! The roam New River Valley Bike Share program will soon have two bike racks in Christiansburg: one at the Christiansburg Recreation Center and the other at the NRV Mall near New River Community College.

roam NRV is a collaborative effort between the town, Montgomery County, the Town of Blacksburg and Virginia Tech. There will be two stations in Blacksburg and eight on Virginia Tech's campus. Users of the system will need to create an account once the system is live and can use a mobile app to see if there are available bicycles and to reserve one before getting to the bike rack.

There will be a range of pricing options depending on how long and often an individual plans to use a bike. Single trips will cost $1 for every 15 minutes, but there are also options to check out a bicycle for a full day, or purchase a monthly or annual membership.

Stay tuned for more information on the roam NRV Bike Share program, which will be arriving in town in the coming months. To learn more in the meantime, visit www.gotchabike.com/roamnrv.

Follow us!

In The Know

Between our new curbside recycling service, the upcoming launch of a regional bike share program and classic summer events like our Fourth of July Celebration, there's a lot to keep up with these days!

Our curbside recycling service begins the first week of July. If your garbage and recycling would normally be collected on Wednesday, July 4, don't forget to set both bins out on Tuesday, July 3, because we will be operating on a modified collection schedule for the holiday.

Read about roam NRV, a new bike share program coming to Christiansburg, in the article to the left. The fiscal year 2018-2019 officially begins on July 1. Learn more about this year's budget below or by visiting www.christiansburg.org/budget.

As always, check our events list on the back to see what's happening around Town during the next couple months!

Town Council approves FY 2018-19 budget

Town Council passed the budget for fiscal year 2018-2019 on June 12.

Water and sewer rates increased (effective July 1) to help fund upgrades to the water and wastewater treatment facilities. The monthly water rate for 1,000 gallons will increase from $6 to $7. For every additional 1,000 gallons up to 50,000 gallons, the rate will increase from $8 to $9. The rate will increase from $6 to $6.75 for every additional 1,000 gallons over 50,000 within corporate limits.

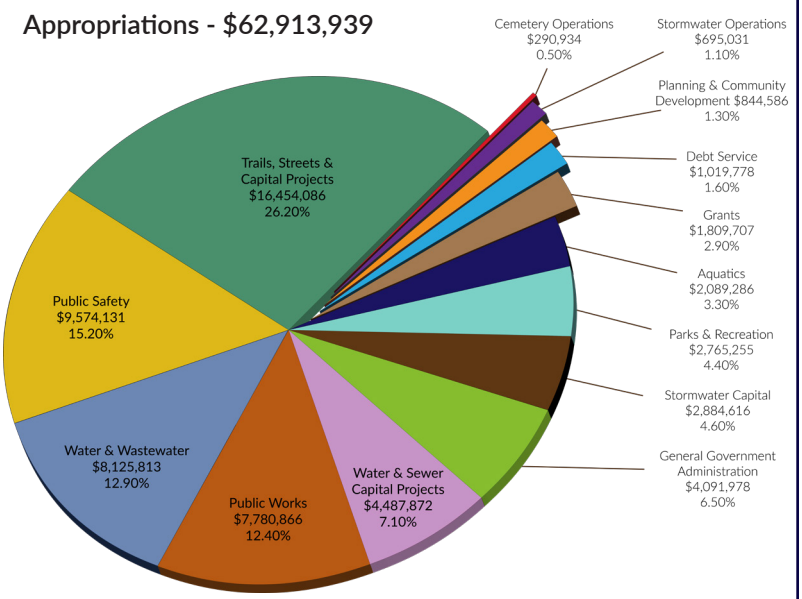
The monthly sewer rate for 1,000 gallons will increase from $9 to $10. The rate for every additional 1,000 gallons will remain unchanged within corporate limits at $10.25 per 1,000 gallons.

Real estate and personal property tax rates will remain unchanged.

Three new positions were added: one Rescue supervisor position was created, and two 32-hour Rescue employees were moved to full-time.

You can find a copy of the budget in its entirety and more information at: www.christiansburg.org/budget.

Appropriations - $62,913,939



Have a question? Let us know!
540-382-6128 ext. 1150
info@christiansburg.org
www.christiansburg.org

Events Calendar

Christiansburg Farmers' Market
Every Thursday through Oct., 3-7 p.m.
Hickok Street NW

Fourth of July Celebration
July 4, 10 a.m. - 4 p.m.; downtown Main Street
Fireworks show begins at 9:15 p.m., view from the NRV Mall or Walmart parking lot

Movies in the Park: "The Sandlot"
July 27, movie begins at sundown
Downtown Park

SW VA 811 8-Mile Race & 5k Run/Walk
Aug. 11, race begins at 6:30 a.m.
Christiansburg Recreation Center

Movies in the Park: "The Greatest Showman"
Aug. 24, movie begins at sundown
Downtown Park

Stillborn Speak 5k Run/Walk
Aug. 25, race begins at 8:30 a.m.
Christiansburg Recreation Center

Heritage Day
Aug. 25, 10 a.m. - 3 p.m.
Montgomery Museum

To find out more information on events and programs, visit www.christiansburg.org/events or our Facebook page.

Upcoming Meetings

Town Council Meetings

Held at Town Hall, 100 East Main St.
- Tuesday, July 10, 7 p.m.
- Tuesday, July 24, 7 p.m.
- Tuesday, August 14, 7 p.m.
- Tuesday, August 28, 7 p.m.

Never miss a meeting! Sign up for notifications at www.christiansburg.org/notifyme

Closures

Independence Day, July 4
- The Aquatic Center will be closed.
- Town Hall will be closed.
- The Recreation Center will be closed.
- Garbage and recycling normally collected on Wednesdays will be collected on Tuesday, July 3, with Tuesday's regular collection.

Aquatic Center Information

July 13-15, Summer Awards Meet
July 20-21, RVAA City County Meet
July 26-29, Age Group Champs Meet
Aug. 13-24, CAC closed for annual maintenance

Stream restoration improving habitat for native wildlife

If you've been to Depot Park recently, you've probably noticed some changes. These changes are part of the Towne Branch stream restoration project, which will prevent approximately 160 tons of sediment from moving downstream every year. This puts Christiansburg closer to achieving a required reduction in the amount of sediment entering our waterways.

One of the benefits of reducing sediment is a better habitat for native aquatic animals and plants. As part of the project, 700 native trees were planted both behind the split rail fence and downstream of the Skate Park. Additionally, 4,700 native shrubs were planted along the stream's bank to control erosion. These areas were also seeded with native plants.

Planting young trees, shrubs and seeds requires a change in mowing practices. The tall grass you can find along the stream today is a "nurse crop." It sprouts and grows very quickly and helps protect the native plant seeds. Some

of the native plant seeds will germinate this summer as the nurse crop dies. Others will take up to a year to sprout. Mowing the nurse crop would damage the young native plants, trees and shrubs. The goal is to create a well-shaded stream with stable banks and a diverse aquatic animal community. With time and proper care, this area will transform into a native meadow and then a streamside forest.

Community Snapshot

Girl Scouts from Troop 51 plant huckleberries along the Huckleberry Trail in June as part of a service project.

Stormwater Survey

As part of the Town's MS4 (Municipal Separate Storm Sewer System) permit, we are gauging the public's perception of stormwater issues and our storm sewer system. If you would like to participate, please visit https://bit.ly/2Ihr1A1 by July 31 to take the survey. You may also complete the survey in person at the Christiansburg Aquatic Center, the Christiansburg Recreation Center or Town Hall before the end of July.

The survey does not require any identifying information and is only 11 questions long.

Frequently Asked...

Q: How can I pay my utility bills?

A: You may pay online at https://utilitybilling.christiansburg.org or in person at Town Hall, 100 E. Main St. in Christiansburg. You can also set up payments to be automatically withdrawn from your checking or savings account through the Direct Payment Plan. Visit Town Hall to set up direct payment. Visa, Mastercard and Discover debit/credit cards are accepted for payment, along with cash, checks and money orders.

Q: How can I monitor my water usage?

A: Sign up for an account at www.christiansburg.org/monitorwater. The online tool will allow you to monitor your usage and receive alerts if a leak is detected.

Have a question? Let us know!
540-382-6128 ext. 1150
info@christiansburg.org
www.christiansburg.org

The Christiansburg Connection

Newsletter for the Town of Christiansburg

November/December 2017

Mayor's Corner

Dear residents,

With the holiday season upon us, I'm reminded of all that we have to be thankful for in Christiansburg. From our dedicated Town staff, to our quality facilities, to our wonderful residents, I feel blessed to be a part of this community.

It's been a joy to watch all of the positive changes that have taken place in Christiansburg over the past year. A number of capital projects were completed, all of which will better connect our town and improve the safety of our residents. An arts council was formed to look into how the Town of Christiansburg can support local artists. I am also proud of the neighborly spirit we demonstrated when our community united to collect donations for those affected by Hurricane Irma and Maria. And, as always, I'm grateful for our first responders–who continue to go above and beyond the call of duty to keep us all safe–and Town staff, who are always working behind-the-scenes to ensure that Christiansburg is the place to be.

There is already a lot planned for 2018, but until then, it's time for friends, family and festivities.

I wish you and your loved ones a safe and happy holiday season.

Sincerely,

D Michael Barber

Mayor Mike Barber

Follow us!

In The Know

We know we're not the only ones busy gearing up for the holidays, but don't forget to take a break to enjoy some events around town. The Christiansburg Recreation Center is celebrating 20 years since its grand opening on Nov. 7 from 3-7 p.m., and you are invited to the party! There will be free recreation activities, free commemorative T-shirts (while supplies last) and free cake. Food trucks will also be on-site (food must be purchased). The annual Veterans Day Parade will be held at 10:30 a.m. on Nov. 10 starting on E. Main Street. This year's Christmas Parade will be held on Dec. 8 beginning at 7 p.m. on E. Main Street. The theme is "All I Want for Christmas," and parade registration forms may be found at the Christiansburg Recreation Center. Registration forms must be returned by 5 p.m. on Nov. 17. Don't forget to stop by Christmas at the Market during the parade for snacks, artisan crafts and more! The Aquatic Center will be ringing in the New Year early on Dec. 30 with its New Year's Eve Splash event from 5:30-9:30 p.m. And, don't forget that leaf pickup is scheduled for Nov. 6 - Dec. 29, weather permitting. Happy holidays to all of our residents!

Restored streams provide benefits to local ecosystem

The Town of Christiansburg has recently restored two streams in the Diamond Hills Conservation Area and near Blue Leaf Drive.

A portion of the restored stream near Blue Leaf Drive.

The restoration was carried out as part of a requirement set by Christiansburg's Municipal Separate Storm Sewer System permit. The permit requires that the Town reduce the amount of sediment entering creeks, in part because sediment smothers aquatic macroinvertebrates, like dragonfly larvae, which are an important part of the food chain.

The restoration involved shaping the streams. For example, curves and stepped pools (as seen in the photo) are designed to slow water down. Slower water reduces streambank erosion, and thus reduces sediment.

The Diamond Hills Conservation Area off of Independence Boulevard has more than 2,000 linear feet of restored stream and associated wetlands that will keep 822 tons of sediment per year from entering Crab Creek. The Blue Leaf Project near Blue Leaf Drive restored 880 linear feet of stream and will reduce sediment by 18.45 tons per year.

Restoring and re-vegetating eroded streams is a proven way to reduce sediment and other pollutants. As an added bonus, the restored buffer area around the streams provides a natural habitat for native animals, and a beautiful landscape for residents to enjoy.

Towne Branch is the Town's next stream restoration project. More information can be found at Depot Park or online at http://www.christiansburg.org/branch.

Have a question? Let us know!
540-382-6128 ext. 1150
info@christiansburg.org
www.christiansburg.org

Events Calendar

"20 Years of Recreation" Celebration
Nov. 7, 3-7 p.m.
Christiansburg Recreation Center

Veterans Day Parade
Nov. 10, 10:30 a.m.
Main Street

Lion's Club Craft Fair
Dec. 2, 9 a.m. - 4 p.m.
Christiansburg Recreation Center

Christmas Parade & Christmas Market
Dec. 8, parade starts at 7 p.m.
Main Street

New Year's Eve Splash
Dec. 30, 5:30 - 9:30 p.m.
Christiansburg Aquatic Center

To find out more information on events and programs, visit www.christiansburg.org/events or our Facebook page.

Holiday Closures & Garbage Schedule

- **Veterans Day**
  - Town Hall will be closed on Nov. 10, and will reopen at 8 a.m. on Nov. 13.
- **Thanksgiving Holiday**
  - Town Hall will be closed Nov. 22-24 and will reopen at 8 a.m. on Nov. 27.
  - The Recreation Center will be open during regular hours (5:30 a.m. - 10 p.m.) on Nov. 22, and will be closed Nov. 23 and 24. The administrative office will be closed from Nov. 22-24.
- **Christmas Holiday**
  - Town Hall will close at noon on Dec. 22, and will remain closed until 8 a.m. on Dec. 27.
  - The Recreation Center will be open during regular hours (5:30 a.m. - 8 p.m.) on Dec. 22 and from 8 a.m. - 5 p.m. on Dec. 23. The Recreation Center will be closed Dec. 24-26. The administrative office will close at noon on Dec. 22 and will remain closed until 8 a.m. Dec. 27.
- **New Year's Holiday**
  - Town Hall will be closed Jan. 1-2 and will reopen at 8 a.m. on Jan. 3.
  - The Recreation Center will be open from 1-7 p.m. on Dec. 31 and from 8 a.m. - 5 p.m. on Jan. 2. The Recreation Center will be closed Jan. 1. The administrative office will be closed Dec. 31 - Jan. 2.
- **Garbage Collection Holiday Schedule**
  - Nov. 10 trash will be picked up on Nov. 13
  - Nov. 22 trash will be picked up on Nov. 21
  - Nov. 23 trash will be picked up on Nov. 27
  - Nov. 24 trash will be picked up on Nov. 28
  - Dec. 25 trash will be picked up on Dec. 27
  - Dec. 26 trash will be picked up on Dec. 28
  - Jan. 1, 2018 trash will be picked up on Jan. 2

Aquatic Center Information

Meets (Aquatic Center will be closed to public)

- **H2Okie November meet**: Nov. 3-5
- **South West Virginia High School Invite**: Dec. 2
- **H2Okie December meet**: Dec. 7-10

Holiday Schedule

Veterans Day - Nov. 10: open 8 a.m. to 5 p.m.
Thanksgiving Holiday - Nov. 22: open 8 a.m. to 5 p.m.; Nov. 23: closed; Nov. 24: open 8 a.m. to 5 p.m.
Christmas Holiday - Dec. 22: open 8 a.m. to 5 p.m.; Dec. 23: open 11 a.m. to 5 p.m.; Dec. 24: closed; Dec. 25: closed; Dec. 26: open 8 a.m. to 5 p.m.
New Year's Holiday - Dec. 31: closed; Jan. 1, 2018: closed, Jan. 2: open 8 a.m. to 5 p.m.

Black Friday Special

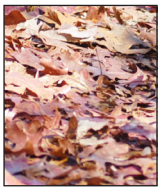
During the week of Thanksgiving (Nov. 20-24), the Aquatic Center will be offering a special deal on passes and memberships.

If you buy one 12-visit pass, you will get 12 visits free. If you buy one six-month membership, you will get six months free. You may purchase a 12-visit pass or six-month membership for yourself and give the other 12 visits or six-month membership to someone else.

For more information, call 540-381-7665 or visit the Aquatic Center at 595 North Franklin St.

Community Snapshot

Old Town Mall business owners commissioned these statues and recently installed them outside the mall on W. Main Street. Stop by any time to snap a selfie with these fun, new additions to downtown Christiansburg!



LEAF COLLECTION

Leaf collection will run from Nov. 6 - Dec. 29, weather permitting. Please remember to avoid blocking drainage ditches, sidewalks, sanitary sewers and utility meter boxes. Please do not pile leaves around trash carts.

Frequently Asked...

Q: Does the Town pick up Christmas trees?

A: Yes! Christmas tree pickup will begin on January 2, 2018 and will run until Jan. 17. Please leave your tree at the curb for pickup. Please note that pickup will not occur on Jan. 12 or Jan. 15.

Q: How can I pay my utility bills?

A: You may pay online at https://utilitybilling.christiansburg.org or in person at Town Hall, 100 E. Main St. in Christiansburg. You can also set up payments to be automatically withdrawn from your checking or savings account through the Direct Payment Plan. Visit Town Hall to set up direct payment. Visa, Mastercard and Discover debit/credit cards are accepted for payment, along with cash, checks and money orders.

Q: How can I monitor my water usage?

A: Sign up for an account at www.christiansburg.org/monitorwater. The online tool will allow you to monitor your usage and receive alerts if a leak is detected.

Upcoming Meetings

Town Council Meetings

Held at Town Hall, 100 East Main St.

- Tuesday, November 14, 7 p.m.
- Tuesday, November 28, 7 p.m.
- Tuesday, December 12, 7 p.m.
- TBA (due to holiday schedule)

Never miss a meeting!
Sign up for notifications at www.christiansburg.org/notifyme.

Calls from Santa

Santa will be making personal calls to children 8 years and younger on Dec. 5. Let Santa know to call your child by filling out a form at the Christiansburg Recreation Center by 5:30 p.m. Dec. 4.

Have a question? Let us know!
540-382-6128 ext. 1150
info@christiansburg.org
www.christiansburg.org

The Christiansburg Connection

Newsletter for the Town of Christiansburg

March/April 2018

Community Corner

Christiansburg Rescue Operations Captain selected for German exchange program

Quinci Donahue, an operations captain at Christiansburg Rescue, will be spending about three weeks of the upcoming summer in Germany as part of an emergency medical services (EMS) exchange program.

During the program, Quinci will be staying in Kassel, about two hours north of Frankfurt. While there, she will work alongside German EMS providers, tour facilities and visit historic sites. Quinci is the third local rescue member to participate in the exchange program, which was first started in 1995 and is organized by the Virginia Association of Volunteer Rescue Squads (VAVRS). The VAVRS typically selects four people to send to Germany each year, and VAVRS agencies host German EMS providers in exchange.

Rescue Chief Joe Coyle said the exchange program exposes EMS providers in Virginia to a different culture and alternative models of EMS delivery. "We hope our providers will come away with innovative ideas on service delivery and patient care techniques."

"Quinci's professionalism and outgoing personality make her an excellent ambassador for our agency, the VAVRS and EMS providers in Virginia," Chief Coyle said.

Quinci has been a member of Christiansburg Rescue for nearly five years and is also a registered nurse.

Follow us!

In The Know

Spring has sprung, and it's bringing warmer weather and seasonal events our way. If your house is in need of a deep clean, make sure you take advantage of Spring Cleanup, which will run from April 14-27 (see reverse for more information). We'll also be hosting the second annual Diamond Hills Stream Cleanup on March 24 from 10 a.m. - noon (see reverse for more information).

Check out the annual NRV Home Expo at the Christiansburg Recreation Center March 9-11. Catch the Easter Bunny at Kiwanis Park on March 31 at 10 a.m. for the Great Christiansburg Easter Egg Hunt. Photos with the Easter Bunny will be $1. The Christiansburg Recreation Center is also hosting a shred-a-thon on April 17 from 3-6 p.m.

The Aquatic Center is hosting Tackle the Tower–an opportunity for guests to try out the diving boards and 5-meter diving platform–on March 4 and April 22, from 2-4 p.m. Scuba enthusiasts are encouraged to attend Open Scuba, which will be held from 4-6 p.m. on March 4 and April 22. You must bring your own scuba gear.

And don't forget to stop by Downtown Christiansburg Inc.'s second annual Wine & Artisan event on Hickok Street between 5 and 9 p.m. on Friday, April 27!

Keeping PCBs out of our waterways

Fishing, kayaking and swimming are all easily accessible activities for Christiansburg residents thanks to the town's proximity to the New River. Unfortunately, you may want to limit how many fish you eat from the New River because of PCB (polychlorinated biphenyl) pollution. The Virginia Department of Health has issued a Fish Consumption Advisory for Montgomery County that recommends never eating carp caught in the New River and limiting consumption of catfish caught in the New River to two meals per week because of PCB concentration levels in these fish.

PCBs are man-made chemicals that were widely used in electrical equipment and building materials because they are stable and heat-resistant. PCBs have no taste or smell, and vary in appearance from oil-like to a waxy solid. Though the manufacturing of PCBs was banned in the United States in 1979 due to human health and environmental concerns, they continued to be used for many years after the ban. PCBs are found in older transformers and capacitors, fluorescent light ballasts, oils in motors and hydraulic systems, insulation materials, caulking and many building materials.

Christiansburg has a Municipal Separate Storm Sewer System (MS4) permit to collect stormwater runoff and discharge it into our local waterways. One of the requirements of this permit is that we identify and reduce local sources of PCB pollution that could affect the Roanoke and New Rivers.

PCB pollution is a serious issue in our local rivers, but PCBs can be found in the air and soil, too. PCBs are released into the environment through spills, leaks and improper disposal methods. PCBs do not break down easily in the environment and will accumulate in the fat cells of animals.

If you believe you have items that may contain PCBs, please contact the Montgomery Regional Solid Waste Authority to see if they will accept your items as part of their free household hazardous waste disposal program. The authority collects household hazardous waste on the third Saturday of each month. You must register ahead of time by calling the authority at (540) 381-2820. The facility is located at 555 Authority Drive in Christiansburg. For more information, please visit their website at www.mrswa.com.

Have a question? Let us know!
540-382-6128 ext. 1150
info@christiansburg.org
www.christiansburg.org

Events Calendar

Tackle the Tower
March 4, 2-4 p.m. & April 22, 2-4 p.m.
Christiansburg Aquatic Center

Open Scuba
March 4, 4-6 p.m. & April 22, 4-6 p.m.
Christiansburg Aquatic Center

NRV Home Expo
March 9-11
Christiansburg Recreation Center

Diamond Hills Stream Cleanup
March 24, 10 a.m. - noon
Meet at the end of Scattergood Drive NW

The Great Easter Egg Hunt
March 31, 10 a.m.
Kiwanis Park

Shred-a-Thon
April 17, 3-6 p.m.
Christiansburg Recreation Center

GiveBigNRV's Annual Giving Day
April 18
(see below for more information)

To find out more information on events and programs, visit www.christiansburg.org/events or our Facebook page.

Upcoming Meetings

Town Council Meetings
Held at Town Hall, 100 East Main St.
- Tuesday, March 13, 7 p.m.
- Tuesday, March 27, 7 p.m.
- Tuesday, April 10, 7 p.m.
- Tuesday, April 24, 7 p.m.

Never miss a meeting! Sign up for notifications at www.christiansburg.org/notifyme

Closures

Easter Sunday, April 1
- The Aquatic Center will be closed.
- The Recreation Center will be closed.

Annual Giving Day

GiveBigNRV's Annual Giving Day will be held on April 18. The website raised more than $220,000 for local nonprofits on last year's Giving Day. To learn more or to donate, please visit https://cfnrv.givebig.org/c/NRV.

Put your spring cleaning out for Spring Cleanup April 14-27

Spring Cleanup will be held from April 14-27. Please place Spring Cleanup items within 10 feet of the street or pavement and separate these items from your regular trash. The Town is not responsible for any items left at or near the street that residents did not intend to have collected.

Though special collection trucks follow regular garbage routes, cleanup may run a day or two behind trash collection schedules, depending on volume. There is no charge for items picked up during Spring Cleanup, but there will be a charge assessed for items placed out after Spring Cleanup.

During Spring Cleanup, the Town will pick up tree and brush trimmings, old furniture, a maximum of two appliances, and up to four tires per household. For a full list of accepted items, please visit www.christiansburg.org/cleanupFAQ.

Please separate brush from other materials. Loose materials must be placed in containers

not exceeding 32 gallons. Leaves must be bagged.

Residents may also choose to set out their brush for monthly brush collection. Please visit www.christiansburg.org/brush to learn about monthly brush collection service, including your collection day.

If it is nearing the end of Spring Cleanup and your items have not been collected yet, please call (540) 382-1151.

Community Snapshot

Downtown Park covered in snow on Jan. 17.

Aquatic Center Swim Meets

March 3-4, Water Polo Clinic
March 8-11, Age Group Championships
March 17-18, Virginia Tech Water Polo
March 22-25, Speedo Sectionals

Find more Christiansburg Aquatic Center information, including pool closures, at www.cacpool.com.

Diamond Hills Stream Cleanup on March 24

The Town is partnering with ReNew the New and the New River Valley Regional Commission to clean up the Diamond Hills Conservation Area on March 24 from 10 a.m. to noon, and we are looking for volunteers to help!

Participants will meet at the end of Scattergood Drive NW. Please carpool, as parking is limited. Trash will be collected along Crab Creek and then along the Diamond Hills Conservation Area stream.

Bags and water will be provided. Gloves will also be provided, but participants are encouraged to bring their own.

A rain date has been tentatively scheduled for April 14.

Have a question? Let us know!
540-382-6128 ext. 1150
info@christiansburg.org
www.christiansburg.org

Patricia Colatosti

From: Debbie Reed
Sent: Monday, September 24, 2018 3:54 PM
To: Patricia Colatosti
Subject: RE: Average number of water bills mailed

9051 were mailed out from the printer. That does not include the customers who are paperless.

Thank you,

Debbie Reed
Utility Billing Specialist
Town of Christiansburg
100 E. Main St.
Christiansburg, VA 24073
Phone: 540-382-9519 ext. 1149
Fax: 540-382-3762
E-mail: dwreed@christiansburg.org
www.christiansburg.org

From: Patricia Colatosti
Sent: Monday, September 24, 2018 3:44 PM
To: Debbie Reed <dwreed@christiansburg.org>
Subject: Average number of water bills mailed

Debbie,

Could you send me the approximate number of water bills that are mailed out monthly or bimonthly? If you need a specific month to look up March 2018 would be best.

Thanks,

Patricia

Patricia Colatosti
Environmental Program Supervisor
Town of Christiansburg
100 E Main Street
Christiansburg, VA 24073
540-382-6120 x1157
pcolatosti@christiansburg.org

Patricia Colatosti

From: John W. Burke <burkejw@montgomerycountyva.gov>
Sent: Monday, July 30, 2018 2:40 PM
To: Patricia Colatosti; Katelyn Kast (katelyn5@vt.edu); Kafi Howard (khoward@blacksburg.gov)
Cc: Scott A. Woodrum
Subject: FW: NRVHBA Hone show

Please find documentation of the attendance figures at the March 9-11 NRVHBA homebuilders show. Montgomery County will count this event as an MCM 2 public participation event that allowed for interaction/involvement with the community. This is in line with our previous annual reports and in agreement with the proposed new CGP MCM 2 permit language that contains the following table of public involvement activities:

~~public involvement.~~ The permittee shall implement no less than four (4) activities per year from two or more of the categories listed in Table 2 to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects.

Table 2

Public involvement opportunities	Examples (Provided as example and are not meant to be all inclusive or limiting)
Monitoring	Establish or support citizen monitoring group
Restoration	Stream or watershed clean-up day, Adopt-a-Water Way Program,
Educational events	Booth at community fair, Demonstration of stormwater control projects, Presentation of stormwater materials to schools to meet applicable education Standards of Learning (SOLs) or curriculum requirements, Watershed Walks, Participation on environmental advisory committees
Disposal/collection events	Household hazardous chemicals collection, Vehicle fluids collection
Pollution prevention	Adopt-a-Storm Drain Program, Implement a Storm Drain Marking Program, Promote use of residential stormwater BMPs, Implement Pet Waste Stations in Public Areas, Adopt-a-Street Program.

d. The permittee may coordinate the public involvement opportunities listed in Table 2 with other MS4 permittees; however, each permittee shall be individually responsible for meeting all of the permit requirements.

John W Burke
Stormwater Specialist
Montgomery County VA
burkejw@montgomerycountyva.gov

540-394-2090 x4133

From: melanie@nrvhba.com [mailto:melanie@nrvhba.com]
Sent: Monday, July 30, 2018 11:43 AM
To: John W. Burke <burkejw@montgomerycountyva.gov>
Subject: RE: NRVHBA Hone show

Hi, John!

I'm so sorry I was out of office on Friday.

In 2018, we had 1755 total attendees for the home expo.

Let me know if there's any more information you need!

Warmest Regards,
Melanie
Executive Officer - NRVHBA
540.443.0090 office

From: John W. Burke <burkejw@montgomerycountyva.gov>
Sent: Friday, July 27, 2018 11:22 AM
To: Melanie Hassan (melanie@nrvhba.com) <melanie@nrvhba.com>
Cc: Patricia Colatosti (pcolatosti@christiansburg.org) <pcolatosti@christiansburg.org>; Kafi Howard (khoward@blacksburg.gov) <khoward@blacksburg.gov>; Katelyn Kast (katelyn5@vt.edu) <katelyn5@vt.edu>
Subject: NRVHBA Hone show

Ms. Hassan,
The County, VT, Christiansburg, and Blacksburg collectively manned a booth at the March 2018 homebuilders show and we are all looking to get attendance numbers. Particularly, Patricia and I need those numbers as soon as possible for state audits of our stormwater programs. Could you please contact me to discuss?

We will certainly be interested in continuing the outreach at the show this March.
Thanks,
John

John W Burke
Stormwater Specialist
Montgomery County VA
burkejw@montgomerycountyva.gov
540-394-2090 x4133

Patricia Colatosti

From: Kyle White <kwhite@ecsproductsva.com>
Sent: Tuesday, August 14, 2018 3:22 PM
To: Patricia Colatosti
Subject: RE: Christiansburg Demo Day documentation
Attachments: CBurg Demo Day Invite List - FINAL COPY.xlsx

Hello Patricia,
Great to hear from you and I hope summer is going well. I do have a list of people who attended the demo day. Attached is the list of people, let me know if you need anything else.

Please keep me posted on what happens with the Filtrexx and the rest of the overflow parking at the Aquatic Center. Would like to get more photos once the Aquatic Center is completed.

Regards,
~Kyle

Kyle White
Business Development Manager
Environmental Construction Solutions
434-872-1059 Cell Phone
www.ecsproductsva.com

ENVIRONMENTAL
CONSTRUCTION SOLUTIONS

From: Patricia Colatosti <pcolatosti@christiansburg.org>
Sent: Tuesday, August 14, 2018 11:24 AM
To: Kyle White <kwhite@ecsproductsva.com>
Subject: Christiansburg Demo Day documentation

Hi Kyle,

Thanks again for organizing the Demo Day here, I hope it generated interest in your products. When I see anyone who attended they do mention how much they appreciated being able to see new produects being installed. We will be trying out the SiltSoxx you left to contain/filter some runoff from our salt mix storage shed. I will let you know how it works and get you pictures once it is installed.

Do you have a sign-in sheet or any other attendance documentation from Demo Day that you could send me? I definitely need some type of attendance numbers for our MS4 annual report, which is due in September. If you have the numbers handy, our DEQ MS4 audit is this Thursday, and I would like to have an attendance number for them, but I realize that is really short notice.

Thanks,

Patricia

Patricia Colatosti
Environmental Program Supervisor
Town of Christiansburg
100 E Main Street
Christiansburg, VA 24073
540-382-6120 x1157
pcolatosti@christiansburg.org
www.christiansburg.org

Company	Contact	ID/Status	Phone	Mobile Phone	Address 1	City	State	Code	E-mail	
Town of Christiansburg	Jessie C. Nester	Municipality		540-392-3196	100 East Main Street	Christiansburg,	VA	24073	jnester@christiansburg.org	
Wetland Studies and Solutions	Nathan Staley	Engineer Firm	(540) 795-6180	(571) 283-9208	1402 Grandin Road	Roanoke	VA	24015	nstaley@wetlands.com	
Parker Design Group	Nadean Carson	Engineer Firm	(540) 380-8412	(540) 354-3099	2122 Carolina Ave SW	Roanoke	VA	24014	ncarson@parkerdg.com	
Parker Design Group	Melissa Lanzara	Engineer Firm			2122 Carolina Ave SW	Roanoke	VA	24014	mlanzara@parkerdg.com	
Town of Christiansburg	Justin St. Clair	Municipality	(540) 382-6120		100 East Main Street	Christiansburg	VA	24073	jstclair@christiansburg.org	
City of Roanoke	Joey Judy	Municipality	(540) 853-5909	(540) 309-6377	1802 Courtland Road, NE	Roanoke	VA	24012	joseph.judy@roanokeva.gov	NO SHOW
VDOT	Doug Burton	VDOT	5586		731 Harrison Avenue	Salem	VA	24153	doug.burton@vdot.virginia.gov	
Erosion Control Services, LLC	Justin Munden	Customer	757-301-9418	757-777-6873	853 S Birdneck Road	Virginia Beach	VA	23451	justin@ecsva.com	NO SHOW
DEQ	Don Packard	DEQ	(540) 562-6708		3019 Peters Creek Rd	Roanoke	VA	24019	donald.packard@deq.virginia.gov	
DEQ	Tim Fletcher	DEQ		540.524.0665	3019 Peters Creek Rd	Roanoke	VA	24019	timothy.fletcher@deq.virginia.gov	
DEQ	Elizabeth Abe	DEQ	540-562-6761		3019 Peters Creek Rd	Roanoke	VA	24019	elizabeth.abe@deq.virginia.gov	
Roanoke County	Alex Chaney	Municipality	(540)772-2034		5204 Bernard Drive SW	Roanoke	VA	24018	ACHANEY@roanokecountyva.gov	
DEQ	Jan Briede	DEQ	804-698-4386		1111 East Main Street Suite 1400	Richmond	VA	23219	jan.briede@deq.virginia.gov	
Roanoke County	Denise Sowder	Municipality				Roanoke	VA		DSOWDER@roanokecountyva.gov	
Roanoke County	Carter Younger	Municipality				Roanoke	VA		cyounger@roanokecountyva.gov	
Fink Engineering & Land Surveying	Ron Fink	Engineer Firm	540-381-2626	540-577-9707	16 E. Main Street	Christiansburg	VA	24073	fink_rb@hotmail.com	
Shenandoah StreamWorks, LLC	Larry Mohn	General Contractor							shenstreamworks@aol.com	NO SHOW
Shenandoah StreamWorks, LLC	Monte Atkins	General Contractor							shenstreamworks@aol.com	
Sampson Construction Co. Inc.	Mike Sampson	General Contractor		(540) 537-0666	4344 Cordell Drive	Roanoke	VA	24018	walls4u1@aol.com	NO SHOW
Sampson Construction Co. Inc.	Jason Doolan	General Contractor		540-314-7430	4344 Cordell Drive	Roanoke	VA	24018	jason@sampsonconstr.com	NO SHOW
Town of Christiansburg	Jim Lancianese	Municipality			100 East Main Street	Christiansburg	VA	24073	jlancianese@christiansburg.org	
Town of Christiansburg	Travis Moles	Municipality			100 East Main Street	Christiansburg	VA	24073	tmoles@christiansburg.org	
VDOT	Tom Sproul	VDOT	7198		105 Cambria Street	Christiansburg	VA	24073	thomas.sproul@vdot.virginia.gov	
Bedford County	Kevin A. Leamy	Municipality	540-586-7616 Ext 1398		122 East Main Street Suite G-03	Bedford	VA	24523	k.leamy@bedfordcountyva.gov	NO SHOW
Town of Christiansburg	Carl Correll	Municipality		(540) 505-4107	100 East Main Street	Christiansburg	VA	24073	ccorrell@christiansburg.org	

Campbell County	Brian Stokes	Municipality	434-332-9506						BRStokes@co.campbell.va.us	NO SHOW
Peed & Bortz, LLC	Scott Bortz	Engineer Firm	540-394-3214	540-449-9214	20 Midway Plaza Drive Suite 100	Christiansburg	VA	24073	scott@peed-bortz.com	NO SHOW
Peed & Bortz, LLC	Billy Vaught	Engineer Firm	540-394-3214		20 Midway Plaza Drive Suite 100	Christiansburg	VA	24073	billy@peed-bortz.com	
MBP	Angie Gwynn	Engineer Firm	540-985-9453	440-477-9136	711 D Fifth Street, NE	Roanoke	VA	24016	agwynn@mbpce.com	
Roanoke County	Rhonda Ferris	Municipality		(540) 330-4007					RFERRIS@roanokecountyva.gov	NO SHOW
Town of Christiansburg	Grant Hoover	Municipality			100 East Main Street	Christiansburg	VA	24073	ghoover@christiansburg.org	
Town of Christiansburg	John Kirtner	Municipality			100 East Main Street	Christiansburg	VA	24073	jkirtner@christiansburg.org	
Town of Christiansburg	Micheal Huesman	Municipality			100 East Main Street	Christiansburg	VA	24073	mhuesman@christiansburg.org	NO SHOW
VDOT	Bradley Sampson	VDOT	540-378-5052		731 Harrison Avenue	Salem	VA	24153	bradley.sampson@vdot.virginia.gov	
Town of Christiansburg	Patricia Colatosti	Municipality			100 East Main Street	Christiansburg	VA	24073	pcolatosti@christiansburg.org	
City of Roanoke	Mark Bowles	Municipality		540-537-8324	215 Church Ave. SW	Roanoke	VA	24011	Mark.Bowles@roanokeva.gov	NO SHOW
Town of Christiansburg	Devon Eckstein	Municipality	(540) 382-6120 x1129		100 East Main Street	Christiansburg	VA	24073	deckstein@christiansburg.org	
VDOT	Paul J. Brown	VDOT	7194		105 Cambria Street	Christiansburg	VA	24073	paul.brown@vdot.virginia.gov	
Town of Blacksburg	Kafi Howard	Municipality			400 South Main St	Blacksburg	VA	24060	khoward@blacksburg.gov	
Town of Blacksburg	Mic Mullins	Municipality			400 South Main St	Blacksburg	VA	24060	mmullins@blacksburg.gov	
	Barry Helms								helms@ntelos.net	
	Sonny Long									
Town of Christiansburg	Alan Shaw				100 East Main Street	Christiansburg	VA	24073	ashaw@christiansburg.org	NO RSVP BUT SHOWED UP
	Wayne Nelson									NO RSVP BUT SHOWED UP
Bowman Excavating	Devin Bowman	Contractor;Customer	540-871-3350		540 Ikenberry Road	Boones Mill	VA	24065	devin.bei@privategarden.org	NO RSVP BUT SHOWED UP
	Steve Palmer									NO RSVP BUT SHOWED UP
Carter Machinery Co., Inc.	Jay Hardy	Carter Cat	757-234-8532	804-513-1474	1601 Green Mount Parkway	Williamsburg	VA	23185	Jay_Hardy@cartermachinery.com	
Carter Machinery Co., Inc.	Chris Dixon	Carter Cat								
Carter Machinery Co., Inc.	Mason Thomas	Carter Cat								

Environmental Construction Solutions	Duane Perry	Co-Worker	(540) 529-8585	101 Madison Ave NE	Roanoke	VA	24016	Dperry@ecsproductsva.com
Filtrexx	Chris Howell	Manufacturer	704 562 4536					Chris.howell@filtrexx.com
Motz - Flexamat	Sean Stallo	Manufacturer	3264					sean@flexamat.com
Profile	Melanie Fuhrman	Manufacturer	(540) 761-9123					mfuhrman@profileproducts.com
Profile-EarthandTurfReps	Austin Childers	Manufacturer	(803) 730-3827					austin@earthandturfreps.com
TenCate Mirafi	John Folts	Manufacturer	+15187288031					j.folts@tencate.com
TenCate Mirafi	Jeff Harris	Manufacturer	4441					jb.harris@tencate.com
Environmental Construction Solutions	Kyle Bickling	Co-Worker	5405372578					kbickling@ecsproductsva.com
Landscape Supply	Darrell Camper	Co-Worker	3752					dcamper@landscapesupplyva.com
Environmental Construction Solutions	Tim Chandler	Co-Worker	+1 (434) 260-4763					tchandler@ecsproductsva.com
Landscape Supply	Kevin Connely	Co-Worker	9449					kconnely@landscapesupplyva.com
Landscape Supply	Kip Connoly	Co-Worker						kip@landscapesupplyva.com
Landscape Supply	Jared Russell	Co-Worker						jrussell@landscapesupplyva.com
Environmental Construction Solutions	Kyle White							kwhite@ecsproductsva.com

Spring 2018 Montgomery County Public Schools 6th grade Stormwater Day wrap up

Thank you for participating, and sorry this is so late. I hope you can still use the numbers for your reporting and planning for the rest of the year.

Christiansburg Middle School 6th grade– April 12, 2018 at Izaak Walton League Park
Everyone except those running the drone station spoke to half of the total attendees.

Total Students: 230
Total Adult chaperones/teachers: 24
Presenters: 32 at 12 stations

Virginia Tech students: 16
from the groups Water for Kids (College of Engineering), American Water Resource Association (AWRA), the LEWAS Lab, and the Biological Systems Engineering Department

Other presenters + organizers: 16
From: VA Department of Environmental Quality, Virginia Tech Site and Infrastructure Development, Virginia Tech Department of Entomology, VA Department of Conservation and Recreation – Karst Program, Virginia Water Radio, Montgomery County Engineering and Regulatory Compliance, Montgomery County Planning and GIS, Town of Blacksburg, Skyline Soil and Water Conservation District, Virginia Cooperative Extension 4-H, New River Geographics, Radford University, Town of Christiansburg, Montgomery County Public Schools

The smaller student group sizes on this day worked well logistically for the inside stations, and we did get comments appreciating how interactive the event was.

Auburn Middle School (Riner area) 6th grade- April 13, 2018 morning session
All students went to all the stations

Total Students: 90
Total Adult chaperones/teachers: 10

Shawsville Middle School 6th grade – April 13, 2018 afternoon session
All students went to all the stations

Total Students: 85
Total Adult chaperones/teachers: 10

Presenters and other helpers: 16 at 6 stations
Presenters from: VA Department of Environmental Quality, Virginia Tech Department of Entomology, Virginia Tech Biological Systems Engineering, Virginia Water Radio, Montgomery County Engineering and Regulatory Compliance, Montgomery County Planning and GIS, Town of Blacksburg, Virginia Cooperative Extension 4-H, Montgomery County Virginia Cooperative Extension, New River Geographics, Radford University, Town of Christiansburg, Montgomery County Public Schools

We also received comments appreciating how interactive the event was. The group sizes on this day were large.

I attached the presenter lists with contact information for both days. The pre/post evaluation data are below. I made one form for both days thinking a larger sample size would be better, but it masks any changes for individual schools. For this coming year we will have pre/post data for each school instead. The comparison isn't perfect, since we had 234 students take the pre evaluation and only 60 took the post evaluation. We will work on getting more of the post evaluation forms completed. The questions the students typed in are very interesting, as well as the responses to "what did you learn?"

Pre evaluation link (you don't need a Google account to see any of these, but the form is live.)
https://goo.gl/forms/hYCOXHw0zJSC76Bs2

Pre evaluation results
https://docs.google.com/forms/d/139QDNQ_2qJh5qZ5OZYSprpF40aAATiQZHedGRjAAT3s/viewanalytics
If you hover over the bars on the bar graphs or the slices on the pie charts the corresponding response will appear.

Post evaluation link
https://goo.gl/forms/7qECeBsrxXmAnYVy1

Post evaluation results
https://docs.google.com/forms/d/1HFkD9n4EKeIAGTMTLBcOjeZlEfPv6KWMhMSLqrKWDgQ/viewanalytics

Please let me know of any suggestions you may have. We want the event to be worthwhile for all.

SIGN IN SHEET

Christiansburg Downtown Watershed Study
Community Meeting on May 10, 2018

Name	E-Mail	Phone Number	Check for Updates?
TC MEMBER	ON FILE	ON FILE	
Willis Webb			
Virginia Webb			
Linda Hart	NIH	382-4704	
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SIGN IN SHEET

Christiansburg Downtown Watershed Study
Community Meeting on May 10, 2018

Name	E-Mail	Phone Number	Check for Updates?
John Burke	john.burke@vt.edu	540-951-7059	✓

Appendix B Outfall Reconnaissance Inventory

Tuesday, September 25, 2018
2:48:18 PM

Outfall ID	Impared ID	Acreage Served	TMDL
NE58BLA01	VAW-N18R_CBC04A00	11.352867	Crab Creek Bacteria and Sediment
NE58BLA02	VAW-N18R_CBC04A00	3.654896	Crab Creek Bacteria and Sediment
NE58BLA03	VAW-N18R_CBC04A00	5.20048	Crab Creek Bacteria and Sediment
NE58BLA04	VAW-N18R_CBC04A00	11.360957	Crab Creek Bacteria and Sediment
NE58BLA05	VAW-N18R_CBC04A00	3.398149	Crab Creek Bacteria and Sediment
NE58BLA06	VAW-N18R_CBC04A00	26.419819	Crab Creek Bacteria and Sediment
NE58BLA07	VAW-N18R_CBC04A00	2.794031	Crab Creek Bacteria and Sediment
NE58BLA08	VAW-N18R_CBC04A00	1.294321	Crab Creek Bacteria and Sediment
NE58BLA09	VAW-N18R_CBC04A00	0.707561	Crab Creek Bacteria and Sediment
NE58BLA10	VAW-N18R_CBC04A00	5.545468	Crab Creek Bacteria and Sediment
NE58BLA13	VAW-N18R_CBC04A00	12.018371	Crab Creek Bacteria and Sediment
NE58BLA14	VAW-N18R_CBC04A00	3.100591	Crab Creek Bacteria and Sediment
NE58BLA16	VAW-N18R_CBC04A00	30.642995	Crab Creek Bacteria and Sediment
NE58BLA18	VAW-N18R_CBC04A00	15.592346	Crab Creek Bacteria and Sediment
NE58BLB01	VAW-N18R_CBC04A00	4.408579	Crab Creek Bacteria and Sediment
NE58BLB02	VAW-N18R_CBC04A00	7.851166	Crab Creek Bacteria and Sediment
NE58BLB03	VAW-N18R_CBC04A00	26.97995	Crab Creek Bacteria and Sediment
NE58BLB04	VAW-N18R_CBC04A00	0.15029	Crab Creek Bacteria and Sediment
NE58BLB05	VAW-N18R_CBC04A00	28.77883	Crab Creek Bacteria and Sediment
NE58BLB06	VAW-N18R_CBC04A00	2.95039	Crab Creek Bacteria and Sediment
NE58BLB07	VAW-N18R_CBC04A00	47.062944	Crab Creek Bacteria and Sediment
NE58CC08	VAW-N18R_CBC04A00	7.586429	Crab Creek Bacteria and Sediment
NE58CC12	VAW-N18R_CBC04A00	68.86169	Crab Creek Bacteria and Sediment
NE58CC15	VAW-N18R_CBC04A00	8.917426	Crab Creek Bacteria and Sediment
NE58CC19-A	VAW-N18R_CBC04A00	0.036661	Crab Creek Bacteria and Sediment
NE58CC19-B	VAW-N18R_CBC04A00		Crab Creek Bacteria and Sediment
NE58CC21	VAW-N18R_CBC04A00	29.474425	Crab Creek Bacteria and Sediment
NE58CC24	VAW-N18R_CBC04A00	165.429331	Crab Creek Bacteria and Sediment
NE58CC32	VAW-N18R_CBC04A00	3.797178	Crab Creek Bacteria and Sediment
NE58CC36	VAW-N18R_CBC04A00	15.701597	Crab Creek Bacteria and Sediment
NE58CC38	VAW-N18R_CBC04A00	29.610662	Crab Creek Bacteria and Sediment

Outfall ID	Impared ID	Acreage Served	TMDL
NE58CC42	VAW-N18R_CBC04A00	3.734631	Crab Creek Bacteria and Sediment
NE58CC45	VAW-N18R_CBC04A00	151.617215	Crab Creek Bacteria and Sediment
NE58CC46	VAW-N18R_CBC04A00	4.337826	Crab Creek Bacteria and Sediment
NE58CC47	VAW-N18R_CBC04A00	0.185144	Crab Creek Bacteria and Sediment
NE58CC48	VAW-N18R_CBC04A00	0.019668	Crab Creek Bacteria and Sediment
NE58CC49	VAW-N18R_CBC04A00	45.14844	Crab Creek Bacteria and Sediment
NE58CC50	VAW-N18R_CBC04A00	0.053025	Crab Creek Bacteria and Sediment
NE58CC52	VAW-N18R_CBC04A00	220.761143	Crab Creek Bacteria and Sediment
NE58CC53	VAW-N18R_CBC04A00	0.305326	Crab Creek Bacteria and Sediment
NE58CC55	VAW-N18R_CBC04A00	0.652945	Crab Creek Bacteria and Sediment
NE58CC57	VAW-N18R_CBC04A00	21.399651	Crab Creek Bacteria and Sediment
NE58CC58	VAW-N18R_CBC04A00	5.32653	Crab Creek Bacteria and Sediment
NE58CC59	VAW-N18R_CBC04A00	0.012164	Crab Creek Bacteria and Sediment
NE58CC60	VAW-N18R_CBC04A00	34.824171	Crab Creek Bacteria and Sediment
NE58CC61	VAW-N18R_CBC04A00	5.301519	Crab Creek Bacteria and Sediment
NE58CC66	VAW-N18R_CBC04A00	18.132426	Crab Creek Bacteria and Sediment
NE58CC67	VAW-N18R_CBC04A00	13.791036	Crab Creek Bacteria and Sediment
NE58CC68	VAW-N18R_CBC04A00	5.712605	Crab Creek Bacteria and Sediment
NE58CC77	VAW-N18R_CBC04A00	0.562442	Crab Creek Bacteria and Sediment
NE58CC78	VAW-N18R_CBC04A00	2.743456	Crab Creek Bacteria and Sediment
NE58CC79	VAW-N18R_CBC04A00	0.050597	Crab Creek Bacteria and Sediment
NE58CC80	VAW-N18R_CBC04A00	0.361676	Crab Creek Bacteria and Sediment
NE58CC81	VAW-N18R_CBC04A00	0.035306	Crab Creek Bacteria and Sediment
NE58CC82	VAW-N18R_CBC04A00	0.635208	Crab Creek Bacteria and Sediment
NE58CC83	VAW-N18R_CBC04A00	0.511133	Crab Creek Bacteria and Sediment
NE58CC84	VAW-N18R_CBC04A00	0.064035	Crab Creek Bacteria and Sediment
NE58CC85	VAW-N18R_CBC04A00	0.184933	Crab Creek Bacteria and Sediment
NE58DH01	VAW-N18R_CBC04A00	19.162978	Crab Creek Bacteria and Sediment
NE58DH06	VAW-N18R_CBC04A00	15.282994	Crab Creek Bacteria and Sediment
NE58DH07	VAW-N18R_CBC04A00	12.362376	Crab Creek Bacteria and Sediment
NE58SH03	VAW-N18R_CBC04A00	7.424748	Crab Creek Bacteria and Sediment
NE58SH04	VAW-N18R_CBC04A00	2.872506	Crab Creek Bacteria and Sediment
NE58SH07	VAW-N18R_CBC04A00	44.004691	Crab Creek Bacteria and Sediment

Outfall ID	Impared ID	Acreage Served	TMDL
NE58SL01	VAW-N18R_CBC04A00	130.145174	Crab Creek Bacteria and Sediment
NE58TBA01	VAW-N18R_CBC04A00	3.928033	Crab Creek Bacteria and Sediment
NE58TBA02	VAW-N18R_CBC04A00	0.980205	Crab Creek Bacteria and Sediment
NE58TBA03	VAW-N18R_CBC04A00	5.644049	Crab Creek Bacteria and Sediment
NE58TBA04	VAW-N18R_CBC04A00	31.002893	Crab Creek Bacteria and Sediment
NE58TBA06	VAW-N18R_CBC04A00	5.928483	Crab Creek Bacteria and Sediment
NE58TBA07	VAW-N18R_CBC04A00	103.620744	Crab Creek Bacteria and Sediment
NE58TBA08	VAW-N18R_CBC04A00	0.268479	Crab Creek Bacteria and Sediment
NE58TBA09	VAW-N18R_CBC04A00	38.727703	Crab Creek Bacteria and Sediment
NE58TBA12	VAW-N18R_CBC04A00	8.074916	Crab Creek Bacteria and Sediment
NE58TBA14	VAW-N18R_CBC04A00	1.1676	Crab Creek Bacteria and Sediment
NE58TBA15	VAW-N18R_CBC04A00	0.567981	Crab Creek Bacteria and Sediment
NE58TBA16	VAW-N18R_CBC04A00	0.743422	Crab Creek Bacteria and Sediment
NE58TBA17	VAW-N18R_CBC04A00	167.953449	Crab Creek Bacteria and Sediment
NE58TBA18	VAW-N18R_CBC04A00	14.426004	Crab Creek Bacteria and Sediment
NE58TBA19	VAW-N18R_CBC04A00	0.073384	Crab Creek Bacteria and Sediment
NE58TBA20	VAW-N18R_CBC04A00	0.156509	Crab Creek Bacteria and Sediment
NE58TBA21	VAW-N18R_CBC04A00	0.6043	Crab Creek Bacteria and Sediment
NE58TBA22	VAW-N18R_CBC04A00	0.361192	Crab Creek Bacteria and Sediment
NE58TBA23	VAW-N18R_CBC04A00	0.23351	Crab Creek Bacteria and Sediment
NE58TBA24	VAW-N18R_CBC04A00	0.946341	Crab Creek Bacteria and Sediment
NE58TBA25	VAW-N18R_CBC04A00	1.464036	Crab Creek Bacteria and Sediment
NE58TBA26	VAW-N18R_CBC04A00	0.05741	Crab Creek Bacteria and Sediment
NE58TBA27	VAW-N18R_CBC04A00	0.296427	Crab Creek Bacteria and Sediment
NE58TBA28	VAW-N18R_CBC04A00	4.746133	Crab Creek Bacteria and Sediment
NE58TBA29	VAW-N18R_CBC04A00	2.818776	Crab Creek Bacteria and Sediment
NE58TBA30	VAW-N18R_CBC04A00	245.116792	Crab Creek Bacteria and Sediment
NE58TBA31	VAW-N18R_CBC04A00		Crab Creek Bacteria and Sediment
NE58TBA32	VAW-N18R_CBC04A00	22.058958	Crab Creek Bacteria and Sediment
NE58TBA33	VAW-N18R_CBC04A00	0.970332	Crab Creek Bacteria and Sediment
NE58TBA34	VAW-N18R_CBC04A00	2.96755	Crab Creek Bacteria and Sediment
NE58TBA35	VAW-N18R_CBC04A00	0.419889	Crab Creek Bacteria and Sediment
NE58TBA36	VAW-N18R_CBC04A00	0.233203	Crab Creek Bacteria and Sediment

Outfall ID	Impared ID	Acreage Served	TMDL
NE58TBA37	VAW-N18R_CBC04A00	0.686747	Crab Creek Bacteria and Sediment
NE58TBB01	VAW-N18R_CBC04A00	0.266134	Crab Creek Bacteria and Sediment
NE58TBB02	VAW-N18R_CBC04A00	12.331562	Crab Creek Bacteria and Sediment
NE58TBB03	VAW-N18R_CBC04A00	0.506523	Crab Creek Bacteria and Sediment
NE58TBB04	VAW-N18R_CBC04A00	0.449497	Crab Creek Bacteria and Sediment
NE58TBB05	VAW-N18R_CBC04A00	1.31769	Crab Creek Bacteria and Sediment
NE58TBB09	VAW-N18R_CBC04A00	7.776634	Crab Creek Bacteria and Sediment
NE58TBB10	VAW-N18R_CBC04A00	0.39768	Crab Creek Bacteria and Sediment
NE58TBB11	VAW-N18R_CBC04A00	22.484917	Crab Creek Bacteria and Sediment
NE58TBB12	VAW-N18R_CBC04A00	4.723855	Crab Creek Bacteria and Sediment
NE58TBB13	VAW-N18R_CBC04A00	1.394429	Crab Creek Bacteria and Sediment
NE58TBB14	VAW-N18R_CBC04A00	204.670955	Crab Creek Bacteria and Sediment
NE58TBB16	VAW-N18R_CBC04A00	0.473689	Crab Creek Bacteria and Sediment
NE58TBC01	VAW-N18R_CBC04A00	0.419816	Crab Creek Bacteria and Sediment
NE58TBC07	VAW-N18R_CBC04A00	8.731964	Crab Creek Bacteria and Sediment
NE58TBC14	VAW-N18R_CBC04A00	4.834493	Crab Creek Bacteria and Sediment
NE58TBC15	VAW-N18R_CBC04A00	15.670245	Crab Creek Bacteria and Sediment
NE58TBC16	VAW-N18R_CBC04A00	32.369474	Crab Creek Bacteria and Sediment
NE58TBC19	VAW-N18R_CBC04A00	132.345871	Crab Creek Bacteria and Sediment
NE58TBC19	VAW-N18R_CBC04A00	70.738022	Crab Creek Bacteria and Sediment
NE58TBC20	VAW-N18R_CBC04A00	2.243776	Crab Creek Bacteria and Sediment
NE58WB07	VAW-N18R_ZZZ01A00	1.459767	Crab Creek Bacteria and Sediment
NE58WL01	VAW-N18R_CBC04A00	11.255	Crab Creek Bacteria and Sediment
NE59SBA08	VAW-N22R_XEH01A08	29.210687	NO TMDL Unnamed tributary to Slate Branch
NE59SBA28	VAW-N22R_XEH01A08	159.41717	NO TMDL Unnamed tributary to Slate Branch
NE59SBA29	VAW-N22R_XEH01A08	8.02208	NO TMDL Unnamed tributary to Slate Branch
NE59SBA30	VAW-N22R_XEH01A08	24.254954	NO TMDL Unnamed tributary to Slate Branch
NE59SBA31	VAW-N22R_XEH01A08	0.33343	NO TMDL Unnamed tributary to Slate Branch

Outfall ID	Impared ID	Acreage Served	TMDL
NE59SBA32	VAW-N22R_XEH01A08	0.051313	NO TMDL Unnamed tributary to Slate Branch
NE59SBA33	VAW-N22R_XEH01A08	0.061697	NO TMDL Unnamed tributary to Slate Branch
NE59SBA34	VAW-N22R_XEH01A08	0.307978	NO TMDL Unnamed tributary to Slate Branch
NE59SBA35	VAW-N22R_XEH01A08	9.277162	NO TMDL Unnamed tributary to Slate Branch
NE59SBD09	VAW-N22R_XEH01A08	25.197348	NO TMDL Unnamed tributary to Slate Branch
NE59SBD12	VAW-N22R_XEH01A08	27.068147	NO TMDL Unnamed tributary to Slate Branch
NE59SBD20	VAW-N22R_XEH01A08	2.765293	NO TMDL Unnamed tributary to Slate Branch
RU04FB01	VAW-L01R_ZZZ01A00	108.853459	Roanoke River Bacteria and Sediment and PCBs
RU04FB02	VAW-L01R_ZZZ01A00	10.540094	Roanoke River Bacteria and Sediment and PCBs
RU04FB03	VAW-L01R_ZZZ01A00	7.602064	Roanoke River Bacteria and Sediment and PCBs
RU04FB09	VAW-L01R_ZZZ01A00	0.377719	Roanoke River Bacteria and Sediment and PCBs
RU04FB10	VAW-L01R_ZZZ01A00	29.676655	Roanoke River Bacteria and Sediment and PCBs
RU04FB16	VAW-L01R_ZZZ01A00	91.44828	Roanoke River Bacteria and Sediment and PCBs
RU04FB18	VAW-L01R_ZZZ01A00	202.359251	Roanoke River Bacteria and Sediment and PCBs

Appendix C IDDE Reports

Name of discharge report	Date or dates that the illicit discharge was observed or reported	Results of the investigation	Any follow up to the investigation	Resolution of the investigation	Date investigation closed.
Diamond Hills Park Sanitary Sewer break	07/08/2017	The TOC Wastewater Treatment Facility reported and handled the incident	no	The TOC Wastewater Treatment Facility reported and handled the incident	07/08/2017
Car in stream Diamond Hills Park	09/07/2017	Vehicle rolled into unnamed tributary to Crab Creek. Obtained accident report. Police officer did not see any fluids leaking from vehicle. Further investigation later in the day did not find any evidence of automotive fluids	no	No automotive fluids observed. Considered a vehicle accident and there did not appear to be any vehicular fluid spilled.	09/11/2017
Sand/soil spill in North Franklin St	01/08/2018	Large amount of sand/soil observed by Town Environmental Program Coordinator in the southbound lanes of N Franklin St at the Crab Creek Bridge and Railroad St.	Town Environmental Program Coordinator called Public Works Streets Superintendent. A Town Public Works truck had lost a load of clean fill in the road over the weekend.	Public Works crews closed the lane and removed the sand/soil. Street was swept. Inclement weather halted repeated street sweeping efforts. Public Works staff reported that the fill material did not reach the storm drains.	1/12/2018
Dunlap Dr. fuel from dump truck	02/14/2018	Town Engineering Staff investigating an unpermitted fill operation reported a dump truck had overturned off the west side of Dunlap Dr. and spilled fuel and oil. Town	Not considered an illicit discharge since fuel and oil spill was related to a vehicular accident and was properly cleaned up. Fire Dept.	Police and Fire responded to the accident. Fire Dept. Chief coordinated cleanup with the truck owner and WEL Inc. HazMat response firm.	02/16/2018

Name of discharge report	Date or dates that the illicit discharge was observed or reported	Results of the investigation	Any follow up to the investigation	Resolution of the investigation	Date investigation closed.
		Environmental Program Coordinator and Town Erosion and Sediment Control Program Coordinator investigated.	will handle any required reporting.		
Oil at Phoenix and Roudabush	03/01/2018	Town Environmental Program Coordinator investigated. The email from a citizen indicated that the oil spill was from a vehicle and that it had happened two weeks prior and been covered with "some type of gravel". A 40 x 5 ft. oil slick, mostly covered with sta-dri, was along the island at the intersection. There was no oil odor. It was raining and there was a rainbow sheen in the water flowing from the sta-dri to the curb inlet. The curb inlet empties into an underground stormwater detention system. No oil sheen or odor was observed on the water flowing out of the system or in the ditches it feeds into.	No follow up as to the source. The incident had occurred too far before Town staff were notified and there are multiple builders as well as residents in the neighborhood with trucks. It was not deemed feasible to find the specific truck, and there was no oil except at the intersection.	Town Public Works Streets Superintendent was called. The Stormwater Supervisor responded and crews added sta-dri to the oil slick and protected the two curb inlets with filter socks and straw bales. The sta-dri was scraped up and reapplied the next week. The inlet protection and remaining sta-dri was removed the week of 3/27/2018.	3/27/2018
Salt Dump at Town Hall	03/13/2018	Town Engineering staff observed a Town salt spreader release a large pile of salt next to the curb inlet on Pepper St	no	Public works cleaned up the salt the same day before any melting occurred and before	03/13/2018

Name of discharge report	Date or dates that the illicit discharge was observed or reported	Results of the investigation	Any follow up to the investigation	Resolution of the investigation	Date investigation closed.
		next to Town Hall during a snow event		the pile could wash into the storm drain.	
Hickok St House Drain	05/22/2018	Town Planning Staff forwarded an ordinance violation report received via the Town's website. Report of a possible discharge of wash water to the ditch. The Town Building Official has investigated several times and no suspicious water or puddles have been found.	Investigation is ongoing as Town staff have not been able to verify the report. Town IDDE manual requires 3 investigations or 6 months to document as "source not found."	Site will be checked occasionally until 11/22/2018	
Aquatic Center Bioretention East discharge	06/19/2018	Town Environmental Program Supervisor noted water flowing from the storm drain outlets into the Bioretention pre-treatment area during a dry weather BMP inspection. All connecting storm drain inlets were dry, investigation moved to examining building plans for the Aquatic Center.	Building plans and storm drain mapping showed floor/deck drains where the air conditioner units sit outside the building. Storm drain mapping implied but did not show an interconnection. Town Engineering Assistant Director was asked about the site design and he thought that the design was to have the air conditioning	Concluded it was condensate.	6/22/2018

Name of discharge report	Date or dates that the illicit discharge was observed or reported	Results of the investigation	Any follow up to the investigation	Resolution of the investigation	Date investigation closed.
			condensate drain to the storm drains.		
Hans Meadow and Depot St oil report	06/21/2018	During the IDDE training session, a Town Public Works staff member reported his concern about oil occasionally running off the parking lot of an oil change business into the adjacent stream. The Town Environmental Program Supervisor investigated. The parking lot at the facility had been recently paved so no oil stains were present.	Investigation is ongoing as Town staff have not been able to verify the report. Town IDDE manual requires 3 investigations or 6 months to document as "source not found."	Site will be checked occasionally until 12/22/2018	
Hunan House dumpster	06/21/2018	During the IDDE training session, a Town Public Works staff member reported his concern about a dumpster behind the restaurant at 2100 Roanoke St. He reported that the dumpster often leaked and drained to the street and he observed animal carcasses. The Town Environmental Program Supervisor investigated and saw the dumpsters but no active drainage to the street.	Investigation is ongoing as Town staff have not been able to verify the report. Town IDDE manual requires 3 investigations or 6 months to document as "source not found."	Site will be checked occasionally until 12/22/2018	

Appendix D IDDE Screening Summary 2018

Tuesday, September 25, 2018
5:16:42 PM

Outfall ID	Impared ID	TMDL	Today's Date	No illicit disc	Any non-Illicit Discharge Concerns
NE58TBA25	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/15/2018	☑	
NE58TBA26	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/15/2018	☑	
NE58CC47	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	
NE58CC49	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	Brand New from Park St. construction
NE58CC58	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	Creek backed up into pipe
NE58CC59	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	3" chunk of bottom eaten out for several feet.
NE58CC66	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	
NE58CC67	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	
NE58CC68	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	
NE58TBA07	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	Overgrown with vegetation
NE58TBA08	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	
NE58TBA18	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	
NE58TBA20	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	
NE58TBA21	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	
NE58TBA22	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	Grass clippings in structure
NE58TBA23	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	

Outfall ID	Impared ID	TMDL	Today's Date	No illicit disc	Any non-Illicit Discharge Concerns
NE58TBA24	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	Edges of structure chipped
NE58TBA36	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/24/2018	☑	End of pipe partially collapsed
NE58BLB02	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58BLB05	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	May need to be ditched to the creek
NE58BLB06	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☐	Covered
NE58TBA02	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58TBA28	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58TBA31	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58TBB01	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58TBB02	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58TBB03	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58TBB04	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58TBB05	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58TBB09	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58TBB12	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	Fill on top of pipe is collapsing

Outfall ID	Impared ID	TMDL	Today's Date	No illicit disc	Any non-Illicit Discharge Concerns
NE58TBB13	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	grassy
NE58TBB14	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	2 Manholes, Multiple 6" pipes feeding in
NE58TBC01	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58TBC07	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	5/25/2018	☑	
NE58CC57	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/4/2018	☐	overgrown with vegetation
NE58CC77	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/4/2018	☑	
NE58CC78	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/4/2018	☑	
NE58CC79	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/4/2018	☑	
NE58CC81	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/4/2018	☑	
NE58CC82	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/4/2018	☑	
NE58CC83	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/4/2018	☑	
NE58CC84	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/4/2018	☑	
NE58TBA19	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/4/2018	☑	
NE59SBD09	VAW-N22R_XEH01A08	NO TMDL Unnamed tributary to Slate Branch	6/4/2018	☑	Lots of sediment in the pipe.
NE58TBA03	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/27/2018	☑	
NE58BLA07	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☑	No outlet protection is present
NE58BLA10	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☑	
NE58BLA13	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☑	

Outfall ID	Impared ID	TMDL	Today's Date	No illicit disc	Any non-Illicit Discharge Concerns
NE58BLA14	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☑	Multiple pipes so not sure which is the outfall
NE58BLB03	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☑	
NE58BLB04	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☑	
NE58CC19-A	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☑	Pipe half full of sediment
NE58CC19-B	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☑	possible newly discovered outfall
NE58TBA04	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☑	
NE58TBA06	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☑	
NE58TBA12	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☐	completely full of sediment
NE58TBA14	VAW-N18R_CBC04A00	Crab Creek Bacteria and Sediment	6/29/2018	☑	
NE59SBD12	VAW-N22R_XEH01A08	NO TMDL Unnamed tributary to Slate Branch	6/29/2018	☑	Pipe is partially bent and rusting
NE59SBD20	VAW-N22R_XEH01A08	NO TMDL Unnamed tributary to Slate Branch	6/29/2018	☐	overgrown

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APPENDIX E REVISED SWM BMP Spreadsheet

New BMP SWM Facilities 2017- 2018

ID	MS4 Permit Year	BMP Type	HUC	Impaired Waters	No. of Acres Treated	Pond Name	Nearest Address	Easting	Northing	Town Maintained Y/N	Maintenance Agreement Y/N	Maint Agreement date	TOC Project Number	Parcel Number	Current Land Use	Impervious Acres Treated	Date Brought Online
194	2017-2018	Bioretention	RU04	Elliots Creek	TBD	Harmon/Shelor Parking Lot	2435 Roanoke St	10940972.4	3578557.297	N	N	pre 7/1/2014	01898		Commercial	TBD	2/1/2018
195	2017-2018	Bioretention	NE59	Stroubles Creek	0.66	New River Village Townhomes BR North	Bozeman Trail	10916031.00000	3589751.00000	N	Pending		02008		Residential	TBD	11/7/2017
196	2017-2018	Bioretention	NE59	Stroubles Creek	0.83	New River Village Townhomes BR Middle	Along Village Lane	10916038.21	3589584.217	N	Pending		02008		Residential	TBD	11/7/2017
197	2017-2018	Bioretention	NE59	Stroubles Creek	1.78	New River Village Townhomes BR South	End of Lunaria Lane	10915815.00000	3589612.00000	N	Pending		02008		Residential	TBD	11/7/2017
198	2017-2018	Extended Detention	NE58	Crab Creek	2.40	670 Scattergood	670 Scattergood	10922122.00000	3580164.00000	N	N	pre 7/1/2014	01913		Commercial	TBD	3/3/2017
199	2017-2018	Underground Detention	NE59	Slate Branch	2.32	Aldi	2265 North Franklin St	10923204.00000	3587620.00000	N	Y	6/22/2017	02112		Commercial	2.26	6/25/2018
200	2017-2018	Bioretention	RU07	Wilson Creek	0.98	Siteworks	2264 Prospect Dr	10939368.00000	3580423.00000	N	Y	8/2/2017	02063		Commercial	TBD	5/30/2018
201	2016-2017	Detention	NE59	Slate Branch	7.25	Sturgill East	Florence Dr	10918604.00000	3593668.00000	N	Y	10/10/2008	00824		Residential	1.859498	5/2/2017
202	2016-2017	xtended Detention/Retentic	NE59	Slate Branch	10.43	Sturgill West	End of Siena Dr	10917735.00000	3593421.00000	N	Y	10/10/2008	00824		Residential	1.449797	5/2/2017
203	2017-2018	Bioretention	NE59	Slate Branch	0.18	Red Oak Self Storage	End of Red Oak Dr	10924058.00000	3591752.00000	N	Pending		02002		Commercial	0.18	8/1/2017

BMP SWM Facility Database

	DEQ USE							Town Use													
	Town of Christiansburg Permit No. VAR040025																				
ID	MS4 Permit Year	BMP Type	HUC	Impaired Waters	Impervious Area Treated (Acres)	Pervious Area Treated (Acres)	Acres Treated (GIS)	No. of Acres Treated (site plan)	Pond Name	Nearest Address	Easting	Northing	Town Maintained Y/N	Maintenance Agreement Y/N	Maint Agreement date	TOC Project Number	Parcel Number	Current Land Use	Acres Treated (site plan)	Date Brought Online	Most Recent Inspection Date
190	2016-2017	Bioretention Filter	NE58	Crab Creek	2.001977	1.138023	3.14	3.14	200 Scattergood Dr BR 1	200 Scattergood Dr	10923699.26500	3580672.56000	No	Yes	12/16/2016	02015	033540	Commercial	2.04	6/26/2017	
114	2008-2009	Detention	NE59	Slate Branch	2.06831	1.354716	3.423026	0.92	3W Corp Mini Storage	5 Midway Plaza Driv	10923291.52	3593526.526	No	No		00521	030248	Commercial	0	6/30/2002	6/26/2018
198	2016-2017	Extended Detention	NE58	Crab Creek	0.632882	1.767118	2.4	2.40	670 Scattergood	670 Scattergood	10922122.00000	3580164.00000	N	N (approved pre	7/1/2014)	01913		Commercial	TBD	3/3/2017	
111	2008-2009	Detention	RU04	Elliots Creek	1.396808	0.731797	2.128605	2.16	84 Lumber	2245 Roanoke St	10938669.87100	3578093.92100	No	No		00562		Commercial		6/30/2003	4/25/2017
108	2008-2009	Detention	NE59	Slate Branch	1.476931	3.530228	5.007159	4.58	Adventure World	200 Midway Plaza D	10922861.57320	3592770.57968	No	No		00595		Commercial		6/30/2004	6/26/2018
73	2016-2017	Bioretention Filter	RU07	Wilson Creek	0.426573	0.31158	0.738153	0.80	AEP Sub Station Bio-Retention	3785 Kirby Dr	10949202.05700	3579340.13500	No	Yes?		02016	140889	Commercial	0.70	12/1/2016	7/19/2017
172	2008-2009	Bioretention Filter	NE58	Crab Creek	1.140252	0.143933	1.284185	TBD	AEP Tech Drive Station	Falling Branch Indus	10933568.50500	3573717.18200	No	Yes	09/16/08	00822		Commercial		6/30/2009	4/26/2018
124	2008-2009	Detention	NE59	Slate Branch	0.500851	0.134906	0.635757	TBD	Affordable Efficiencies, Inc	1045 Peppers Ferry I	10917148.96600	3588810.94500	No	No		00404		Commercial		6/30/1998	6/13/2017
106	2008-2009	Detention	NE59	Slate Branch	0.711255	0.246419	0.957674	0.99	Affordable Self Storage	1035 Peppers Ferry I	10917015.30300	3589032.31700	No	No		00621		Commercial		6/30/2006	6/13/2017
136	2009-2010	Water Quality Swale	RU07	Wilson Creek	Not Installed	Not Installed	Not Installed	3.40	Air-Gas (no BMP on site)	2260 Prospect Dr	10939953.99730	3580037.93101	No	No		00666	025838	Commercial		NO BMP	5/31/2016
70	2008-2009	Detention	NE58	Crab Creek	2.003789	7.927084	9.930873	TBD	Alder Lane Pond	260 Alder Lane	10917321.33290	3584842.10176	Yes	N/A		01959	013232	Residential		6/30/2013	6/19/2018
199	2017-2018	Underground Detention	NE59	Slate Branch				2.32	Aldi	2265 North Franklin	10923204.00000	3587620.00000	N	Y	6/22/2017	02112		Commercial	2.26	6/25/2018	
80	2009-2010	Bioretention Filter	NE58	Crab Creek	2.228823	4.620234	6.849057	8.26	Aquatic Center Bioretention East	595 N. Franklin St	10925895.58900	3579241.11546	Yes	N/A		00642	070356	Commercial		7/26/2010	6/19/2018
79	2009-2010	Bioretention Filter	NE58	Crab Creek	1.747842	3.896207	5.644049	1.09	Aquatic Center Bioretention West	595 N. Franklin St	10925178.12210	3579432.82347	Yes	N/A		00642	010896	Commercial		7/26/2010	6/26/2018
130	2008-2009	Detention	NE59	Slate Branch	3.827417	4.085946	7.913363	1.00	Arbor View Phase 5/Burch Property Arbor Vie	95 Ponderosa Dr	10923699.55000	3591426.78600	Yes	No		00663		Commercial		6/30/1992	6/26/2018
31	2008-2009	Detention	NE58	Crab Creek	0.789699	1.54625	2.335949	2.42	B&B Storage Mini Storage	645 Radford St	10922847.05690	3575775.66549	No	No		00575		Commercial		6/30/2004	6/18/2018
3	2008-2009	Extended Detention	NE58	Crab Creek	0.262966	0.582838	0.845804	0.79	Badger St. Mini-Storage	925 Radford St	10921458.18270	3575737.49096	No	No		00812		Commercial		6/30/2009	6/18/2018
151	2013-2014	Bioretention Filter	RU07	Wilson Creek	2.300788	1.835072	4.13586	5.00	C.C.S., Inc.	2285 Prospect Dr NE	10940018.78910	3579454.64015	No	Yes		01065 as	140661	Commercial	2.48	11/12/2009	3/8/2017
4	2008-2009	Underground Detention	NE58	Crab Creek	2.489987	8.117877	10.607864	13.32	Cambria Crossing Phase 1	Welch Circle	10921243.58370	3585033.86402	No	No		00639		Residential		6/30/2006	
74	2008-2009	Bioretention Filter	NE58	Crab Creek	3.29171	1.253732	4.545442	4.25	Cambria Point Self-Storage	Behind 405 Cambria	10922104.64850	3585377.92247	No	Yes	06/09/08	00810	140652	Commercial		8/24/2009	6/9/2017
53	2008-2009	Detention	NE58	Crab Creek	0.519182	0.459399	0.978581	1.22	Cambriatowne	End of Collins St	10928785.42210	3580105.49460	No	No		01815		Residential		6/30/1995	5/10/2017
23	2008-2009	Detention	NE58	Crab Creek	1.558657	2.185378	3.744035	3.46	Charleston Place Townhomes	Republic and Lester	10929685.08500	3579449.87766	No	No		00622		Residential		9/9/2009	11/30/2017
173	2008-2009	Bioretention Filter	RU07	Wilson Creek	0.891345	1.217823	2.109168	TBD	CHP Energy Services Warehouse North	400 Industrial Dr	10940496.28850	3580380.01670	No	Pending		00653		Commercial		6/30/2007	6/29/2017
85	2008-2009	Bioretention Filter	RU07	Wilson Creek	0.24786	0.345003	0.592863	TBD	CHP Energy Services Warehouse South	400 Industrial Dr	10940496.28850	3580380.01670	No	Pending		00653		Commercial		6/30/2007	6/29/2017
88	2008-2009	Detention	RU07	Wilson Creek	2.40236	4.605831	7.008191	6.65	Christiansburg Baptist Church	2895 Roanoke St	10944926.03610	3579134.19075	No	No		00561		Commercial		6/30/2003	2/7/2017
5	2008-2009	Detention	NE58	Crab Creek	4.588902	11.625618	16.21452	16.58	Christiansburg Middle Front	1205 Buffalo Dr.	10922648.69050	3573607.05433	No	No		00517		Commercial		Montgomery Cı	Montgomery County MS4
6	2008-2009	Detention	NE58	Crab Creek	5.121756	20.428242	25.549998	27.26	Christiansburg Middle Rear	1205 Buffalo Dr.	10921278.64040	3574118.19463	No	No		00517		Commercial		Montgomery Cı	Montgomery County MS4
105	2008-2009	Detention	NE59	Slate Branch	1.076946	0.406718	1.483664	1.50	Church Of Jesus Christ Apostolic	783 Stafford Dr	10918741.42600	3591842.61100	No	No		00628		Commercial		5/28/2009	5/24/2017
131	2008-2009	Detention	RU07	Wilson Creek	53.526438	120.233562	173.76	173.76	CIP 1 Big Pond	471 Houchins Rd.	10941048.69530	3581185.25456	Yes	N/A		01981	120346	Open Land		no plans in fold	6/20/2018
132	2008-2009	Extended Detention	RU07	Wilson Creek	5.50667	11.340416	16.847086	13.84	CIP 2 Smaller WQ	555 Industrial Dr.	10939323.43490	3581354.52540	Yes	N/A		01054	160190	Open Land		8/13/2008	6/20/2018
49	2008-2009	Detention	NE58	Crab Creek	0.591252	0.289353	0.880605	0.95	Clearview Townhomes	Wimmer and Clearvi	10922953.24710	3578212.81479	No	No		00399		Residential		6/30/1997	6/18/2018
59	2008-2009	Detention	NE58	Crab Creek	1.341452	5.39125	6.732702	TBD	College and Depot St Intersection	560 College Street	10924378.52360	3574998.84220	Yes	N/A				Residential		couldn't find in	6/18/2018
24	2008-2009	Detention	NE58	Crab Creek	0.036682	0.040082	0.076764	0.66	College St Apts North	1105-1145 College S	10922781.40450	3573212.65652	No	No		00617		Residential		6/30/2007	6/15/2017
26	2008-2009	Detention	NE58	Crab Creek	0.049735	0.380734	0.430469	2.02	College St Apts South	adjacent to 1145 Col	10922676.72540	3573051.82956	No	No		00617		Residential		6/30/2007	6/15/2017
149	2013-2014	Bioretention Filter	RU07	Wilson Creek	1.196823	0.513177	1.71	1.71	Collins Property North	2340 Roanoke St (re	10939623.28300	3579259.02500	No	Yes		01900	003759	Commercial	1.39	8/20/2013	5/17/2017
148	2013-2014	Bioretention Filter	RU04	Elliots Creek	1.858739	0.251261	2.11	TBD of 2.11	Collins Property South	2340 Roanoke St (be	10939575.75700	3578789.72200	No	Yes		01900	003759	Commercial	1.75	8/20/2013	5/17/2017
147	2013-2014	Underground Detention	RU04	Elliots Creek	0.271524	0.014629	0.286153	TBD of 2.4	Collins Property Underground	2340 Roanoke St	10939488.16100	3578768.17200	No	Yes		01900	003759	Commercial	1.97	8/20/2013	
35	2008-2009	Detention	NE58	Crab Creek	0.590103	0.535599	1.125702	1.20	Corner Stone Townhouses Ph 1	1422 Scott Street	10934547.82900	3578083.65100	No	No		00549		Residential		6/30/2000	5/17/2017
22	2008-2009	Detention	NE58	Crab Creek	0.337971	0.617018	0.954989	1.78	Corner Stone Townhouses Ph 2	1473 Scott St	10934552.88300	3577695.50930	No	No		00549		Residential		6/30/2002	5/17/2017
181	2016-2017	Sand Filter	NE59	Slate Branch					Corning Nitrogen Facility	3050 North Franklin	10922147.48900	3591604.62100	No			02019	003993	Commercial		1/5/2017	
126	2008-2009	Detention	RU04	Elliots Creek				TBD	Cracker Barrel	30 Hampton Blvd	10942736.72050	3579563.84649	No	No		00140		Commercial		6/30/1988	1/24/2017
110	2008-2009	Infiltration	RU04	Elliots Creek	0.224558	0.245442	0.47	0.47	Creative Family Solutions	180 Teel St	10938458.77500	3578708.72500	No	No		00580		Commercial		6/30/2004	2/7/2017
182	2016-2017	Bioretention Filter	NE58	Crab Creek	0.578154	0.231846	0.81	0.81	Dairy Queen Bioretention	950 North Franklin S	10924437.45200	3580855.40700	No	Yes	8/2/2016	02036	004583	Commercial	0.59	8/8/2016	
183	2016-2017	Underground Detention	NE58	Crab Creek	0.411181	0.088819	0.5	1.39	Dairy Queen Underground	950 North Franklin S	10924608.00800	3580748.74000	No	Yes	8/2/2016	02036	004583	Commercial	N/A	8/8/2016	
150	2013-2014	Extended Detention	RU07	Wilson Creek	3.442075	3.756123	7.198198	2.40	Davenport Energy	2275 Prospect Dr NE	10939609.06690	3579448.56377	No	Yes		01056 as	170126	Commercial		11/12/2009	11/30/2017
29	2008-2009	Underground Detention	NE58	Crab Creek	0.887758	1.96697	2.854728	3.48	Deli-Mart # 22	1250 W Main St	10922948.88680	3572505.73000	No	No		00584		Commercial		6/30/2004	
76	2008-2009	Extended Detention	NE58	Crab Creek	0.21729	0.241373	0.458663	TBD of 7.16	Depot St. Townhomes	Behind 10 - 40 Static	10928026.33400	3580521.06700	No	Yes		00841		Residential		6/13/2014	6/15/2017
158	2008-2009	Manufactured BMP	NE58	Crab Creek	0.10616	1.227107	1.333267	TBD of 7.16	Depot St. Townhomes Filterra	adjacent to 40 Static	10928026.33400	3580521.06700	No	Yes		00841		Residential		6/13/2014	6/15/2017
178	2014-2015	Detention	NE58	Crab Creek	31.750564	54.949436	86.7	86.7	Diamond Hills Park SWM Basin	105 Oak Tree Boulev	10924313.21	3583579.883	Yes	No		01965	035570	Commercial	11.00	04/14/14	6/27/2018
60	2008-2009	Detention???	NE58	Crab Creek	127.869909	362.230091	490.1	490.10	Edgemont of Diamond Hill	Multiple Addresses	10920015.63120	3581457.19042	Yes	N/A		01965	033160	Residential		5/30/2014	9/20/2017
119	2016-2017	Enhanced Extended Detention	RU04	Elliots Creek	3.209877	2.470123	5.68	3.53?	Fairfield Inn / Homewood Suites	2659 Roanoke St	10943141.57200	3578265.97000	No	Yes	05/28/14	01999	036008	Commercial		7/1/2016	6/20/2017
133	2008-2009	Detention	RU04	Elliots Creek				15.99	Falling Branch	Glade Dr & Cullen Ct	10941899.17280	3577338.24936	Yes	N/A		00931	030406	Residential		6/30/1991	4/26/2018
7	2008-2009	Detention	NE58	Crab Creek	4.44533	15.95467	20.4	TBD	Falling Branch Elementary	735 Falling Branch R	10936410.68200	3574973.71800	No	No				Commercial		Montgomery Cı	Montgomery County MS4
8	2008-2009	Enhanced Extended Detention	NE58	Crab Creek	30.311596	128.788404	159.1	159.10	Falling Branch Industrial Park	Technology Dr	10935341.94050	3574158.59277	No	Yes	10/19/10	01979		Commercial		9/6/2012	4/26/2018
154	2013-2014	Bioretention Filter	NE58	Crab Creek	0.087515	0.235343	0.322858	0.31	Fisher St Townhomes	115 Fisher Street	10936924.22820	3577977.05048	No	Yes		01899	010610	Residential		4/16/2014	6/22/2017
159	2013-2014	Underground Detention	NE58	Crab Creek	0.000288	0.160041	0.160329	TBD of 0.31	Fisher St Townhomes Underground	115 Fisher Street	10936856.57400	3577963.45500	No	Yes		01899	010610	Residential		4/16/2014	6/22/2017
120	2008-2009	Detention	RU04	Elliots Creek	0.425785	0.168645	0.59443	TBD	Fleetwood Homes	1340 W Main Street	10923173.51400	3571842.82300	No	No		00462		Commercial		6/30/1999	6/21/2017
48	2008-2009	Detention	NE58	Crab Creek	5.625952	2.343087	7.969039	6.00	Food Lion on Roanoke St.	1530 Roanoke St.	10935206.89920	3577374.77586	No	No		00402		Commercial		6/30/1997	6/15/2017
58	2008-2009	Infiltration	NE58	Crab Creek	0.124908	0.027259	0.152167	0.27	Forest Street Townhomes	1015-1045 Forest St	10929286.52830	3578548.40297	No	No		00457		Residential		6/30/1999	5/9/2017
81	2009-2010	Extended Detention	NE58	Crab Creek	0.936313	13.283514	14.219827	14.78	Good Samaritan Hospice	1160 Moose Dr	10922400.88730	3572980.38453	No	Yes		00846	008095	Commercial		7/13/2010	5/16/2017
141	2011-2012	Infiltration	RU07	Wilson Creek				1.36	Good Shepherd Baptist Church	155 Dunlap Drive	10945717.00860	3579398.24421	No	Yes		01076	071134	Commercial		6/30/2012	6/21/2017
191	2016-2017	Bioretention Filter	NE58	Crab Creek				1.43	Graceway Bioretention	135 Scattergood Dr	10924322.07800	3581379.01800	No	Yes	7/14/2017	02000	026162	Commercial	0.98	9/16/2016	
192	2016-2017	Detention	NE58	Crab Creek				5.11	Graceway Detention South	135 Scattergood Dr	10924330.13300	3581314.57400	No	Yes	7/14/2017	02000	026162	Commercial	N/A	9/16/2016	
193	2016-2017	Underground Detention	NE58	Crab Creek				0.49	Graceway Underground	135 Scattergood Dr	10924244.30000	3581253.46200	No	Yes	7/14/2017	02000	026162	Commercial	N/A	9/16/2016	
129	2008-2009	Retention	RU07	Wilson Creek				20.56	Hampton Blvd Pond	95 Hampton Blvd	10943253.55640	3580201.31359	No	No		00082		Commercial		6/30/1985	6/21/2017
61	2008-2009	Detention	NE58	Crab Creek	28.321751	47.000263	75.322014	75.32	Hans Meadow	240 Village Lane	10935422.12140	3579348.62421	Yes	N/A		01405	090607	Residential		6/30/2004	6/20/2018
89	2008-2009	Detention	RU04	Elliots Creek	1.623974	1.310782	2.934756	3.44	Harbor of Hope Church Front	2720 Roanoke St	10943739.69700	3579264.75124	No	No		00590		Commercial		6/30/2005	3/8/2017
90	2008-2009	Detention	RU07	Wilson Creek	1.784136	5.076301	6.860437	5.64	Harbor of Hope Church Rear	2720 Roanoke St	10943695.42620	3579881.93874	No	No		00590		Commercial		6/30/2005	3/8/2017
87	2008-2009	Extended Detention	RU07	Wilson Creek	1.449902	1.500098	2.95	2.95	Harley-Davidson	2700 Roanoke St	10943352.68550	3579753.98241	No	No		00667		Commercial		6/26/2009	6/21/2017
194	2017-2018	Bioretention	RU04	Elliots Creek	1.644618	1.055382	2.7	TBD	Harmon/Shelor Parking Lot	2435 Roanoke St	10940972.4	3578557.297	N	N (approved pre	7/1/2014)	01898		Commercial	TBD	2/1/2018	
33	2008-2009	Detention	NE58	Crab Creek	0.104099	0.533991	0.63809	TBD	Haymaker St Apartments	Haymaker & Liberty	10930449.96010	3577173.29188	No	No		00567		Residential		6/30/2003	5/9/2017
170	2008-2009	Infiltration	NE58	Crab Creek	0.113866	0.246339	0.360205	0.26	Haymaker St Apartments Infiltration A	Next to 143 Haymak	10930773.56800	3577420.48200	No	No		00567		Residential		6/30/2003	5/9/2017
171	2008-2009	Infiltration	NE58	Crab Creek	0.007055	0.056019	0.063074	0.04	Haymaker St Apartments Infiltration B	Next to 131 Haymak	10930710.08500	3577617.72200	No	No		00567		Residential		6/30/2003	5/9/2017
21	2008-2009	Detention	NE58	Crab Creek	3.669807	7.012134	10.681941	TBD	Henley Place	Behind 1650 -1680 Y	10921299.22800	3584495.98100	No	No		01061		Residential		6/30/2006	6/9/2017

46	2008-2009	Underground Detention	NE58	Crab Creek	2.11873	0.04127	2.16	2.16	Hokie Honda / Hyundai Front	2040 Roanoke St	10937541.68160	3578210.02247	No	No		00429		Commercial		6/30/1998						
123	2008-2009	Detention	RU04	Elliots Creek	3.422968	1.417032	4.84	4.84	Hokie Honda / Hyundai Rear	2040 Roanoke St	10937425.56620	3578848.73467	No	No		00429		Commercial		6/30/1998	6/22/2017					
160	2011-2012	Bioretention Filter	NE59	Slate Branch	0.116814	0.053847	0.170661	TBD of 0.94	Holiday Inn Biofilter Front	99 Bradley Drive	10921413.97800	3588396.07200	No	Yes	04/23/10	01057	032241	Commercial		8/31/2011	6/27/2018					
140	2011-2012	Bioretention Filter	NE59	Slate Branch	0.217606	0.094515	0.312121	TBD of 0.94	Holiday Inn Biofilter North	99 Bradley Drive	10921255.47660	3588442.70857	No	Yes	04/23/10	01057	032241	Commercial		8/31/2011	6/27/2018					
161	2011-2012	Bioretention Filter	NE59	Slate Branch	0.235579	0.063689	0.299268	TBD of 0.94	Holiday Inn Biofilter South	99 Bradley Drive	10921255.47660	3588442.70857	No	Yes	04/23/10	01057	032241	Commercial		8/31/2011	6/27/2018					
116	2008-2009	Detention	RU04	Elliots Creek	0.692461	0.937539	1.63	1.63	Holiday Inn Express	2725 Roanoke St	10943681.22400	3578975.55200	No	No		00513		Commercial		6/30/2001	6/20/2017					
16	2008-2009	Detention	NE58	Crab Creek	0.771444	1.566311	2.337755	1.78	Holy Spirit Catholic Church	355 Independence B	10922986.61560	3581326.06184	No	No		00560	032621	Commercial		6/30/2003	6/21/2017					
72	2008-2009	Detention	NE58	Crab Creek	3.302856	6.677155	9.980011	10.17	Huff Heritage	Huff Heritage Lane	10935902.45140	3575488.15861	Yes	N/A		00629	121009	Residential		8/27/2009	6/20/2018					
37	2008-2009	Detention	NE58	Crab Creek	1.418952	2.642186	4.061138	4.46	Hunters Ridge Phase 2	Behind 230 Hunters	10921787.37790	3584309.18836	No	No		00502		Residential		6/30/2001	6/9/2017					
38	2008-2009	Detention	NE58	Crab Creek	0.711295	0.578228	1.289523	1.83	Hunters Ridge Phase 3	Adjacent to 1646 Pr	10921786.02370	3584769.95515	No	No		00502		Residential		6/30/2001	6/9/2017					
128	2008-2009	Detention	RU04	Elliots Creek	Never Built	Never Built	Never Built	TBD	Interstate - Falling Branch Interchange	Ever Built?	10939554.11500	3576501.43000	No	No		N/A		Open Land		Not Constructe	VDOT					
127	2008-2009	Detention	RU04	Elliots Creek	VDOT	VDOT	VDOT	TBD	Interstate - Near cracker barrel	30 Hampton Blvd	10942309.58510	3579215.98191	No	No				Commercial		VDOT	VDOT					
41	2008-2009	Detention	NE58	Crab Creek	0.111921	0.284217	0.396138	0.33	John Cromer Garage	845 E. Main	10928348.65900	3580265.65600	No	No		00484		Commercial		6/30/2000	3/8/2017					
62	2008-2009	Detention	NE58	Crab Creek	1.800887	10.17878	11.979667	11.94	Kamran	355 Warren St	10922121.59100	3577544.69772	Yes	N/A		01679	031065	Residential		6/30/1992	6/18/2018					
184	2016-2017	Manufactured BMP	NE58	Crab Creek	6.5818	1.463632	8.045432	1.61	Kroger	555 North Franklin S	10925843.07700	3578590.61500	No	Yes	2/22/2016	00471	035647	Commercial	1.39	3/30/2017						
45	2008-2009	Detention	NE58	Crab Creek	0.32865	0.517412	0.846062	TBD	Kyle Manor	College and Buffalo	10922905.29750	3573513.04787	No	No		00451		Residential		6/30/1999	5/16/2017					
36	2008-2009	Retention Pond	NE58	Crab Creek	Removed	Removed	Removed	TBD	Larry Martin Site Plan (BMP removed)	2886 Roanoke St	10945051.00000	3579643.31100	No	No		00527		Commercial		Has Been Remc	3/30/2015					
13	2008-2009	Detention	NE58	Crab Creek	0.251631	0.336157	0.587788	0.46	Majestic Dr. Townhomes	55 Majestic Dr	10919271.18300	3588278.94718	No	No		00541		Residential		6/30/2002	6/27/2018					
179	2007	Detention	NE59	Slate Branch	35.607099	64.535419	100.142518	TBD	Market Place Rt 114 eastmost	Along Rt 114 ext behind Office Depot			No	No		00990 and 01368		Commercial		NOT A BMP	10/11/2016					
180	2007	Detention	NE59	Slate Branch	0.310129	1.201511	1.51164	TBD	Market Place Rt 114 westmost	Along Rt 114 ext behind Office Depot			No	No		00990 and 01368		Commercial		NOT A BMP	10/11/2016					
91	2008-2009	Detention	NE59	Slate Branch				TBD	Market Place/Arbor View Pond Modification	Between 2500 and 2	10922729.37700	3589509.52500	No	No		00990 and 01371		Commercial		6/30/1990	6/13/2017					
47	2008-2009	Detention	NE58	Crab Creek	1.880178	1.738141	3.618319	4.50	Marshall Concrete Batch Plant	700 Block Lane	10928134.59140	3583705.71354	No	No		00415		Commercial		6/30/1998	11/30/2016					
77	2009-2010	Manufactured BMP	NE58	Crab Creek	0.479882	0.101396	0.581278	0.59	McDonalds	1595 N. Franklin St	10925038.01170	3583992.49153	No	Yes	06/25/09	00842	013213	Commercial		3/22/2010	6/13/2017					
142	2012-2013	Extended Detention	RU04	Smith Creek	2.151566	28.825251	30.976817	8.76	Melinda's Melody / Kensington	450 Thaddeus Ln NV	10919753.69820	3572275.48111	No	Yes	12/16/10	01060	170238	Residential		10/8/2012	3/7/2017					
122	2008-2009	Detention	NE59	Slate Branch	3.404886	12.814724	16.21961	15.50	Merchants Tire and Auto / Halberstadt Triang	400 Peppers Ferry R	10920366.80200	3588219.85443	No	No		00443 an d	01383	Commercial		6/30/1999	6/27/2018					
125	2008-2009	Detention	NE59	Slate Branch	0.563234	0.38286	0.946094	TBD	Midas Muffler (Now Enterprise)	55 Ponderosa Drive	10923396.56000	3591519.31911	No	No		00356 and 00663		Commercial		6/30/1996	6/26/2018					
27	2008-2009	Detention	NE58	Crab Creek	0.254649	0.196326	0.450975	TBD	Middle Ct Townhomes	Moose and Buffalo I	10922586.25520	3573441.04044	No	No		00599		Residential		6/30/2005	3/7/2017					
115	2008-2009	Infiltration	RU07	Wilson Creek	Not Installed	Not Installed	Not Installed	2.00	Midway Discount Center (BMP never built)	215 County Dr	10924182.61400	3592542.02100	No	No		00516		Commercial		NEVER BUILT	5/16/2016					
112	2008-2009	Detention	NE59	Slate Branch	0.193928	1.11763	1.311558	1.41	Midway Office Park (AHV Office)	20 Midway Plaza Dri	10923299.77400	3592791.01300	No	No		00538		Commercial		6/30/2002	6/2/2017					
157	2008-2009	Bioretention Filter	NE58	Crab Creek	0.215771	0.886979	1.10275	TBD of 4.45	Mink Street Subdivision Ashton Ct East	105 Ashton Ct.	10919592.65840	3575224.94790	No	No		00665		Residential		1/20/2012	6/18/2018					
2	2008-2009	Bioretention Filter	NE58	Crab Creek	0.330039	1.585716	1.915755	TBD of 4.45	Mink Street Subdivision Ashton Ct West	100 Ashton Ct.	10919592.65840	3575224.94790	No	No		00665		Residential		1/20/2012	6/18/2018					
82	2011-2012	Manufactured BMP	NE58	Crab Creek	0.149618	0.002698	0.152316	2.45	Montgomery County Courthouse	55 E Main St	10926880.34510	3576462.42473	No	Yes		00845	071124	Commercial		Montgomery C	3/30/2017					
83	2011-2012	Underground Detention	NE58	Crab Creek	0.647207	0.032956	0.680163	2.45	Montgomery County Courthouse	55 E Main St	10926836.26030	3576436.75746	No	Yes		00845	071124	Commercial		Montgomery C	3/30/2017					
51	2008-2009	Infiltration	NE58	Crab Creek				TBD	Mt Zion Holy Church of America	385 Depot St	10926669.41720	3579204.11970	No	No		00194		Commercial		6/30/1992	12/1/2016					
113	2008-2009	Detention	RU04	Elliots Creek	0.495276	0.298844	0.79412	TBD	Mud Pike Mini Storage	1335 Mudpike	10922463.40120	3572335.54529	No	No		00526		Commercial		6/30/2002	3/07/2017					
52	2008-2009	Detention	NE58	Crab Creek	2.72527	4.135128	6.860398	TBD	New Energy Dist Inc (BMP may be gone)	2300 Prospect Dr	10940425.96350	3580239.57420	No	No		00152		Commercial			6/29/2017					
92	2008-2009	Detention	NE59	Slate Branch	0.696094	15.593906	16.29	16.29	New River Village Phase 1 A	Across from Albert L	10915579.84800	3589282.70300	No	No		00781		Residential		6/30/2002	6/6/2017					
93	2008-2009	Detention	NE59	Slate Branch	26.633716	130.756284	157.39	157.39	New River Village Phase 1 B	Behind 195 Sequoia	10915662.86300	3590295.23200	No	No		00781		Residential		6/30/2002	2/14/2017					
94	2008-2009	Detention	NE59	Slate Branch	4.132847	17.570636	21.703483	22.26	New River Village Phase 5	Behind 180 Aster La	10915834.77450	3591596.34196	No	No		00781		Residential		6/30/2005	6/6/2017					
196	2017-2018	Bioretention	NE59	troubles Cree	0.252689	0.577311	0.83	0.83	New River Village Townhomes BR Middle	Along Village Lane	10916031.00000	3589751.00000	N	Pending		02008		Residential	TBD	11/7/2017						
195	2017-2018	Bioretention	NE59	troubles Cree	0.092933	0.567067	0.66	0.66	New River Village Townhomes BR North	Bozeman Trail	10916038.21	3589584.217	N	Pending		02008		Residential	TBD	11/7/2017						
197	2017-2018	Bioretention	NE59	troubles Cree	0.315271	1.464729	1.78	1.78	New River Village Townhomes BR South	End of Lunaria Lane	10915815.00000	3589612.00000	N	Pending		02008		Residential	TBD	11/7/2017						
43	2008-2009	Detention	NE58	Crab Creek	Not Installed	Not Installed	Not Installed	TBD	Northgate Village Shopping Center Expansion	2025 Cambria St	10925859.89290	3584426.33311	NOT Installed per P	No		00476		Commercial		NEVER BUILT	5/24/2016					
186	2016-2017	Bioretention Filter	NE58	Crab Creek	0.328552	0.251448	0.58	1.30	Northwest True Value Bioretention	520 Roanoke St	10930333.41400	3576701.56300	No	Yes	8/19/2016	02037	000814	Commercial	0.32	8/24/2016						
188	2016-2017	Grass Channel	NE58	Crab Creek	0.12959	0.26041	0.39	0.79	Northwest True Value Grass Channel East	520 Roanoke St	10930464.31700	3576806.77100	No	Yes	8/19/2016	02037	000814	Commercial	0.52	8/24/2016						
187	2016-2017	Grass Channel	NE58	Crab Creek	0.375436	0.114564	0.49	0.97	Northwest True Value Grass Channel West	520 Roanoke St	10930151.12200	3576801.21500	No	Yes	8/19/2016	02037	000814	Commercial	0.39	8/24/2016						
162	2008-2009	Manufactured BMP	NE59	Slate Branch				TBD	NRV Mall Aqua-Filters at Shoppers Way Front	Shoppers Way Parkii	10922029.01000	3590147.25300	No	No	Pending	00645		Commercial		6/30/2007						
163	2008-2009	Manufactured BMP	NE59	Slate Branch				TBD	NRV Mall Aqua-Filters at Shoppers Way Front	Shoppers Way Parkii	10921969.34000	3590166.78400	No	No	Pending	00645		Commercial		6/30/2007						
164	2008-2009	Manufactured BMP	NE59	Slate Branch				TBD	NRV Mall Aqua-Filters at Shoppers Way Front	Shoppers Way Parkii	10921808.75000	3590303.50300	No	No	Pending	00645		Commercial		6/30/2007						
86	2008-2009	Manufactured BMP	NE59	Slate Branch				TBD	NRV Mall Aqua-Filters at Shoppers Way North	Shoppers Way Parkii	10921679.62700	3590687.61800	No	No	Pending	00645		Commercial		6/30/2007						
95	2008-2009	Detention	NE59	Slate Branch	30.024347	14.730694	44.755041	TBD	NRV Mall Pond at Shoppers Way	175 Shoppers Way	10921459.22120	3590514.87541	No	No		00645		Commercial		6/30/2007	5/25/2017					
96	2008-2009	Detention	NE59	Slate Branch				TBD	NRV Mall Pond North		10920871.22500	3590346.31000	No	No		01787		Commercial		6/30/1988	1/19/2017					
97	2008-2009	Detention	NE59	Slate Branch				TBD	NRV Mall Pond West		10920635.41200	3589675.14000	No	No		01410		Commercial		6/30/2006	6/29/2017					
17	2008-2009	Detention	NE58	Crab Creek	0.813726	1.294432	2.108158	2.28	NRV VASAP	175 Independence B	10923783.88000	3581637.97128	No	No		01409	009503	Commercial		6/30/2005	6/22/2017					
176	2007	Detention	NE58	Crab Creek	1.452133	3.304557	4.75669	TBD	Nugget Ridge	Nugget Ridge Rd anc	10922641.39000	357635.94000	No	No		01324		Residential		6/30/1985	5/16/2017					
63	2008-2009	Detention	NE58	Crab Creek	0.469438	10.785084	11.254522	12.51	Old Landfill	Wades Lane	10921766.49060	3579408.07292	Yes	N/A		01804	070357	Open Land		6/30/2002	6/27/2018					
55	2008-2009	Underground Detention	NE58	Crab Creek	0.972652	1.477348	2.45	2.45	Old School Townhouses (BMP may not exist)	School Lane	10926975.01300	3578450.30300	No	No		00433		Residential		NO BMP?	5/9/2016					
166	2009-2010	Detention	NE58	Crab Creek	0.17834	0.128052	0.306392	TBD of 0.8	O'Reilly Auto Parts front	1275 Roanoke St	10933732.18600	3577675.34900	No	Yes		00996	021404	Commercial		7/26/2010	5/18/2017					
78	2009-2010	Manufactured BMP	NE58	Crab Creek	0.491312	0.450444	0.941756	TBD of 0.8	O'Reilly Auto Parts Manufactured	1275 Roanoke St	10933682.71970	3577693.71555	No	Yes		00996	021404	Commercial		7/26/2010	5/18/2017					
165	2009-2010	Detention	NE58	Crab Creek	0.312957	0.322408	0.635365	TBD of 0.8	O'Reilly Auto Parts Side	1275 Roanoke St	10933616.70000	3577605.37500	No	Yes		00996	021404	Commercial		7/26/2010	5/18/2017					
19	2008-2009	Detention	NE58	Crab Creek	0.473315	2.902209	3.375524	TBD	Overlook Court	75 Overlook Dr	10924056.54040	3577722.79345	No	No		00794		Residential		6/30/2005	6/18/2018					
189	2015-2016	Manufactured BMP	NE59	Slate Branch	0.511441	0.094941	0.606382	0.12	Panda Express	250 Peppers Ferry R	10921273.91300	3588682.77900	No	No		02030	028825	Commercial	0.12	2/1/2016	6/26/2018					
54	2008-2009	Underground Detention	NE58	Crab Creek	0.592188	0.397812	0.99	0.99	Park Street Townhouses	702-740 Park Street	10930809.24880	3578660.16491	No	No		00532		Residential		6/30/2002						
28	2008-2009	Detention	NE58	Crab Creek	1.19615	5.154292	6.350442	TBD	Peppers Crossing Subdivision	85 Johns Ct	10919693.54900	3587446.38800	Yes	N/A		00593		Residential		6/30/2004	6/19/2018					
30	2008-2009	Detention	NE58	Crab Creek	2.500197	2.849958	5.350155	5.17	Pilot Homes Mini-Storage	170 Simmons Rd SE	10938404.72300	3577958.60600	No	No		00577		Commercial		6/30/2004	12/1/2016					
39	2008-2009	Detention	NE58	Crab Creek	0.175517	0.50854	0.684057	TBD	Precision Business and Warehouse Front	806 Radford St	10922056.00700	3575454.29200	No	No		00491		Commercial		6/30/2003	6/18/2018					
40	2008-2009	Detention	NE58	Crab Creek	0.503993	0.817671	1.321664	TBD	Precision Business and Warehouse Middle	806 Radford St	10922061.01300	3575299.08100	No	No		00491		Commercial		6/30/2003	6/18/2018					
64	2008-2009	Detention	NE58	Crab Creek	5.033565	22.810667	27.844232	48.18	R&W Subdivision	Behind 285 Epperly	10929633.71560	3574690.67876	Yes	N/A		01831	032510	Residential		6/30/1995	6/20/2018					
75	2008-2009	Extended Detention	NE58	Crab Creek	0.683566	0.80812	1.491686	1.33	R.E. Michels	275 Scattergood Dr	10923302.09210	3581056.97808	No	Yes	11/10/08	00827	036124	Commercial		9/28/2009	6/21/2017					
203	2017-2018	Bioretention	NE59	Slate Branch	0.18	0.18		0.18	Red Oak Self Storage	End of Red Oak Dr	10924058.00000	3591752.00000	N	Pending		02002		Commercial	0.18	8/1/2017						
185	2016-2017	Bioretention Filter	NE59	Slate Branch	1.156331	0.640798	1.797129	0.79	Regent Plaza	3225 North Franklin	10923657.74000	3592468.11000	No		8/15/2016	02039	019746	Commercial	0.56	8/14/2016						
155	2013-2014	Bioretention Filter	NE58	Crab Creek	0.092514	0.022562	0.115076	0.09	Rice Maco	1015 Radford Street	10920807.99300	3575707.23400	No	Yes		01988	010299	Commercial		4/29/2014	6/18/2018					
32	2008-2009	Detention	NE58	Crab Creek	0.134929	0.105089	0.240018	TBD	Rice Realty	600 Radford St	10922833.64320	3575680.46971	No	No		00574		Commercial		6/30/2004	6/18/2018					
65	2008-2009	Detention	NE58	Crab Creek	25.363824	99.425122	124.788946	121.87	Ridge View Subdivision	1515 Sleepy Hollow	10920788.88820	3583290.90637	Yes	N/A		00753	031232	Residential		6/30/1993	6/19/2018					
121	2008-2009	Detention	NE58	Crab Creek	1.995483	3.584872	5.580355	6.70	Rt 114 Mini Storage	710 Peppers Ferry R	10918654.72950	3588099.09703	No	No		00453		Commercial		6/30/1999	12/4/2017					
109	2008-2009	Underground Detention	RU04	Elliots Creek	4.399049	2.200951	6.6	6.60	Shelor Dodge	2395 Roanoke St	10940500.71500	3578087.57200	No	No		00581		Commercial		6/30/2004						
117	2008-2009	Underground Detention	RU04	Elliots Creek	0.599994	0.260006	0.86	TBD	Shelor Motor Mile	Across from 240 Jarr	10939878.17040	3578004.29023	No	No		00504		Commercial		6/30/2001						
143	2012-2013	Bioretention Filter	RU04	Elliots Creek	0.319748	-0.039748	0.28	0.26	Shelor Service Center Addition East	295 Jarrett Dr SE	10939813.55800	3577623.76900	No	Yes		01902	036084	Commercial			6/20/2017					
144	2012-2013	Bioretention Filter	RU04	Elliots Creek	5.158448	2.611552	7.77	0.21	Shelor Service Center Addition West	295 Jarrett Dr SE	10939578.34610	3577566.51355	No	Yes		01902	036084	Commercial			6/20/2017					
145	2012-2013	Extended Detention	RU04	Elliots Creek				TBD	Shelor Toyota	2230 Roanoke St	10938867.06580	3578760.88647	No	Yes		01066	020545	Commercial		10/19/2012	6/22/2017					
146	2012-2013	Underground Detention	RU04	Elliots Creek				TBD	Shelor Toyota Underground	2230 Roanoke St	10938984.77410	3578740.57397	No	Yes		01066	020545	Commercial		10/19/2012	6/22/2017					
107	2008-2009	Infiltration	RU04	Elliots Creek	0.076058	0.206789	0.282847	0.46	Sink's Antiques	2150 Roanoke St	10938270.29000	3578498.77000	No	No		00605		Commercial		6/30/2005	12/1/2016					

200	2017-2018	Bioretention	RU07	Wilson Creek				0.98	Siteworks	2264 Prospect Dr	10939368.00000	3580423.00000	N	Y	8/2/2017	02063		Commercial	TBD	5/30/2018	
134	2008-2009	Detention	NE59	Slate Branch	3.982435	10.779105	14.76154	TBD	Slate Creek Commons	Adjacent to 165 Wal	10916829.85600	3589717.88383	Yes	N/A		00589	110420	Residential		12/8/2009	6/27/2018
66	2008-2009	Detention	NE58	Crab Creek	0.455211	2.797978	3.253189	TBD	South Hill Park Addition	360 Auburn Dr.	10923912.97560	3572096.37753	Yes	N/A		00992	030767	Residential		6/30/1991	6/20/2018
152	2013-2014	Bioretention Filter	RU07	Wilson Creek	0.28923	0.24863	0.53786	TBD of 0.79	Southern Refrigeration Bioretention	3235 N Franklin St	10923989.16500	3592671.13900	No	Yes		01915	027584	Commercial		4/29/2014	6/26/2018
169	2013-2014	Detention	RU07	Wilson Creek	0.16556	0.069719	0.235279	TBD of 0.79	Southern Refrigeration Detention	3235 N Franklin St	10924011.57100	3592757.56500	No	Yes		01915	027584	Commercial		4/29/2014	6/26/2018
118	2008-2009	Detention	NE59	Slate Branch	39.383449	40.016551	79.4	79.40	Spradlin Farms	Next to 180 Conston	10921800.20830	3586885.34837	No	No		00488		Commercial		6/30/2000	3/2/2017
98	2008-2009	Detention	NE59	Slate Branch	2.031703	8.694103	10.725806	9.84	Stafford Farms	Adjacent to 225 Mea	10917753.27290	3590777.08819	No	No		00788		Residential		6/30/2003	6/29/2017
201	2016-2017	Detention	NE59	Slate Branch	1.859498	21.984315	23.843813	7.25	Sturgill East	Florence Dr	10918604.00000	3593668.00000	N	Y	10/10/2008	00824		Residential	TBD	5/2/2017	5/2/2017
202	2016-2017	Extended Detention/Retention	NE59	Slate Branch	1.449797	14.129203	15.579	10.43	Sturgill West	End of Siena Dr	10917735.00000	3593421.00000	N	Y	10/10/2008	00824		Residential	TBD	5/2/2017	5/2/2017
67	2008-2009	Detention	NE58	Crab Creek	1.372232	5.670913	7.043145	TBD	Sun Village East	470 Wakeman Court	10927046.78860	3583229.24862	Yes	N/A		01117		Residential		6/30/1984	6/19/2018
68	2008-2009	Detention	NE58	Crab Creek	2.506735	11.793749	14.300484	TBD	Sun Village West	240 Wakeman Court	10926346.78860	3583119.87362	Yes	N/A		01117		Residential		6/30/1984	6/19/2018
50	2008-2009	Detention	RU07	Wilson Creek	2.924681	1.719017	4.643698	3.67	Super 8 Mini-storage	2840 Roanoke St	10944479.51030	3579605.20088	No	No		00373		Commercial		6/30/1999	2/23/2017
42	2008-2009	Detention	NE59	Slate Branch	7.797561	22.082439	29.88	29.88	Target Pond	195 Conston Ave	10922462.93500	3586200.39900	No	No		00478		Commercial		6/30/2000	2/1/2017
174	2016-2017	Infiltration Basin	NE58	Crab Creek	0.170372	0.579628	0.75	0.75	The Haven (Hill Street)	Behind 202 A- D Hill	10926755.02100	3577598.54900	No	Yes	07/08/16	02007	021114	Residential	0.18	07/01/16	7/19/2017
18	2008-2009	Detention	NE58	Crab Creek	3.316901	3.926097	7.242998	1.08	The Hillside	500 Block Radford St	10923325.31100	3575689.53830	No	No		00633	000161	Residential		6/30/2006	6/18/2018
102	2008-2009	Retention	NE59	Slate Branch	0.427664	34.08352	34.511184	TBD	The Villas at Peppers Ferry Front Pond 1	West of Quin W. Stu	10920069.69600	3589268.35200	No	No		00588		Residential		6/30/2004	6/26/2018
168	2008-2009	Retention	NE59	Slate Branch	1.255937	8.253102	9.509039	TBD	The Villas at Peppers Ferry Front Pond 2	East of Quin W. Stu	10920317.09200	3589412.08300	No	No		00790		Residential		6/30/2004	6/26/2018
103	2008-2009	Detention	NE59	Slate Branch				TBD	The Villas at Peppers Ferry Middle	East of Patriots Way	10919975.65900	3590196.96600	No	No		00790		Residential		11/26/2012	5/25/2017
44	2008-2009	Detention	NE58	Crab Creek	0.998692	3.185225	4.183917	4.81	Twin Oaks Phase 1	Adjacent to 770 Rep	10929719.98300	3579253.88500	No	No		00461		Residential		6/30/2001	3/8/2017
56	2008-2009	Infiltration	NE58	Crab Creek	0.123267	0.1751	0.298367	0.17	Valley Propane Infiltration 1	225 Cambria Street I	10923465.08390	3585264.40961	No	No		00309	031939	Commercial		6/30/1994	6/9/2017
57	2008-2009	Infiltration	NE58	Crab Creek	0.272182	0.927827	1.200009	0.85	Valley Propane Infiltration 2	225 Cambria Street I	10923497.24350	3584906.07496	No	No		00309	031939	Commercial		6/30/1994	6/9/2017
9	2008-2009	Detention	NE58	Crab Creek	VDOT	VDOT	VDOT	TBD	VDOT Pond at Bypass / Roanoke St Intersection		10936108.46310	3577712.77389	No	No				Commercial		VDOT	6/15/2017
153	2014-2015	Detention	NE58	Crab Creek				TBD	VDOT pond behind First Church of the Nazare	860 Peppers Ferry R	10918109.66000	3588454.54800	Yes	Town will assume from VDC		01143		Commercial		10/1/2014	6/27/2018
139	2010-2011	Extended Detention	NE59	Slate Branch				11.88	VDOT Pond for 114	1540 Peppers Ferry I	10914222.14110	3589525.23511	Yes	N/A		01034	110869	Open Land		7/1/2010	6/27/2018
138	2010-2011	Detention	NE59	Slate Branch				TBD	VDOT Pond on Quin W Stuart	Quin W. Stuart Blvd	10920369.49240	3588988.08791	Yes	N/A		00790	110093	Commercial		7/1/2010	6/26/2018
69	2008-2009	Detention	NE58	Crab Creek	15.504634	53.395366	68.9	68.90	Vistavia Phase V	George Edward Via	10921941.84840	3580538.57661	Yes	N/A		00725	029844	Residential		6/30/1991	6/19/2018
167	2012-2013	Detention	NE58	Crab Creek				TBD of 0.29	Waffle House Detention	90 Oak Tree Boulevo	10924743.69000	3583382.40700	No	Yes	01/12/12	01078	080190	Commercial		11/5/2013	6/14/2017
84	2012-2013	Manufactured BMP	NE58	Crab Creek	0.17884	0.030514	0.209354	TBD of 0.29	Waffle House Filterra	90 Oak Tree Boulevo	10924658.40200	3583385.03100	No	Yes	01/12/12	01078	080190	Commercial		11/5/2013	6/14/2017
175	2012-2013	Grass Swale	NE58	Crab Creek	0.094299	0.507707	0.602006	TBD	Waffle House WQ Swale	90 Oak Tree Boulevo	10924765.69300	3583285.54900	No	Yes	01/12/12	01078	080190	Commercial		11/5/2013	6/14/2017
99	2008-2009	Detention	NE59	Slate Branch	17.20526	6.919634	24.124894	25.90	Wal-Mart Supercenter Big Pond	Peppers Ferry Rd at	10921276.28300	3588194.33300	No	No		01861		Commercial		6/30/1995	8/11/2017
100	2008-2009	Detention	NE59	Slate Branch	0.769245	4.610189	5.379434	2.70	Wal-Mart Supercenter Small Pond	South of Wal-Mart	10922164.95500	3587553.05700	No	No		01861		Commercial		6/30/1995	6/6/2017
20	2008-2009	Detention	NE58	Crab Creek	1.137415	5.08246	6.219875	4.93	Warren Heights	Behind 670 Warren I	10921993.16510	3576414.73457	Yes	N/A		00763		Residential		6/30/1996	6/18/2018
104	2008-2009	Detention	RU07	Wilson Creek	2.566406	3.945679	6.512085	8.24	Wheatland Hills	Behind 222 and 226	10924966.66600	3587070.24000	No	No		00809		Commercial		6/30/1997	10/24/2017
177	2007	Detention	NE58	Crab Creek	1.254752	2.276448	3.5312	TBD	White Oaks	90 Justin Lane	10934652.78	3578431.633	No	No		00550	032256	Residential		6/30/1999	3/22/2017
137	2010-2011	Detention	RU07	Wilson Creek	0.677289	12.177619	12.854908	13.03	White Pine Ct	735 White Pine Dr N	10947763.87380	3581904.13622	Yes	N/A		00923	080053	Open Land		6/30/2001	7/25/2017
10	2008-2009	Detention	NE58	Crab Creek	1.083656	1.928287	3.011943	TBD	Windsong Heights	Behind 135 Melody I	10922561.79410	3574648.58774	No	No		00784		Residential		6/30/2003	6/18/2018
11	2008-2009	Detention	NE58	Crab Creek	1.168009	6.065589	7.233598	TBD	Windsor Estates Phase 1	395 Windsor Dr	10918996.34270	3585704.36579	No	No		00792		Residential		6/30/2004	6/6/2017
12	2008-2009	Detention	NE58	Crab Creek	1.731598	15.980915	17.712513	18.05	Windsor Estates Phase 4	490 Windsor Dr	10919369.90410	3586192.97609	No	No		00792		Residential		6/30/2008	6/6/2017

APPENDIX F ESC ENFORCEMENT ACTIONS

Inspection Type	Christiansburg Permit Number	Project Name	Inspection Date	Description	Resolution
E&S Notice to Comply	TOC-02064-000-000	Lidl Grocery Store	8/2/2017	Areas of the site that are at final grade need to be stabilized.	New plans to close out the site without developing it were submitted and approved
E&S Notice to Comply	TOC-00673-004-000	Kensington Estates, Phase IV	10/17/2017	NTC issued. Completion Date is 2017-10-31 for Temporary and Permanent Seeding, Silt Fence, Inlet Protection and sediment in the streets issues.	No resolution. Stop Work Order issued 11/2/2017
E&S Notice to Comply	SFR-00824-001-035	40 Siena Dr NW	10/19/2017	Temporary and Permanent seeding, Stockpile, Silt Fence, and SWPPP (litter) issues. Deadline: 2017-11-01	Site remedied by deadline
E&S Notice to Comply	SFR-00824-002-033	35 Siena Dr	10/19/2017	Temporary and Permanent seeding, Silt Fence, Check Dams, MS4 (Litter) issues plus a missing culvert. Deadline: 2017-11-01	Site remedied. Additional work added after complaints of trash.
E&S Stop Work Order	TOC-00673-004-000	Kensington Estates, Phase IV	11/2/2017	SWO Issued for issues in Notice to Comply. Sediment had been removed from the streets but stockpile issues were added.	Site came into compliance and SWO lifted 11/20/2017
E&S Stop Work Order	TOC-02072-000-000	The Adams at Peppers Ferry	12/18/2017	Mud on Street. Several complaints. Issues with stablization, construction entrance, no wash rack, sediment in check dams, inlet protection, and sediment on 4 streets and a parking lot. Issue SWO.	SWO is lifted 12/22/2017. Violations have been corrected. They still need to stabilize the sediment trap and continue to police the roads.
E&S Stop Work Order	XXX-02156-000-000	1145 Roanoke St	12/21/2017	Issue SWO for working without a permit or approved plan, illegal land disturbance. SWO hand-delivered by W. Nelson.	SWO still in effect. Site stabilized.
E&S Stop Work Order	SFR-02068-000-725 A	725 Church St	4/10/2018	SWO for working without an approved plan or permit.	Site plan submitted and permit issued. SWO lifted
E&S Stop Work Order	SFR-02068-000-1040	1040 Plum St NE	4/10/2018	SWO Issued. See Uploaded.	Site plan submitted and permit issued. SWO lifted

APPENDIX G EMPLOYEE TRAINING DOCUMENTATION

Annual Training Documentation		
Training Event Date	# of Attendees	Average Exam Scores
6/21/2018	62	90.60%

Town of Christiansburg MS4 Training 6/21/2018 @ Fire Station					
8:30 AM - 10 am		Signature	10:15 AM - 11:45		Signature
1	John Moore		1	Tim Tucker	
2	Jerry Lovern		2	Greg Dunn	
3	Jerry Lovern		3	Tim Allen	
4	Michael Price		4	Justin Shepherd	
5	Thomas Lineberry		5	Casper Violette	
6	Joseph Gleason		6	Matthew Gillispie	
7	Josh Dickerson		7	Kenneth Custer	
8	Jacob Woods		8	William Starkey	
9	Aidan Giannecchini		9	Dewayne Gilmore	
10	Steven Dalton		10	Steven Witt	
11	Dusty Adkins		11	Cody Sowder	
12	Randy Turman		12	Curtis Goad	
13	Evan Phillips		13	Lucas Kerns	
14	Michael Wiley		14	Calvin Graham	
15	Joseph Cook		15	Randall Green	
16	Max Brown		16	Micheal Huesman	
17	Dale Lee		17	Grant Hoover	
18	Adam Eagle		18	Travis Moles	
19	John Crute		19	Ken Mummau	
20	Donald Cunningham		20	Joseph Griffith	
21	Jim Williamson		21	Adam Phillips	
22	William Dove		22	Matthew Link	
23	Jeffrey Bishop		23	John Ross	
24	Roger Howell		24	Tommy Price	
25	Dale Gillespie		25	Kevin Poff	
26	Freddie Price		26	Richard Monday	
27	Kenny Franklin		27	Roger Leonard	
28	Barry Martin		28	Brad Phillips	
29	James Collins		29	David Sutphin	
30	Debbie Gibson		30	Darrell Farmer	
31	Andy Newcomb		31	Bruce Harris	Bruce Harris #93
32	Dean Davis		32	Richard Weber	Richard Weber
33	Garry Moore		33	Travis Lester	Travis Lester
34	Joe Booth		34	Ray Willis	RAY Willis
35	Jason Price		35	Ryan Hendrix	
36	Christopher Martin		36	Leon Martin	
37	Billy Woolwine		37	John Kirtner	
38	Seth Dalton		38	Tommy Sullivan	
39	Heather Dodd		39	Shawn Bison	
40	David Haskins		40	Chris Sartin	
41	Carl Light	Carl Light	41	Helen Pack	
42	Lloyd Lopes	Lloyd Lopes	42	Jim Lancianese	
43			43		
44	STEVE FARMER		44		
45	Alan Shaw		45		
46	CARL CORRELL		46		
47	Hudson Chase		47		
48	Dayton Poff		48		
49	Patrick Coates		49		
50			50		
51			51		
52			52		

APPENDIX H PEOP SURVEY DOCUMENTATION

EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

Memo

To: Patricia Colatosti

From: Sara Rilveria

CC: Chris Schrinel

Date: 8/10/2018

Re: Town of Christiansburg PEOP 2018 Survey Results – Addendum 1

Consistent with the Town of Christiansburg's (the Town's) Public Education and Outreach Plan (PEOP), a survey was conducted in July of 2018 as part of the iterative program that measures effectiveness of the Town's PEOP by assessing the level of knowledge over time of the Town's target audience (public) which is defined as the Town's residents and staff. The survey included questions regarding stormwater runoff and surface water quality; and is intended to gage the public's knowledge of stormwater impacts.

The Town distributed hard copy surveys and also means to complete the survey electronically online. Data was combined from both sources and are incorporated into the results below.

The desired outcome from the survey is for the results to show an overall increase in awareness over time. Attached is a summary comparison between the first survey conducted in June 2016 and the recent survey conducted in August 2018. Questions #1, #2, #5, #6 & #8 in the attached are the most pertinent questions; and the comparison of their average scores from survey to survey are used to measure the PEOP's percentage of effectiveness that is reported on the Town's MS4 Annual Report. Table 1 below demonstrates the overall end the results related to program effectiveness and demonstrates that the PEOP has been communicated and is effective.

Table 1: Average PEOP Scores

2016 Survey	2018 Survey
43%	**42%**

The survey results are useful in identifying trends over time, potential weaknesses, and new ways to focus efforts for the Town's PEOP. For instance, when results from year to year have slight or significant increases it can be deduced that the program is effective. Similarly, slight or significant decreases may indicate the need for adjustments to the PEOP.

Regards,

EEE Consulting, Inc.

Sara Rilveria

Sara Rilveria, CLA
Senior Landscape Architect

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Attachment: 2018 PEOP Survey Data Comparison

2018 PEOP Survey Data

Town of Christiansburg	2016	2018
1. Are you aware that the Town has a stormwater program in place to protect surface waters and posts the stormwater Program Plan and Annual Reports online regarding the progress and accomplishments? (Yes)	80%	84%
2. How much do you feel you know about the steps you can take to reduce stormwater pollution (1 being the least and 5 being the most)? (Quite a bit + Expert)	27%	30%
5. Are you aware of any current Town projects to improve environmental water quality? (Yes)	40%	39%
6. How long can pet waste left on the ground spread illness? (4 years)	33%	21%
8. Do you know where stormwater inlets in Town drain? (Straight to waterways)	37%	38%
Average Score	43%	42%

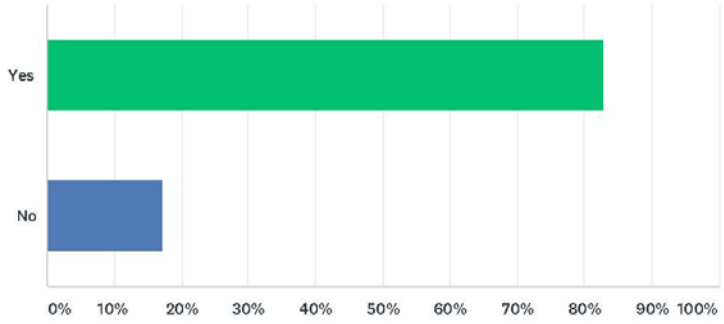
2018 PEOP Survey Data Comparison: Town of Christiansburg

Question	Description	2016*	2018
1	Aware the Town has a Stormwater Program? (Yes)	80% (was Q.2)	84%
2	Know how to reduce stormwater pollution? (Quite a bit + Expert)	27% (Q. 3)	30%
3	Interested in improving water quality? (Yes)	84% (Q. 4)	82%
	(Yes + Maybe)	99%	95%
4	Interested in volunteering? (2 Yes answers)	49% (Q. 5)	84%
5	Aware of stormwater projects in the Town? (Yes)	40% (Q. 6)	39%
6	How long can pet waste left on the ground spread illness? (4 years)	33% (Q. 7)	21%
7	Have you seen storm drain markers around Town? (Yes)	59% (Q. 8)	68%
8	Aware where Stormwater Inlets Drain? (Straight to waterways)	37% (Straight to Waterways) 48% (Don't Know) (Q. 9)	38% (Straight to Waterways) 48% (Don't Know)
9	Top 3 answers for pollutants that negatively impact surface water. (Oil/gas, pesticides/insecticides, fertilizer, sediment, bacteria, animal waste, trash)	Oil/gas Pesticides/insecticides Fertilizer (Q. 10)	Oil/Gas) Trash Pesticides/Insecticides
10	Most effective method of outreach?	50% (Email) 49% (Brochures) 16% (Facebook) 14% (Other) (Q. 11)	60% (Email) 43% (Facebook) 32% (Brochures) 18% (Other)
11	Comments	N/A (Q. 12)	N/A

*Question numbers for 2016 are off by one, as the 2016 survey included a question on age as number 1.

Q1 Are you aware the Town of Christiansburg has a legal obligation to protect water quality, has a stormwater program in place to protect surface waters, and posts reports online regarding stormwater progress and accomplishments?

Answered: 87 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	82.76%	72
No	17.24%	15
TOTAL		87

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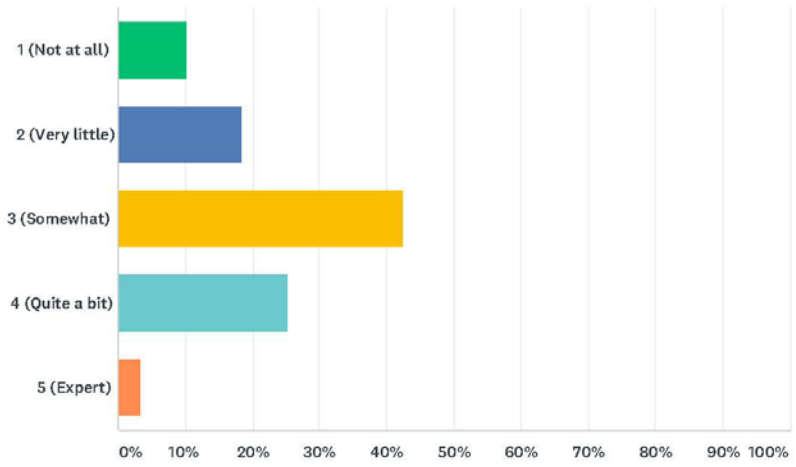
Q2 How much do you feel you know about the steps you can take to reduce stormwater pollution (1 being the least and 5 being the most)?

Answered: 87 Skipped: 0



ANSWER CHOICES	RESPONSES	
1 (Not at all)	10.34%	9
2 (Very little)	18.39%	16
3 (Somewhat)	42.53%	37
4 (Quite a bit)	25.29%	22
5 (Expert)	3.45%	3
TOTAL		87

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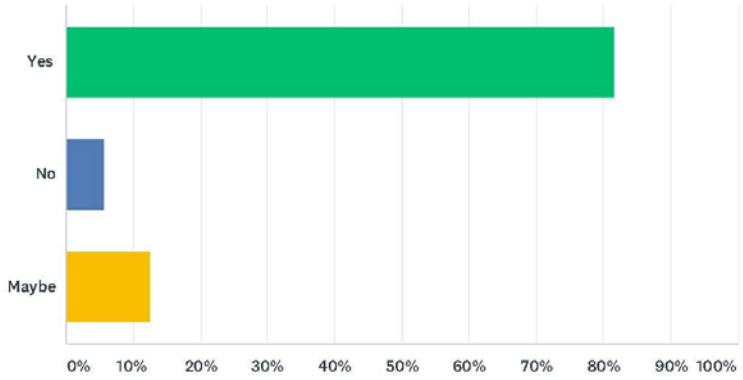
Q3 Are you interested in improving environmental water quality in our streams?

Answered: 87 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	81.61%	71
No	5.75%	5
Maybe	12.64%	11
TOTAL		87

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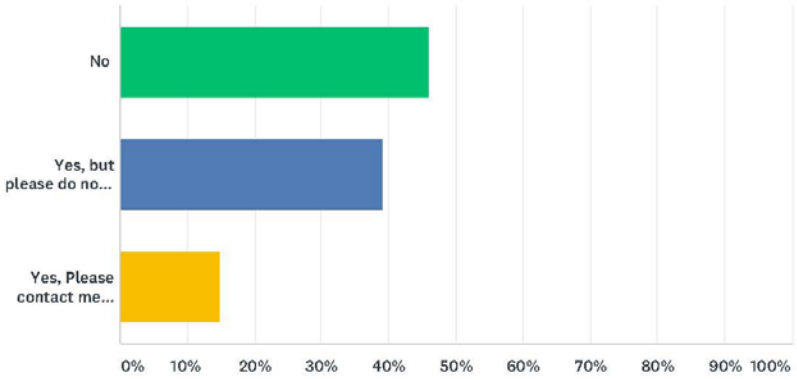
Q4 Are you interested in volunteering with local projects to improve environmental water quality?

Answered: 87 Skipped: 0



ANSWER CHOICES	RESPONSES	
No	45.98%	40
Yes, but please do not contact me regarding opportunities.	39.08%	34
Yes, Please contact me about opportunities (Please provide Name, Address, Phone # and Email information in the space below).	14.94%	13
TOTAL		87

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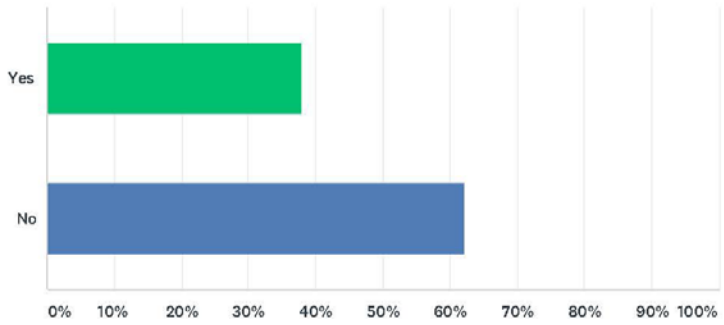
Q5 Are you aware of any current Town of Christiansburg projects to improve environmental water quality?

Answered: 87 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	37.93%	33
No	62.07%	54
TOTAL		87

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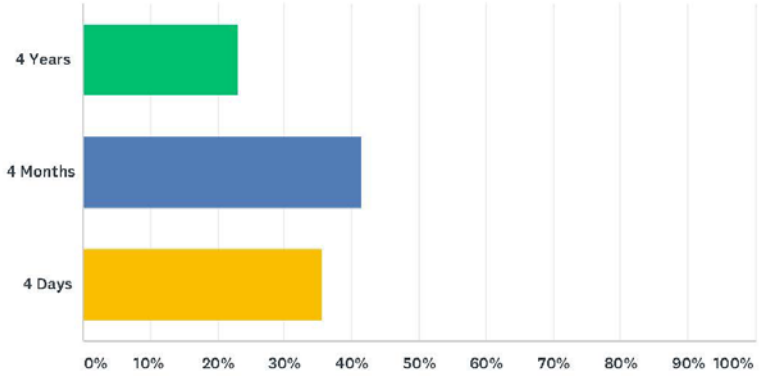
Q6 How long can pet waste left on the ground spread illness?

Answered: 87 Skipped: 0



ANSWER CHOICES	RESPONSES	
4 Years	22.99%	20
4 Months	41.38%	36
4 Days	35.63%	31
TOTAL		87

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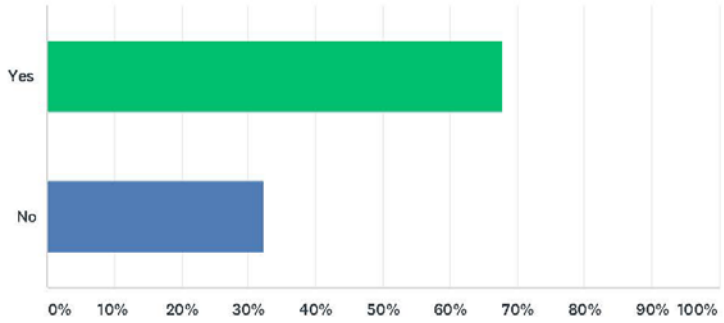
Q7 Have you seen storm drain markers (like the one shown) placed on any storm drains around Town?

Answered: 87 Skipped: 0

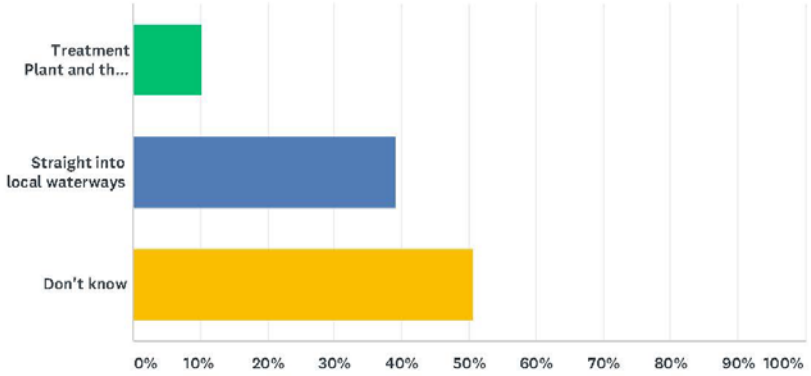


ANSWER CHOICES	RESPONSES	
Yes	67.82%	59
No	32.18%	28
TOTAL		87

8525 Bell Creek Road, Mechanicsville, Virginia 23116 • (804) 442-3330 • (804) 442-3334 (fax)
201 Church Street, Suite C, Blacksburg, Virginia 24060 • (540) 953-0170 • (540) 953-0171 (fax)

Q8 Do you know where stormwater inlets in the Town drain?

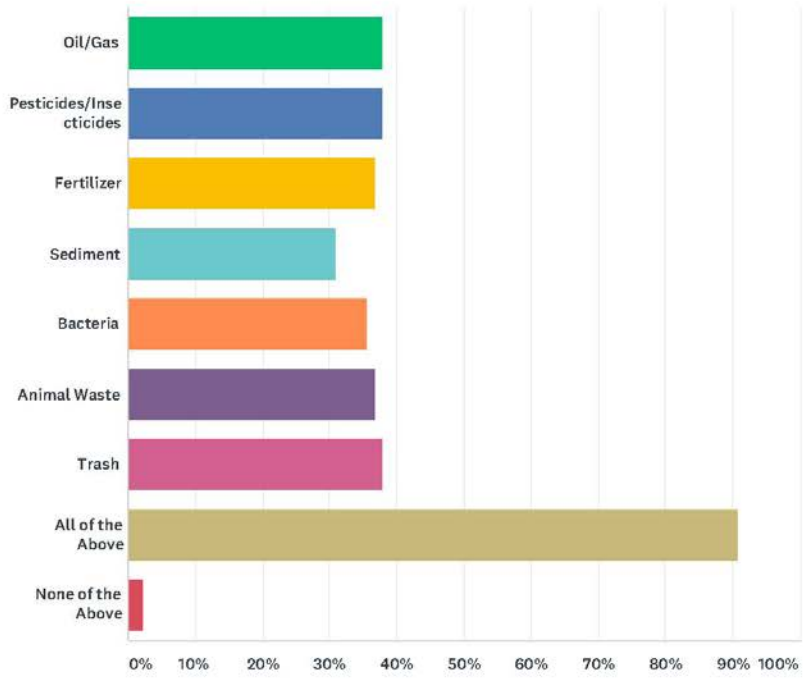
Answered: 87 Skipped: 0



ANSWER CHOICES	RESPONSES	
Treatment Plant and then into the waterway	10.34%	9
Straight into local waterways	39.08%	34
Don't know	50.57%	44
TOTAL		87

Q9 Which of the following would you classify as pollutants that can negatively impact surface waters?

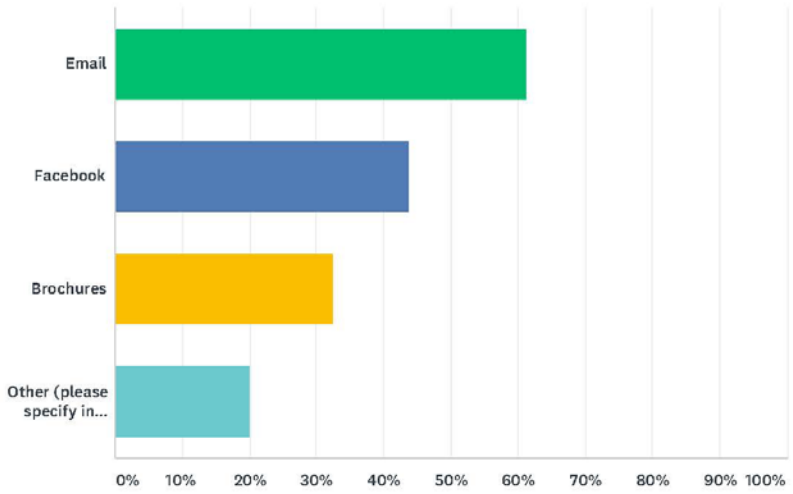
Answered: 87 Skipped: 0



ANSWER CHOICES	RESPONSES	
Oil/Gas	37.93%	33
Pesticides/Insecticides	37.93%	33
Fertilizer	36.78%	32
Sediment	31.03%	27
Bacteria	35.63%	31
Animal Waste	36.78%	32
Trash	37.93%	33
All of the Above	90.80%	79
None of the Above	2.30%	2
Total Respondents: 87		

Q10 Which of the following would be effective methods to reach you regarding water quality education?

Answered: 80 Skipped: 7



ANSWER CHOICES	RESPONSES	
Email	61.25%	49
Facebook	43.75%	35
Brochures	32.50%	26
Other (please specify in space below)	20.00%	16
Total Respondents: 80		

Q11 Please use the space below to write any other comments or concerns you have about the Town of Christiansburg's stormwater program.

Answered: 33 Skipped: 54

#	RESPONSES	DATE
1	Roanoke Street on Motor Mile sees significant water backup during heavy rain. On July 22nd Roanoke Street between the 460 on ramp and the interchange at Cracker Barrel (Motor Mile) there was standing water that was unable to drain due to lack of appropriately placed drains.	7/23/2018 12:01 AM
2	The only complaint or comment I have is the exact same charge for outgoing water as use.	7/19/2018 9:00 AM
3	We have a major problem on our property with stormwater runoff from roads and a Town right of way. We have contacted the Town numerous times trying to get it fixed but feel like we've been ignored. It not only affects our property, but those of our neighbors below us as well. If the Town is serious about addressing stormwater issues, this is one that really should be taken care of. We will be contacting you all again with photos and video of recent runoff that shows how bad it is.	7/18/2018 11:46 AM
4	Should the water treatment plant not take care of any water issues that may arise due to all the issues presented in #9	7/12/2018 10:04 AM
5	Using this as another reason to up our bills within the town. We are already getting taxed double with no benifits. Paying for a pool for Tech to use.	7/6/2018 6:07 PM
6	business with paved parking lots should pay more because of pollutants/runoff OR do what progressive places do to mitigate runoff	7/6/2018 7:39 AM
7	Where and how are waste products from the stockyard disposed of?	7/5/2018 3:57 PM
8	It would be nice to have storm water drains in my neighborhood. This has yet to be addressed by the town despite concerns expressed to Town.	7/5/2018 3:40 PM
9	Bogus survey. Ask about the fees that business must pay. Ask if it is fair that homeowners get a pass on these fees. What a joke this is. Bill Craft	7/5/2018 2:51 PM
10	Thank you for helping keep our community clean! I'm confident that most people confused or angry about "taxing the rain" have little understanding about the level of effort that goes into responsible stormwater control. Please don't let them deter you. Thanks!	7/2/2018 2:19 PM
11	I pay enough in taxes. Shouldn't have to pay extra for storm water runoff. Shouldn't have to pay county AND town tax either. One or the other. Stop letting Roger Woody build his crap shacks. He cuts corners and uses subpar materials. Schools can't handle all these new kids. Use your heads.	7/1/2018 1:11 AM
12	Drain markers need replacing on Main, around farmers market.	6/30/2018 9:05 PM
13	i want a survey where I can vent about the backhoe jaw bucket picking up/cleaning up in April and ripped my sod out and left a big deep ugly hole. I saw it all around town. Pursuing efficiency is one thing, but the operation didn't look very efficient. The operator didn't have the necessary skills. If i had known in advance, I would have made my own arrangements. It was upsetting.	6/30/2018 4:15 PM
14	Christiansburg should extend the sewage system out to all water system customers.	6/30/2018 12:41 PM
15	Less government interfere is always best. Simply leave well enough alone. The current regulations are sufficient	6/30/2018 9:22 AM
16	I am all for cleaning up the water, but seriously we now pay the same amount per month for water as we used to pay every other month!!! People are tired of how expensive it is to live in town and having to deal with all the regulations! Also building houses one on top of another like behind the rec center very negatively affects storm water drainage and pollution.	6/30/2018 6:42 AM
17	Stop the rain tax on businesses, very unfair	6/29/2018 2:20 PM
18	I think the Town Council is doing a good job.	6/29/2018 11:21 AM

19	How about not letting Shentel have a monopoly on cable internet in Downtown Christiansburg, or are they paying off Mike Barbour for the privilege.	6/29/2018 11:12 AM
20	Important issue which requires constant attention	6/29/2018 11:11 AM
21	Manage it within the current budget levels - residents of Christiansburg VA already pay too much to the town.	6/29/2018 11:11 AM
22	Fee? Mandate?	6/29/2018 11:01 AM
23	I would like to see a program to reimburse community members for part of the cost to install rain gardens in susceptible areas. We also need more rain gardens in public spaces, especially after stormwater improvements are made - for example - on Cambria and Progress, it would be so nice if instead of covering construction dirt with grass again, which indirectly contributes to algae bloom depending on how people cut it, get the master gardeners to put in a low maintenance rain garden which will help with the problem and also educate the community. I would also like to see some sort of enforcement when people shave their grass and then leave the clippings in the road, or at least a program for others to sweep the clippings back into the lawn.	6/29/2018 10:41 AM
24	Dog owners need to be fined for their pet waste!!!!	6/25/2018 6:49 PM
25	I would like to additional work done to ensure storm water is clean, including expanding recycling yard wastes every week.	6/24/2018 1:39 PM
26	Retention pond above Sherwood Dr has no fence around it. Child falling down the hill and into the pond is an accident waiting to happen. Reported several times by me and neighbors. Negligence.	6/23/2018 12:27 PM
27	Why are residents with mature vegetation and limited impervious surfaces charged a fee. Our lots do not add any sw pollution. Why not charge developers, retailers & industrial lots higher fees. Thus appling the costs appropriately.	6/21/2018 6:03 PM
28	I'd like to see some specific accountability reports posted that explain how you've taken the increase in taxes you did and applied it to improving the storm water.	6/21/2018 5:12 PM
29	I hate that I have to pay the same rates as my neighbors that have more roof lines, larger hard surfaces like driveways, sidewalks and patios?? When will actual curbs be put in place on all streets within the town limits that will prevent storm water runoff flooding and erosion to my property?	6/20/2018 9:44 PM
30	The creek between Reading Rd. and Arrowhead Trail needs work.	6/19/2018 8:00 PM
31	Know you are attempting to correct problems created by builders (polluting streams/closing off streams, etc.). Keep up the good work.	6/19/2018 11:25 AM
32	Everyone on my block has paved driveways-- I have dirt with an occasional gravel... I still pay the same for mine plus for 3 rental properties..... Just saying..... G. Poff	6/19/2018 10:43 AM
33	more information about our water quality educate the youth - scouts groups, after school programs, preschools, MCPS, the children need to know pediatricians offices hospitals go where the people are	6/19/2018 9:57 AM

Town of Christiansburg - Public Education and Outreach Stormwater Survey 2018

Survey #	Answers	1	2	3	4	5	6	7	8	9	Total
Question 1	Yes	1	1	1	1	1	1	1	1	1	9
	No										0
Question 2	1 (Not at all)										0
	2 (Very Little)					1			1		2
	3 (Somewhat)	1						1		1	3
	4 (Quite a bit)		1	1	1		1				4
	5 (Expert)										0
Question 3	Yes		1	1	1	1	1	1	1	1	8
	No										0
	Maybe	1									1
Question 4	No	1									1
	Yes, no contact				1	1	1	1	1	1	6
	Yes, contact		1	1							2
	Information		-391-0277	john (540)-							
Question 5	Yes/	1	1	1						1	4
	No				1	1	1	1	1		5
Question 6	4 Years										0
	4 Months	1	1	1		1	1	1	1	1	8
	4 Days				1						1
Question 7	Yes	1	1		1			1	1	1	6
	No			1		1	1				3
Question 8	Treatment Plant	1				1	1			1	4
	Local Waterways		1	1	1		1				4
	Don't Know							1	1		2
Quesiton 9	Oil/Gas								1		1
	Pesticides/ Insecticides								1		1
	Fertilizer								1		1
	Sediment										0
	Bacteria								1		1
	Animal Waste								1		1
	Trash								1		1
	All of the Above	1	1	1	1	1	1	1		1	8
	None of the Above										0
Question 10	Email		1	1		1			1		4
	Facebook		1						1	1	3
	Brochures	1					1				2
	Other, specify	have email			-						0
Question 11		We should		-							

Town of Christiansburg, Virginia

Bacteria Impairment Action Plan

General Permit No. VAR040025

July 1, 2015

Updated December 8, 2015

Prepared by the Christiansburg Department of Engineering

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 12/21/15

Wayne O. Nelson, P.E. Date

VAR040025 Town of Christiansburg

Executive Summary

The Town of Christiansburg has been assigned Waste Load Allocations (WLA) for Bacteria in the Crab Creek watershed in a Total Maximum Daily Load (TMDL) study approved by the Water Control Board on December 2, 2004, and in the Roanoke River watershed in a TMDL study approved by the State Water Control Board on June 27, 2007. As a part of an urbanized area as defined by census, Christiansburg is required to maintain Municipal Separate Storm Sewer System (MS4) permit coverage to discharge stormwater from its storm drain system and is defined as an MS4 operator under General Permit VAR04. In compliance with Section I, Part B, of General Permit VAR04, Christiansburg shall address sediment waste load allowances in accordance with Section I.B in this Action Plan.

This iteration of the Town of Christiansburg Sediment Action Plan addresses the special conditions of the MS4 General Permit through the following actions:

- Implementation of the Town's MS4 Program Plan with enhancements to address the Permit Special Conditions
- Continue the Infiltration and Inflow Study in the Crab Creek Interceptor and incorporate recommendations for capital projects into the Capital Improvement Plan (CIP)
- Continue the existing Fats, Oils, and Grease program initiated through Code revision
- Continue participation as a stakeholder in the Roanoke River TMDL Implementation Plan
- Review existing Parks and Recreation Department Pet Waste Stations and develop a Town wide Plan for locating future stations
- Establish a charter to convene a stakeholder committee that will investigate the appropriateness of a stormwater utility fee to provide dedicated capital and operating funding for structural and non-structural stormwater best management practice implementation. The committee will provide the public and Town Council with a recommendation. Council meetings and an open house will provide opportunities for public input and for education and outreach on the MS4 Permit Program and the Special Conditions for approved TMDL waters

Due to the anticipated high cost to the Town of meeting the required reductions, the Town reserves the right to make adjustments to this plan and to substitute any practices and projects that can achieve Pollutant of Concern (POC) reductions at less total cost.

Introduction

This document serves as a Town-specific Total Maximum Daily Load (TMDL) Action Plan to identify the best management practices and other interim milestone activities to be implemented to address the sediment waste load allocations (WLA) assigned to the Town's regulated MS4 area. The WLAs are assigned in the "*Fecal Bacteria and General Standard Total Maximum Daily Load Development for Crab Creek*" approved by the Water Control Board on December 2, 2004, and *""Bacteria TMDLs for Wilson Creek, Ore Branch and Roanoke River Watersheds, Virginia"* approved by the State Water Control Board on June 27, 2007. The Action Plan must specifically address Section 1, Part B of the General

Virginia Pollution Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4).

The referenced TMDL studies were developed in response to violations of the state's water quality standard for fecal coliform bacteria that resulted in the listing of Crab Creek and a portion of the Roanoke River watershed as impaired waters. The DEQ fact sheets for Wilson and Orr Branch lists Livestock (Grazing or Feeding Operations), Municipal (Urbanized High Density Area), Unspecified Domestic Waste, Wastes from Pets, and Wildlife Other than Waterfowl. The Crab Creek fact sheet includes these sources and adds Discharges from Municipal Separate Storm Sewer Systems as an additional item on the source list

The current town limits of Christiansburg incorporate approximately 14.13 square miles of land area. The Crab Creek watershed has a total area of 19.4 square miles and approximately 8.4 square miles, or 43% of the total area, lie within the Town limits. The Roanoke River impairment watershed is approximately 524.7 square miles and approximately 3.34 square miles, or 0.6% of the total area lie within Town limits. MS4 Permit requirements apply to both watersheds with equal weight and authority and the Action Plan will address the regulatory requirements in both watersheds.

The Town of Christiansburg WLA for the Roanoke River watershed's Wilson Creek Wasteload allocation for E. Coli is 2.33×10^{9}, a 99.5 % reduction from the existing load of 4.65×10^{11}. In the Crab Creek watershed the TMDL assigns a WLA of 3.4x108 cfu/yr to the combined Christiansburg (VAR040025) and VDOT (VAR040016) MS4 permits. The TMDL Implementation Plan for the Crab Creek TMDL notes that "The portion of *E. coli* that may come from permitted discharge sources, including NPS sources under an MS4 permit, was included in the Waste Load Allocation (WLA) and not given a load reduction during TMDL development. The WLA will be addressed through the Virginia Pollutant Discharge Elimination System (VPDES) Program administered by the Virginia Department of Environmental Quality."

The Town participated in the development of both the Crab Creek Implementation Plan (IP) and the Roanoke River IP. The Town commented extensively on the assumptions of complete elimination of sanitary sewer overflows (SSO) and will again note here that addressing SSO is a continuing program that requires significant resources and can provide significant benefit in addressing fecal coliforms as a POC. The Town also would reiterate that complete elimination of SSO is only theoretically achievable as no working system can completely eliminate Inflow and Infiltration (I&I) in all storm events nor eliminate accidental overflows.

Due to the anticipated high cost to the Town of meeting the required reductions, the Town reserves the right to make adjustments to this plan and to substitute any practices and projects that can achieve the required POC reductions at less total cost.

TMDL Special Conditions

The VAR04 General Permit lists special conditions to be addressed when an operator is assigned a WLA as listed below:

- Develop and maintain list of legal authorities applicable to reducing Pollutant of Concern (POC) discharges from the MS4.
- Identify and maintain an updated list of any management practices, control techniques and system design and engineering methods, beyond those required per the Minimum Control Measures (MCM)s, implemented as part of the MS4 program and applicable to the reduction of the POC from the MS4.
- Enhance the MS4 program's public education and outreach and employee training programs to promote methods to eliminate or reduce the discharge of the POC from the MS4.
- Conduct an assessment of facilities for significant sources of the POC.
- Develop and maintain a TMDL Action Plan using an adaptive iterative approach that identifies best management practices (BMPs) that reduce POC discharges from the MS4. The Action Plan may incorporate BMPs identified in the Crab Creek TMDL Implementation Plan or Draft Upper Roanoke River TMDL Implementation Plan, or the plan may incorporate BMPs of equivalent design and efficiency provided that the rationale for any substituted BMP is provided, and the substituted BMP is consistent with the assumptions and requirements of the TMDL WLA.
- Develop and implement a method to assess the TMDL Action Plan for effectiveness in the reduction of the POC using water quality monitoring results or modeling tools.

Legal Authorities Applicable to Reducing POC Discharges

Town Code, Chapter 10 and Chapter 16

- Chapter 16, Environment, Article IV, Illicit Discharge, addresses prohibitions against illicit discharges to the storm drain system.
- Chapter 10, Building and Building Regulations, Provides the Town with Authorization to rate the risk of potential FOG sources and required FOG trapping devices.

Identify and Maintain a List of BMPs, Techniques, Design and Engineering methods beyond those required per the MCMs

- MCM 1 – Public Education:
    - Christiansburg will address Bacteria/Fecal Coliform as a TMDL pollutant of concern in the spring 2016 survey intended to assess citizen knowledge and assist in the selection of high priority water quality issues.
    - Present TMDL information at a Town Council work session and a planned Open House that will also present the Stormwater Utility Program to the public.

- Include information about Bacteria/Fecal Coliform as a POC in the annual mailer that also provides drinking water quality information

- MCM 2 – Public Involvement:
  - Christiansburg will address Bacteria/Fecal Coliform as a TMDL pollutant of concern in the spring 2016 survey intended to assess citizen knowledge and assist in the selection of high priority water quality issues.
  - Solicit comments on the TMDL action plan at the proposed Stormwater Utility Open House
- MCM 3 – Illicit Discharge:
  - Implementation of the Town website IDDE comment and complaint link
- MCM 4 – Construction Site Runoff:
  - Regulated land disturbance projects in the Town are required to be consistent with the Chapter 16 ESC and SWM Ordinances, which require a Stormwater Pollution Prevention Plan (SWPPP) that minimize all pollutant discharge from construction activity. Inspections are required to be performed during construction activity.
- MCM 5 – Post Construction Stormwater Management:
  - The Town SWM program requires regulated land disturbance projects to address post-construction water quality and requires a long term inspection and maintenance program for stormwater management facilities to ensure functionality. As an additional practice the SWM regulations and BMP maintenance requirements apply at a lower 10,000 square foot threshold as compared to the state 1 acre threshold. The facilities are designed to meet the technical criteria target phosphorus reductions; however, facilities that remove phosphorus inherently also remove sediment from passing downstream.
  - The Town inspects all privately owned stormwater management facilities annual, exceeding the General Permit minimum requirement that all facilities be inspected at least once every five years.
- MCM 6 – Good Housekeeping:
  - The Town performed a comprehensive review of owned or operated sites to identify sites with both high potential and high priority. The Town Public Works Station, known as “Station B”, and the historic Town landfill site currently used for public works stockpiling and storage are identified as potential significant sources of pollutants. The MS4 2015-2016 Program Plan will address the potential for significant POC through the plan to develop site specific Stormwater Pollution Prevention Plans (SWPPPs) for these two sites.
  - Housekeeping SWPPPs to be developed for Town staff will include a TMDL educational component for Bacteria/Fecal Coliform as a POC.
  - The Town SWPPP housekeeping training will occur at a more frequent training schedule than the biennial frequency required by the MS4 General Permit.

    - The town will add an IDDE issue complaint contact on the town website, as specified in the MS4 program plan, to enhance public IDDE reporting capabilities.

- Additional Management Practices
    - FOG Program - Section 10-26 of the Town Code allows the building official to designate low, medium, and high hazard users based on specific criteria and allows the Town to specify FOG trapping devices..
    - The town will add an IDDE issue complaint link on the town website, as specified in the MS4 program plan, to enhance public IDDE reporting capabilities.
    - The Town continues the Crab Creek Interceptor Study that will result in capital Improvement recommendations to be incorporated into the Capital Improvement Plan.

Measurable Goals through the 2013 – 2018 Permit Cycle

- FOG Ordinance – The ordinance changes were adopted in August 2014.
- Stormwater Website FOG Information Page – This webpage offers educational information and instructions for homeowners to reduce FOG sewerage system disposal.
- Stormwater Website IDDE Reporting – An IDDE reporting feature is available.
- Crab Creek Interceptor Study. This Study is ongoing and recommendations are expected in 2016.
- The Center for Watershed Protection's spreadsheet based Watershed Treatment Model (WTM) will be employed to provide a methodology for assessing the effectiveness of the TMDL Action Plan. The WTM will act as the primary methodology to assess the effectiveness of the structural and nonstructural best management practices employed under the Action Plan. The 2015-2016 MS4 annual Report will include a Watershed Treatment Model spreadsheet populated with the Town's BMPs that will be used for pollutant credit reporting.

DEFINITIONS – For the purposes of this guidance document, the following definitions shall apply:

Best Management Practices ("BMPs") – 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.

Fats, Oils, and Greases (FOG) - Organic polar compounds derived from vegetable/plant or animal sources that are composed of long chain triglycerides.

Load Allocation ("LA") - The portion of the loading capacity attributed to (1) the existing nonpoint sources of pollution and (2) natural background sources.

Newly Designated MS4 permittees – MS4 permittees receiving initial permit coverage under the July 1, 2013 General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems.

Pollutant(s) of Concern ("POC") – The pollutant(s) impairing a water body for which one or more TMDL(s) has been developed.

TMDL Implementation Plan – A document guided by an approved TMDL(s) that at a minimum provides details of the corrective actions to address the load allocation of one or more TMDLs. The plan includes measureable goals needed to achieve pollutant(s) source load reductions; outlines a schedule to attain water quality standards along with costs, benefits, and environmental impacts to reduce pollutant(s) and remediate impaired waterbodies.

Total Maximum Daily Load ("TMDL") – The sum of the individual wasteload allocations (WLAs) for point sources, load allocations (LAs) for nonpoint sources, natural background loading and a margin of safety.

Wasteload Allocation ("WLA") - The portion of a receiving waters' pollutant loading capacity that is allocated to existing or future point sources of pollution, such as an MS4.

***For terms not defined above, please refer to the 9VAC25-890-1, 9VAC25-870-10, or 9VAC25-31-10 of the Virginia Administrative Code*.**

Town of Christiansburg, Virginia

Sediment Impairment Action Plan

General Permit No. VAR040025

July 1, 2015

Updated 12/8/2015

Prepared by the Christiansburg Department of Engineering

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 12/21/15

Wayne O. Nelson, P.E. Date

VAR040025 Town of Christiansburg

Executive Summary

The Town of Christiansburg has been assigned Waste Load Allocations (WLA) for Sediment in the Crab Creek watershed in a Total Maximum Daily Load (TMDL) study approved by the Water Control Board on December 2, 2004, and in the Roanoke River watershed in a TMDL study approved by the State Water Control Board on September 7, 2006. As a part of an urbanized area as defined by census, Christiansburg is required to maintain Municipal Separate Storm Sewer System (MS4) permit coverage to discharge stormwater from its storm drain system and is defined as an MS4 operator under General Permit VAR04. In compliance with Section I, Part B, of General Permit VAR04, Christiansburg shall address sediment waste load allowances in accordance with Section I.B in this Action Plan.

This iteration of the Town of Christiansburg Sediment Action Plan addresses the special conditions of the MS4 General Permit through the following actions:

- Implementation of the Town's MS4 Program Plan
- Evaluation of existing street sweeping procedures and development of a street sweeping program to maximize sweeper sediment removal and quantify removal credits in a manner consistent with DEQ guidance
- Continue planning for stream restoration projects currently funded as significant actions to address sediment loadings and achieve the ultimate TMDL goal of delisting impaired water bodies, and pursue additional grant funding through DEQ , VDOT and other potential sources to leverage capital spending
- Establish a charter to convene a stakeholder committee that will investigate the appropriateness of a stormwater utility fee to provide dedicated capital and operating funding for structural and non-structural stormwater best management practice implementation. The committee will provide the public and Town Council with a recommendation. Council meetings and an open house will provide opportunities for public input and for education and outreach on the MS4 Permit Program and the Special Conditions for approved TMDL waters

Due to the anticipated high cost to the Town of meeting the required reductions, the Town reserves the right to make adjustments to this plan and to substitute any practices and projects that can achieve Pollutant of Concern (POC) reductions at less total cost.

Introduction

This document serves as a Town-specific Total Maximum Daily Load (TMDL) Action Plan to identify the best management practices and other interim milestone activities to be implemented to address the sediment waste load allocations (WLA) assigned to the Town's regulated MS4 area. The WLAs are assigned in the "*Fecal Bacteria and General Standard Total Maximum Daily Load Development for Crab Creek*" approved by the Water Control Board on December 2, 2004, and *"Benthic TMDL Development for the Roanoke River, Virginia"* approved by the State Water Control Board on September 7, 2006. The Action Plan must specifically address Section 1, Part B of the General Virginia Pollution Discharge

Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4).

The referenced TMDL studies were developed in response to violations of the General Standard (benthic impairment) for aquatic life use that resulted in the listing of Crab Creek and a portion of the Roanoke River watershed as impaired waters. "Benthic" refers to the aquatic organisms living in or on the bottom of a body of water and include crayfish, aquatic snails, clams, leeches, aquatic worms, certain insect larvae and nymphs, and adult aquatic insects. Changes in water quality generally result in changes in the types, numbers, or diversity of the benthic community. The TMDL studies identified sediment as a primary stressor to these organisms and established target levels of sediment that are intended to provide an environment that will lead to a healthy benthic community and delisting of the impaired water bodies.

The current town limits of Christiansburg incorporate approximately 14.13 square miles of land area. The Crab Creek watershed has a total area of 19.4 square miles and approximately 8.4 square miles, or 43% of the total area, lie within the Town limits. The Roanoke River impairment watershed is approximately 524.7 square miles and approximately 3.34 square miles, or 0.6% of the total area lie within Town limits. MS4 Permit requirements apply to both watersheds with equal weight and authority and the Action Plan will address the regulatory requirements in both watersheds.

The Town of Christiansburg WLA for the Roanoke River watershed's target sediment load is 22.9 T/yr, a 69.5% reduction from the calculated 75 Tons/yr existing load. The 52.1 Tons/yr WLA reduction for the MS4 area includes instream erosion as a WLA component. In the Crab Creek watershed the TMDL assigns a WLA of 27.57 T/yr, a 50% reduction from the 55.14 T/yr calculated existing load from the MS4.

TMDL Special Conditions

The VAR04 General Permit lists special conditions to be addressed when an operator is assigned a WLA as listed below:

- Develop and maintain list of legal authorities applicable to reducing Pollutant of Concern (POC) discharges from the MS4.
- Identify and maintain an updated list of any management practices, control techniques and system design and engineering methods, beyond those required per the Minimum Control Measures (MCM)s, implemented as part of the MS4 program and applicable to the reduction of the POC from the MS4.
- Enhance the MS4 program's public education and outreach and employee training programs to promote methods to eliminate or reduce the discharge of the POC from the MS4.
- Conduct an assessment of facilities for significant sources of the POC.
- Develop and maintain a TMDL Action Plan using an adaptive iterative approach that identifies best management practices (BMPs) that reduce POC discharges from the MS4.

The Action Plan may incorporate BMPs identified in the Crab Creek TMDL Implementation Plan or Draft Upper Roanoke River TMDL Implementation Plan, or the plan may incorporate BMPs of equivalent design and efficiency provided that the rationale for any substituted BMP is provided, and the substituted BMP is consistent with the assumptions and requirements of the TMDL WLA.

- Develop and implement a method to assess the TMDL Action Plan for effectiveness in the reduction of the POC using water quality monitoring results or modeling tools.

Legal Authorities Applicable to Reducing POC Discharges

Town Code, Chapter 16, addresses Erosion and Sediment Control (ESC) and Virginia Stormwater Management Program (VSMP) standards and permitting requirements to supplement the provisions of other federal, state, and town laws.

- Article II, Erosion and Sediment Control, Establishes the minimum standards for ESC plan development, implementation and enforcement consistent with the Virginia Erosion and Sediment Control Law.
- Article III, Stormwater Management, establishes a local ordinance consistent with the Virginia Stormwater Management Act. This Article also establishes a 10,000 square foot threshold, lowering the threshold for which stormwater management technical criteria and long term BMP maintenance requirements become effective relative to the state 1 acre threshold.
- Article IV, Illicit Discharge, addresses prohibitions against illicit discharges to the storm drain system.

Identify and Maintain a List of BMPs, Techniques, Design and Engineering methods beyond those required per the MCMs

- MCM 1 – Public Education:
    - Christiansburg will address sediment as a TMDL pollutant of concern in the spring 2016 survey intended to assess citizen knowledge and assist in the selection of high priority water quality issues.
    - Present TMDL information at a Town Council work session and a planned Open House that will also present the Stormwater Utility Program to the public.
    - Include information about sediment as a POC in the annual mailer that also provides drinking water quality information.
- MCM 2 – Public Involvement:
    - Christiansburg will address sediment as a TMDL pollutant of concern in the spring 2016 survey intended to assess citizen knowledge and assist in the selection of high priority water quality issues.
    - Solicit comments on the TMDL action plan at the proposed Stormwater Utility Open House.
- MCM 3 – Illicit Discharge:
    - The Town website provides contact information to report IDDE comments and complaints.

- MCM 4 – Construction Site Runoff:
    - Regulated land disturbance projects in the Town are required to be consistent with the Chapter 16 ESC and SWM Ordinances, which require approved plans that minimize sediment discharge from construction activity and post-construction. Inspections are required to be performed during construction activity.
    - The Town website provides contact information to report ESC comments and complaints.
- MCM 5 – Post Construction Stormwater Management:
    - The Town SWM program requires regulated land disturbance projects to address post-construction water quality and requires a long term inspection and maintenance program for stormwater management facilities to ensure functionality. As an additional practice the SWM regulations and BMP maintenance requirements apply at a lower 10,000 square foot threshold as compared to the state 1 acre threshold. The facilities are designed to meet the technical criteria target phosphorus reductions; however, facilities that remove phosphorus inherently also remove sediment from passing downstream.
    - The Town inspects all privately owned stormwater management facilities annually, exceeding the General Permit minimum requirement that all facilities be inspected at least once every five years.
- MCM 6 – Good Housekeeping:
    - The Town performed a comprehensive review of owned or operated sites to identify sites with both high potential and high priority. The Town Public Works Station, known as "Station B", and the historic Town landfill site currently used for public works stockpiling and storage are identified as potential significant sources of sediment. The MS4 2015-2016 Program Plan will address the potential for significant POC through the plan to develop site specific Stormwater Pollution Prevention Plans (SWPPPs) for these two sites.
    - Housekeeping SWPPPs to be developed for Town staff will include a TMDL educational component for sediment as a POC.
    - The Town SWPPP housekeeping training will occur at a more frequent training schedule than the biennial frequency required by the MS4 General Permit.
    - The Town has IDDE complaint contact information on the town website, as specified in the MS4 program plan, to enhance public IDDE reporting capabilities.
- Additional Management Practices
    - Street Sweeping - The Town Public Works Department employs a vacuum street sweeper and logs mileage swept. For the July 1, 2014- June 30, 2015 MS4 permit year the sweeper logged 4,411 miles. As an additional practice the Town proposes to develop a targeted street sweeping schedule to maximize POC collection and allow the Town to quantify reductions based on the DEQ Guidance Memo 15-2005, dated May 18, 2015; specifically the recommendations in Appendix V.G on urban street sweeping. Numeric measurable goals will be established as a part of the developed schedule.

- Stream Restoration:
  - The Town invested approximately $450,000.00 in the Diamond Hills Phase I project that included a stream restoration, an arch span culvert installation, and the construction of a detention pond and constructed wetlands as an overall plan to improve a section of a tributary of Crab Creek. The Diamond Hills Stream Restoration Project is nearing completion and the scheduled monitoring will be used as a basis for reporting the estimated sediment load credit for this project. The project also proposed wetland best management practices within the stream floodplain and the "Recommendations of the Expert Panel to Define Removal Rates for Urban Stormwater Retrofit Projects" will be employed to estimate sediment reduction credit upon review of the final as-built BMP reporting.
  - The Town has secured funding for two additional stream restoration projects, The Blue Leaf and Towne Branch Stream Restoration projects are in final design stage and construction is proposed in 2016. Upon completion the Action Plan will report sediment reduction credits based on the design calculations and as-built conditions.
  - The Town intends to leverage capital funding by pursuing grant funding through DEQ SLAF, VDOT Revenue Sharing, and other available funding sources in conjunction with a long-term funding plan. The capital plan is contingent on the establishment of a Stormwater Enterprise Fund and a specific funding level. Establishment of a stormwater utility is anticipated in 2016.

Measurable Goals through the 2013 – 2018 Permit Cycle

- Street Sweeping - Numeric measurable goals will be established as a part of the developed schedule, based on the May 2015 DEQ Chesapeake Bay Watershed Special Conditions Guidance. The target date for a revised street sweeping program is August, 2016.
- Stream Restoration – Report estimated sediment credit upon final completion, review of as-built documentation, and any monitoring.
  - Diamond Hills Stream restoration and wetland BMPs are expected to be completed by spring 2016.
  - Blue Leaf and Towne Branch Stream restorations are in final design stages and a 2016 construction start is projected.
- The Center for Watershed Protection's spreadsheet based Watershed Treatment Model (WTM) will be employed to provide a methodology for assessing the effectiveness of the TMDL Action Plan. The WTM will act as the primary methodology to assess the effectiveness of the structural and nonstructural best management practices employed under the Action Plan. The 2015-2016 MS4 Annual Report will include a Watershed Treatment Model spreadsheet populated with the Town's BMPs that will be used for pollutant credit reporting.
- Montgomery County, the Town of Blacksburg, and Virginia Tech met in December of 2014 to discuss the potential to coordinate MS4 program implementation. The Town will reach out to

these MS4 permittees in 2016 to reconvene and reevaluate the potential for coordinated MS4 program efforts. The target date for the next meeting is May 1, 2016

- The Town participated in the development of both the Crab Creek Implementation Plan (IP) and the Roanoke River IP and believes that integral to ultimate achievement of the goal of delisting impaired waters is the participation of the Norfolk and Southern (N&S) Railroad Corporation in any Crab Creek Action Plan. As the primary landowner along the length of Crab Creek, N&S participation is important in coordinating any future structural buffers and stream restoration along the stream reach. The Town will reach out to N&S as a part of a anticipated FY16 DEQ SLAF application for limited Crab Creek urban stream restoration effort at the North Franklin Street Bridge.

DEFINITIONS – For the purposes of this guidance document, the following definitions shall apply:

Best Management Practices ("BMPs") – 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.

Load Allocation ("LA") - The portion of the loading capacity attributed to (1) the existing nonpoint sources of pollution and (2) natural background sources.

Newly Designated MS4 permittees – MS4 permittees receiving initial permit coverage under the July 1, 2013 General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems.

Pollutant(s) of Concern ("POC") – The pollutant(s) impairing a water body for which one or more TMDL(s) has been developed.

TMDL Implementation Plan – A document guided by an approved TMDL(s) that at a minimum provides details of the corrective actions to address the load allocation of one or more TMDLs. The plan includes measureable goals needed to achieve pollutant(s) source load reductions; outlines a schedule to attain water quality standards along with costs, benefits, and environmental impacts to reduce pollutant(s) and remediate impaired waterbodies.

Total Maximum Daily Load ("TMDL") – The sum of the individual wasteload allocations (WLAs) for point sources, load allocations (LAs) for nonpoint sources, natural background loading and a margin of safety.

Wasteload Allocation ("WLA") - The portion of a receiving waters' pollutant loading capacity that is allocated to existing or future point sources of pollution, such as an MS4.

***For terms not defined above, please refer to the 9VAC25-890-1, 9VAC25-870-10, or 9VAC25-31-10 of the Virginia Administrative Code*.**

APPENDIX K: TOWN OF CHRISTIANSBURG PCB TMDL ACTION PLAN

Town of Christiansburg, Virginia

PCB Impairment Action Plan

General Permit No. VAR040025

July 1, 2016

Updated December 13, 2016

Prepared by the Christiansburg Department of Engineering

Executive Summary

The Town of Christiansburg has been assigned Waste Load Allocations (WLA) for Polychlorinated Biphenyls (PCB) in the Roanoke River watershed in a 2009 Total Maximum Daily Load (TMDL) study. As a part of an urbanized area as defined by census, Christiansburg is required to maintain Municipal Separate Storm Sewer System (MS4) permit coverage to discharge stormwater from its storm drain system and is defined as an MS4 operator under General Permit VAR04. In compliance with Section I, Part B, of General Permit VAR04, Christiansburg shall address PCB waste load allowances in accordance with Section I.B in this Action Plan.

This document serves as a Town-specific Total Maximum Daily Load (TMDL) Action Plan to identify the best management practices and other interim milestone activities to be implemented to address the PCB WLA assigned to the Town's regulated MS4 area.

The Roanoke River TMDL study states that, where warranted, non-numeric Best Management Practices (BMPs) shall be implemented and will focus on PCB source tracking and elimination at the site of contamination, rather than end-of-pipe controls, to comply with the WLA provisions of the TMDL.

This iteration of the Town of Christiansburg PCB Action Plan addresses the special conditions of the MS4 General Permit through the following actions:

- Iterative revisions to the Town's MS4 Program Plan. An evaluation to determine whether education on PCBs should be added as an additional high priority water quality issue and the identification of an appropriate target audience will be initiated in the 2016-2017 permit year. PCB education and outreach components will be developed and added to the Program Plan BMPs for the 2017-2018 permit year.
- Participation on the New River PCB TMDL Technical Advisory Committee. This TMDL will ultimately require the town to apply the PCB Action Plan across the entire town. Participation in the TMDL development process will include input to develop consistent protocols for implementation of WLA.
- Coordinate with the town Public Works Wastewater Treatment Plant (WWTP) to gather information on potential PCB sources through the WWTP Industrial Waste Surveys for industrial sanitary sewer connections.
- Begin review of existing ordinance language in other localities whose purpose is to reduce potential PCB sources. Specifically, research ordinance language prohibiting the discharge of PCBs. Research and evaluate the cost and availability considerations of "PCB-free purchasing" ordinance language for town purchases. These ordinances typically set a cost differential limit when manufactured products that are allowed to have PCB byproducts have alternates with lower or no PCBs

Due to the potential cost to the Town of meeting the required reductions, the Town reserves the right to make future adjustments to this plan and to substitute any practices and projects that can achieve Pollutant of Concern (POC) reductions at less total cost.

Introduction

This Town of Christiansburg Polychlorinated Biphenyl (PCB) Action Plan has been developed in response to an approved Total Maximum Daily Load Plan (TMDL) for which the Town is assigned a Wasteload Allocation (WLA):

- The December 2009 Roanoke River PCB TMDL Development (Virginia)

This TMDL was approved by the Environmental Protection Agency on April 9, 2010. A New River PCB TMDL is currently under development and will become an important component in this Action Plan.

The special conditions of Christiansburg's 2013-2018 MS4 General Permit requires the development of an Action Plan in response to TMDLs. Under the terms of the MS4 permit this plan becomes enforceable by the Virginia Department of Environmental Quality.

The 2009 Roanoke River PCB TMDL assigns WLAs to identified point sources within the watershed. As an MS4, the town's storm drain system is assigned a WLA and the WLA is divided into North Fork Roanoke River and a South Fork Roanoke River subwatershed components. The Town of Christiansburg WLA for the North Fork Roanoke River watershed's Wasteload Allocation for PCB is 1.6 mg/yr, a 99.05 % reduction from the existing baseline of 166.8 mg/yr. In the South Fork Roanoke River watershed the TMDL assigns a WLA of 1.7 mg/yr, a 99.05 % reduction from the existing baseline of 177.4 mg/yr.

PCBs were produced for commercial uses from about 1929 to 1977. The 1976 Toxic Substances Control Act bans certain uses and restricts PCB concentrations to low levels. The largest use of PCBs was for heat transfer fluids in electrical transformers and capacitors. PCBs were also used as plasticizers, wax and pesticide extenders, and lubricants. Many products used to contain PCBs at high levels, such as carbonless copy paper and caulk used to seal cracks in homes and buildings. PCBs are still found in old products produced before commercial production of PCBs ended, such as in electrical transformers. They can also be found in new products either as a contaminant or intentionally added below regulated levels. There is still inadvertent production of PCBs during manufacturing of chemicals including dyes and pigments. (Washington DOE)

Since PCBs do not naturally occur in the environment, PCBs detected in air, water and soil are a result of activities relating to the manufacture, use, and disposal of PCBs. Although PCBs are no longer made in the United States, people can still be exposed to them. Many older transformers and capacitors may still contain PCBs, and this equipment can be used for 30 years or more. Old fluorescent lighting fixtures and old electrical devices and appliances, such as television sets and refrigerators, may contain PCBs if they were made before PCB use was stopped. When these electric devices get hot during operation, small amounts of PCBs may get into the air and raise the level of PCBs in indoor air. Because devices that contain PCBs can leak with age, they could also be a source of skin exposure to PCBs. In the past, PCBs have entered the environment during accidental spills and leaks during PCB transporting or from leaks and fires in products containing PCBs. Today, PCBs still enter the environment from a variety of sources

including hazardous waste sites, improper industrial or commercial waste disposal, and uncontained leaks from old electrical transformers. (ATSDR)

The Environmental Protection Agency (EPA) has determined that long-term exposure to PCBs may increase the risk of cancer. (DEQ PCB Portal). One of the major ways people are exposed to PCBs is through our diet, such as eating fish that contain PCBs. PCBs have been shown to have toxic effects to the immune, reproductive, nervous, and endocrine system in humans and other organisms. PCBs also cause cancer in animals, and are considered likely to cause cancer in humans. (Washington DOE)
PCBs have a relatively low vapor pressure that reduces their potential to volatilize. They are also nonpolar and therefore are only slightly soluble. This non-polarity and low solubility makes PCBs bind strongly to soils and sediment. PCBs enter surface waters carried by contaminated soil particles via surface water runoff. Reducing the potential for sediment transport at PCB sites reduces the potential for PCB contributions to surface water.

Without remediation, PCBs can remain in the environment for an extended time due to their stability. PCBs can also bioaccumulate in fish (ATSDR). Concerns over bioaccumulation of PCBs in fish led to the development of PCB total maximum daily loads (TMDLs) for PCB impaired water bodies.

TMDL Special Conditions

The VAR04 General Permit lists special conditions to be addressed when an operator is assigned a WLA as listed below:

- Develop and maintain list of legal authorities applicable to reducing Pollutant of Concern (POC) discharges from the MS4.
- Identify and maintain an updated list of any management practices, control techniques and system design and engineering methods, beyond those required per the Minimum Control Measures (MCM)s, implemented as part of the MS4 program and applicable to the reduction of the POC from the MS4.
- Enhance the MS4 program's public education and outreach and employee training programs to promote methods to eliminate or reduce the discharge of the POC from the MS4.
- Conduct an assessment of facilities for significant sources of the POC.
- Develop and maintain a TMDL Action Plan using an adaptive iterative approach that identifies best management practices (BMPs) that reduce POC discharges from the MS4. The Action Plan may incorporate BMPs identified in a TMDL Implementation Plan, or the plan may incorporate BMPs of equivalent design and efficiency provided that the rationale for any substituted BMP is provided, and the substituted BMP is consistent with the assumptions and requirements of the TMDL WLA.
- Develop and implement a method to assess the TMDL Action Plan for effectiveness in the reduction of the POC using water quality monitoring results or modeling tools.

Legal Authorities Applicable to Reducing POC Discharges

Town Code, Chapter 16, Article IV, Illicit Discharge, addresses prohibitions against illicit discharges to the storm drain system. The code currently prohibits the discharge of any material other than stormwater.

Identify and Maintain a List of BMPs, Techniques, Design and Engineering methods beyond those required per the MCMs

- MCM 1 – Public Education:
    - Evaluate the substitution or addition of education on PCB sources and elimination as a high-priority water quality issue. Research existing outreach efforts by others for PCBs as a legacy pollutant for the criteria used in the selection of an appropriate target audience and for this potential water quality issue. Research outreach programs and activities by others, including social media outreach.
    - Include information about PCB as a Pollutant of Concern in future annual mailers that are attached to the annual drinking water quality information. Evaluate the use of social media as an outreach method.

    - Include discussion of the PCB TMDL during the Town Council Annual Report Presentation.
- MCM 2 – Public Involvement:
    - Participation in the New River PCB TMDL Technical Advisory Committee to provide input into the development of the TMDL that provides consistency across both TMDL plans.
- MCM 3 – Illicit Discharge:
    - The Town website provides contact information to report IDDE comments and complaints.
- MCM 4 – Construction Site Runoff:
    - Regulated land disturbance projects in the Town are required to be consistent with the Chapter 16 ESC and SWM Ordinances, which require Stormwater Pollution Prevention Plans that minimize the discharge of pollutants from construction activity and post-construction. Inspections are required to be performed during construction activity.
- MCM 5 – Post Construction Stormwater Management:
    - The Town SWM program requires regulated land disturbance projects to address post-construction water quality and requires a long term inspection and maintenance program for stormwater management facilities to ensure functionality. As an additional practice the SWM regulations and BMP maintenance requirements apply at a lower 10,000 square foot threshold as compared to the state 1 acre threshold. The facilities are designed to meet the technical criteria target phosphorus reductions; however, facilities that remove phosphorus inherently also remove sediment from passing downstream.
    - The Town currently inspects all privately owned stormwater management facilities annually, exceeding the General Permit minimum requirement that all facilities be inspected at least once every five years.
- MCM 6 – Good Housekeeping:
    - Housekeeping SWPPPs are developed for Town staff and SWPPP inspection are occurring in the current permit year, one year ahead of the required deadline.
    - The Town SWPPP housekeeping training occurs at a more frequent training schedule than the biennial frequency required by the MS4 General Permit.
    - The Town has IDDE complaint contact information on the town website, as specified in the MS4 program plan, to enhance public IDDE reporting capabilities.

Identify and Maintain a List of BMPs

The MS4 permit conditions require the permittee to conduct an assessment of facilities for significant sources of the Pollutant of Concern. The following properties within the Town limits are owned by the Town and within the Roanoke River watershed.

Watershed	Land Use	Parcel ID	Address	Comments
RU04 Elliot Creek (South Fork Roanoke River Watershed)	Pump Station	70371	Overland Drive	Walnut Branch Pump Station
	Pump Station	90631	200 Pops Lane	Conner's Pump station
	Vacant	71051	Lomoor Drive	Lomoor Street former pump station site
	Vacant	71034	Tower Road	Tower Road
	Pump Station	070348, 031962, 070347	832 Tower Road SE	Tower Road Pump Station
	Pump Station	32141	John Lemley Lane	
	Vacant	120264	John Lemley Lane	Future park
RU07 North Fork Roanoke River - Wilson Creek	Rest Area	31401	Wayside Drive	Wayside Drive Rest Area
	Open Space	80053	White Pine Drive	White Pine Court Subdivision
	Vacant	32739	Dunlap Drive	Parcel adjacent to ROW
	Stormwater Pond	120346	Industrial Drive	Christiansburg Industrial Park Detention Pond
	Stormwater Pond	160190	Industrial Drive	Christiansburg Industrial Park Extended Detention Pond
RU05 South Fork Roanoke River - Brake Branch	No Town owned Properties present			

Measurable Goals through the 2013 – 2018 Permit Cycle

- Evaluate the substitution or addition of education on PCB sources and elimination as a high-priority water quality issue for the 2017-2018 permit year.
    - Research existing traditional and social media outreach efforts by others for PCBs as a legacy pollutant for the criteria used in the selection of an appropriate target audience and for this Water Quality Issue (WQI).
    - Examine residential outreach information on electrical and appliance sources of PCB Examine institutional, commercial and industrial businesses as potential target audiences.
        - Interim milestone timeline: Complete existing outreach methods research by June 30, 2017. Evaluate existing methods through September 30, 2017 and modify PEOP as appropriate based on research evaluation. Begin any modified outreach in the 2017-2018 permit year and provide any revisions to PEOP with the 2016-2017 Annual Report on October 1, 2017.
        - Method to assess effectiveness: Education and outreach efforts are modified in the 2017-2018 year to address PCB as a POC.
- Include information about PCB as a Pollutant of Concern in 2017-2018 annual mailers that are attached to the annual drinking water quality information.
        - Interim milestone timeline: Address PCBs in June, 2018 mailer using information gathered from outreach research.
        - Method to assess effectiveness: June, 2018 mailer should address PCB as a POC.
- Continue New River TAC participation to advocate for consistent TMDL requirements across all town watersheds.
        - Interim milestone timeline: Continue TAC participation in anticipated January 2017 meeting and subsequent meetings.
        - Method to assess effectiveness: Document participation in TAC.
- Coordinate with the town Public Works Wastewater Treatment Plant (WWTP) to gather information on potential PCB sources through the WWTP Industrial Waste Surveys for industrial sanitary sewer connections.
    - Revise the industrial waste survey of significant dischargers that is sent to new significant dischargers and to all significant dischargers at the next VPDES permit cycle. Review Significant Industrial Users (SIUs) and any relevant discharger's Standard Industrial (SIC) Codes to evaluate potential sources of PCBs.
        - Interim milestone timeline: Complete document revision by June 30, 2017. Evaluate existing survey data by June 30, 2018. Report results in 2017-2018 Annual Report.
        - Method to assess effectiveness: Report results indicating specific potential POC dischargers for subsequent education and outreach efforts would be an effective outcome.

- Research IDDE ordinance language at other localities for specific PCB prohibition.
    - Interim milestone timeline: Research existing ordinances at other municipalities through September 30, 2017. Submit findings to Director of Engineering for consideration and discussion with Town Manager.
    - Method to assess effectiveness: Effectiveness will be assessed as delivery of recommendation to the Town administration.
- Survey existing PCB-free purchasing ordinance language at other localities and evaluate the potential to add such language to Town Code.
    - Interim milestone timeline: Research existing ordinances at other municipalities, effect on product availability, and economic effects of this this type of ordinance through September 30, 2017. Submit findings to Director of Engineering for consideration and discussion with Town Manager and Finance Director for evaluation.
    - Method to assess effectiveness: Effectiveness will be assessed as delivery of recommendation to the Town administration by September 30, 2017. Should ordinance language be incorporated into Town Code a measure of effectiveness will be established to gauge the impact of the code revision.
- Examine methods to determine historical land uses to identify potential legacy sources of PCBs
    - Interim milestone timeline: Complete examination of efforts by June 30, 2017. Document outreach in 2016-2017 MS4 Annual Report.
    - Method to assess effectiveness: Inclusion of any methodologies to identify potential legacy sources of PCBs in 2017-2018 Action Plan update would indicate an effective effort.
- Contact the Montgomery Regional Solid Waste Authority (MRSWA). Discuss residential drop off and disposal of potential PCB-source waste products (old electrical appliances, televisions, refrigerators, etc.). Discuss potential for partnerships in public outreach for proper disposal of potential PCB source.
    - Interim milestone timeline: Complete outreach to MRSWA by June 30, 2017. Document outreach in 2016-2017 MS4 Annual Report.
    - Method to assess effectiveness: Inclusion of any MRSWA partnership in 2017-2018 PEOP would indicate an effective outreach effort.
- Review Good Housekeeping SWPPP materials for potential revisions to more specifically address PCBs as a pollutant of concern.
    - Interim milestone timeline: Review town parcels located within the Roanoke River watershed. Identify potential SWPPP sites for PCB concerns by September, 2017. Document review in 2016-2017 MS4 Annual Report.
    - Method to assess effectiveness: Inclusion of PCB related information in TOC Good Housekeeping Manual and site inspection forms at applicable SWPPP sites would indicate an effective effort.

Definitions – For the purposes of this guidance document, the following definitions shall apply:

Polychlorinated Biphenyl (PCB) - An organic chlorine compound with the formula $C_{12}H_{10-x}Cl_x$. 209 unique chemical compounds, known as congeners, exist and are included in this category of chemical compounds.

Best Management Practices ("BMPs") – 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.

Load Allocation ("LA") - The portion of the loading capacity attributed to (1) the existing nonpoint sources of pollution and (2) natural background sources.

Pollutant(s) of Concern ("POC") – The pollutant(s) impairing a water body for which one or more TMDL(s) has been developed.

TMDL Implementation Plan – A document guided by an approved TMDL(s) that at a minimum provides details of the corrective actions to address the load allocation of one or more TMDLs. The plan includes measureable goals needed to achieve pollutant(s) source load reductions; outlines a schedule to attain water quality standards along with costs, benefits, and environmental impacts to reduce pollutant(s) and remediate impaired waterbodies.

Total Maximum Daily Load ("TMDL") – The sum of the individual wasteload allocations (WLAs) for point sources, load allocations (LAs) for nonpoint sources, natural background loading and a margin of safety.

Total PCB (tPCB) - The summation of PCB congeners, out of the possible 209,

Wasteload Allocation ("WLA") - The portion of a receiving waters' pollutant loading capacity that is allocated to existing or future point sources of pollution, such as an MS4.

***For terms not defined above, please refer to the 9VAC25-890-1, 9VAC25-870-10, or 9VAC25-31-10 of the Virginia Administrative Code*.**

References

Agency for Toxic Substances and Disease Registry (ATSDR), U.S. Department of Health and Human Services. Accessed 2016: https://www.atsdr.cdc.gov/phs/phs.asp?id=139&tid=26

Virginia Department of Environmental Quality 'Resources for PCB TMDLs' (DEQ PCB Portal). Accessed 2016 at:
http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/PCBTMDLs.aspx

Virginia Department of Environmental Quality TMDL Guidance Memo Number 14-2004 "Procedures for reviewing and deriving total PCB concentrations from samples analyzed using low-level PCB method 1668 to be used in the development and implementation of TMDLs"

Washington Department of the Environment (DOE) Washington State Department of Ecology PBT Initiative. Accessed 2016 at: http://www.ecy.wa.gov/programs/hwtr/RTT/pbt/pcb.html

Appendix L Public Education and Outreach Plan

The Town of Christiansburg MS4 Public Education and Outreach Plan

Revised November 2018

(Incorporated into the Town's MS4 Program Plan)

The Town of Christiansburg (Town) operates a Stormwater Management Program in compliance with the Virginia General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit). The Town strives to improve local surface water quality and environmental stewardship through Program implementation, and sound technical guidelines, criteria and practices for stormwater management. Engaging the public is critical to achieving these goals. In accordance with Section II.B.1 of the MS4 General Permit, the Town implements a Public Education and Outreach Program (PEOP) on stormwater impacts. The PEOP aims to:

- Increase the knowledge of the Town's public audience about steps that can be taken to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;
- Increase the Town's public knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and
- Implement a diverse program with strategies that target audiences most likely to have significant stormwater impacts.

These goals are intended to be met as part of an iterative program that will measure effectiveness of the Program by assessing the level of knowledge, over time, of the Town's Public that is defined as Town residents and staff. The Program is designed consistent with the MS4 General Permit to:

- Identify three high-priority water quality issues and provide rationale for the selection of each issue;
- Identify and estimate the population size of the target audience who is most likely to have significant impacts on each water quality issue;
- Identify the relevant message and associated educational and outreach materials for distribution to the target audiences.

Selection of high-priority water quality issues was based on feedback derived from Town Engineering Staff, suggestions from MS4 Consultants with their experience from public education surveys taken from other MS4s, local Total Maximum Daily Loads (TMDLs), the Towns' reissue of the Public Education and Outreach Stormwater survey results, and general knowledge of Town operations. The Town's high-priority water quality issues for the PEOP are provided below. Based on measures of effectiveness for each, any may be replaced or refined with approval of the Department of Environmental Quality (DEQ) as part of an iterative stormwater program.

Representative outreach materials are contained at the end of this plan. The materials include a Christiansburg Connection issue with a stream restoration article, and a Facebook post on pet waste.

Water Quality Issue No. 1: Education on special water quality concerns (PCBs)
Rationale: The Town has been assigned wasteload allocations for PCBs as part of the *December 2009 Roanoke River PCB TMDL Development (Virginia)*. The survey did not include questions about PCBs, so no conclusion about knowledge can be reached. Since there is a PCB TMDL in the approval process for the New River and Crab Creek, PCB education will continue to be addressed.

Target Audience:
The Town conducts a Spring and a Fall clean up when all residents may put out extra items for special trash pick-up. Some of these items may contain PCBs. Since all residents may participate, the target audience will include all households.

- ±9,400 households

Relevant Message: Inform town residents of possible household sources of PCBs and inform residents how to properly dispose of waste that may contain PCBs.

Outreach Methods to Convey the Relevant Message: The topic will be addressed with articles in The Christiansburg Connection newsletter and/or posted on the Town's Facebook page and Town website. The Christiansburg Connection is included as an insert in all mailed utility bills six times per year. It is also available as an electronic subscription and is promoted on the Town's website and Facebook page. Facebook will be preferred as an electronic media as documentation indicates it reaches more people. The town also can "push" Facebook posts which puts the post in front of more users. However, it cannot be determined if those people are residents of the Town. The Town will also use the outreach to the Montgomery County School System as an education and outreach strategy across all three of the identified water quality issues.

Schedule: Outreach material for each special water quality concern will be distributed a minimum of once a year to at least 20% of each target audience. The spring 2019 article will be timed to facilitate references to Spring Clean-up. The topic addressed will be staggered with Water Quality Issues #2 and #3 to ensure outreach to the entirety of the target audience.

Method to Determine Effectiveness: Provide PCB concerns message to a minimum of 20% of the target audience via Christiansburg Connection newsletter, Facebook posts and/or Town website posts.

Water Quality Issue No. 2: Education on special water quality concerns (*E. coli*)

Rationale: The Town has been assigned wasteload allocations for bacteria as part of two DEQ-approved TMDLs, the *Bacteria TMDLs for Wilson Creek, Ore Branch and Roanoke River Watersheds, Virginia* and the *Fecal Bacteria and General Standard Total Maximum Daily Load Development for Crab Creek*. Survey results indicate little to no increase in the knowledge about pet waste so continued outreach efforts are needed.

Target Audience:
The Town estimates approximately 5,040 households to have pets based on the estimate of 56% of households owning at least one pet according to the 2010 United States Census. However, since the specific pet-owning households are unknown, the target audience will include all households.

- ±9,400 households

Relevant Message: Inform pet owners about the effects of pet waste on water quality and encourage pet owners to pick up and properly dispose of pet waste. Include information on location of pet waste stations.

Outreach Methods to Convey the Relevant Message: The topic will be addressed with articles in The Christiansburg Connection newsletter and/or posted on the Town's website or Facebook page. The Christiansburg Connection is included as an insert in all mailed utility bills six times per year. It is also available as an electronic subscription and is promoted on the Town's website and Facebook page. Facebook will be preferred as an electronic media as documentation indicates it reaches more people. The town also can "push" Facebook posts which puts the post in front of more users. However, it cannot be determined if those people are residents of the Town. The Town will also use the outreach to the Montgomery County School System as an education and outreach strategy across all three of the identified water quality issues. Additionally, dog leash waste bag dispensers have been purchased to distribute at Public Participation events as a take home message on the importance of cleaning up after pets.

Schedule: Outreach material for each special water quality concern will be distributed a minimum of once a year to at least 20% of each target audience. The topic addressed will be staggered with Water Quality Issues #2 and #3 to ensure outreach to the entirety of the target audience. Dog leash waste bag dispensers will be distributed at at least two spring Public Participation events.

Method to Determine Effectiveness: Provide E. coli concerns message to a minimum of 20% of the target audience via Christiansburg Connection newsletter, Facebook posts and/or Town website posts. Distribute dog leash waste bag dispensers.

Water Quality Issue No. 3: Education on Stream Health (Stream restorations, lawn care/sediment)

Rationale: The Town has invested in three stream restorations to improve stream health. The re-issued Stormwater Survey again showed a high interest in the improvement of water quality. The Town has also been assigned wasteload allocations for sediment as part of two DEQ-approved TMDLs, the *Benthic TMDL Development for the Roanoke River, Virginia* and the *Fecal Bacteria and General Standard Total Maximum Daily Load Development for Crab Creek*. Poor vegetative cover is a potential contributor of pollutants causing the benthic and bacterial impairments in the Crab Creek and Roanoke River basins. The re-issued Stormwater Survey indicated that residents did not view sediment as a top water pollutant. Therefore, the role of poor vegetative cover on residential sites as a source of sediment pollution will continue to be addressed.

Target Audience: The target audience includes all residents within the Town along with homeowner associations and property management companies.

- 9,400 households

Relevant Message:
Inform households, homeowner associations, and property management companies of the expected improvements in stream health from the stream restoration projects. Communicate the positive environmental effects of good vegetative cover, as well cost savings of stream friendly lawn care.

Outreach Methods to Convey the Relevant Message: Both topics will be addressed with separate articles in The Christiansburg Connection newsletter and/or posted on the Town's website or Facebook page. The Christiansburg Connection is included as an insert in all mailed utility bills six times per year. It is also available as an electronic subscription and is promoted on the Town's website and Facebook page. Facebook will be preferred as an electronic media as documentation indicates it reaches more people. However, it cannot be determined if those people are residents of the Town. The Town will also use the outreach to the Montgomery County School System as an education and outreach strategy across all three of the identified water quality issues.

Schedule: Outreach material for each topic will be distributed a minimum of once a year to at least 20% of each target audience. The topics addressed will be staggered with Water Quality Issue # 1 and #2 to ensure outreach to the entirety of the target audience.

Method to Determine Effectiveness: Provide stream restoration and sediment reducing yard care message to a minimum of 20% of the target audience.

Representative outreach material #1: article in The Christiansburg Connection:

The Christiansburg Connection

July/August 2018

Events Calendar

Christiansburg Farmers' Market
Every Thursday through Oct., 3-7 p.m.
Hickok Street NW

Fourth of July Celebration
July 4, 10 a.m. - 4 p.m.; downtown Main Street
Fireworks show begins at 9:15 p.m., view from the NRV Mall or Walmart parking lot

Movies in the Park: "The Sandlot"
July 27, movie begins at sundown
Downtown Park

SW VA 811 8-Mile Race & 5k Run/Walk
Aug. 11, race begins at 6:30 a.m.
Christiansburg Recreation Center

Movies in the Park: "The Greatest Showman"
Aug. 24, movie begins at sundown
Downtown Park

Stillborn Speak 5k Run/Walk
Aug. 25, race begins at 8:30 a.m.
Christiansburg Recreation Center

Heritage Day
Aug. 25, 10 a.m. - 3 p.m.
Montgomery Museum

To find out more information on events and programs, visit www.christiansburg.org/events or our Facebook page.

Upcoming Meetings

Town Council Meetings

Held at Town Hall, 100 East Main St.
- Tuesday, July 10, 7 p.m.
- Tuesday, July 24, 7 p.m.
- Tuesday, August 14, 7 p.m.
- Tuesday, August 28, 7 p.m.

Never miss a meeting! Sign up for notifications at www.christiansburg.org/notifyme

Closures

Independence Day, July 4
- The Aquatic Center will be closed.
- Town Hall will be closed.
- The Recreation Center will be closed.
- Garbage and recycling normally collected on Wednesdays will be collected on Tuesday, July 3, with Tuesday's regular collection.

Aquatic Center Information

July 13-15, Summer Awards Meet
July 20-21, RVAA City County Meet
July 26-29, Age Group Champs Meet
Aug. 13-24, CAC closed for annual maintenance

Stream restoration improving habitat for native wildlife

If you've been to Depot Park recently, you've probably noticed some changes. These changes are part of the Towne Branch stream restoration project, which will prevent approximately 160 tons of sediment from moving downstream every year. This puts Christiansburg closer to achieving a required reduction in the amount of sediment entering our waterways.

One of the benefits of reducing sediment is a better habitat for native aquatic animals and plants. As part of the project, 700 native trees were planted both behind the split rail fence and downstream of the Skate Park. Additionally, 4,700 native shrubs were planted along the stream's bank to control erosion. These areas were also seeded with native plants.

Planting young trees, shrubs and seeds requires a change in mowing practices. The tall grass you can find along the stream today is a "nurse crop." It sprouts and grows very quickly and helps protect the native plant seeds. Some

of the native plant seeds will germinate this summer as the nurse crop dies. Others will take up to a year to sprout. Mowing the nurse crop would damage the young native plants, trees and shrubs. The goal is to create a well-shaded stream with stable banks and a diverse aquatic animal community. With time and proper care, this area will transform into a native meadow and then a streamside forest.

Community Snapshot

Girl Scouts from Troop 51 plant huckleberries along the Huckleberry Trail in June as part of a service project.

Stormwater Survey

As part of the Town's MS4 (Municipal Separate Storm Sewer System) permit, we are gauging the public's perception of stormwater issues and our storm sewer system. If you would like to participate, please visit https://bit.ly/2lhr1A1 by July 31 to take the survey. You may also complete the survey in person at the Christiansburg Aquatic Center, the Christiansburg Recreation Center or Town Hall before the end of July.

The survey does not require any identifying information and is only 11 questions long.

Frequently Asked...

Q: How can I pay my utility bills?

A: You may pay online at https://utilitybilling.christiansburg.org or in person at Town Hall, 100 E. Main St. in Christiansburg. You can also set up payments to be automatically withdrawn from your checking or savings account through the Direct Payment Plan. Visit Town Hall to set up direct payment. Visa, Mastercard and Discover debit/credit cards are accepted for payment, along with cash, checks and money orders.

Q: How can I monitor my water usage?

A: Sign up for an account at www.christiansburg.org/monitorwater. The online tool will allow you to monitor your usage and receive alerts if a leak is detected.

Have a question? Let us know!
540-382-6128 ext. 1150
info@christiansburg.org
www.christiansburg.org

Representative outreach material # 2: Facebook post

Representative outreach material #3: Pet waste bag leash dispenser

Appendix M

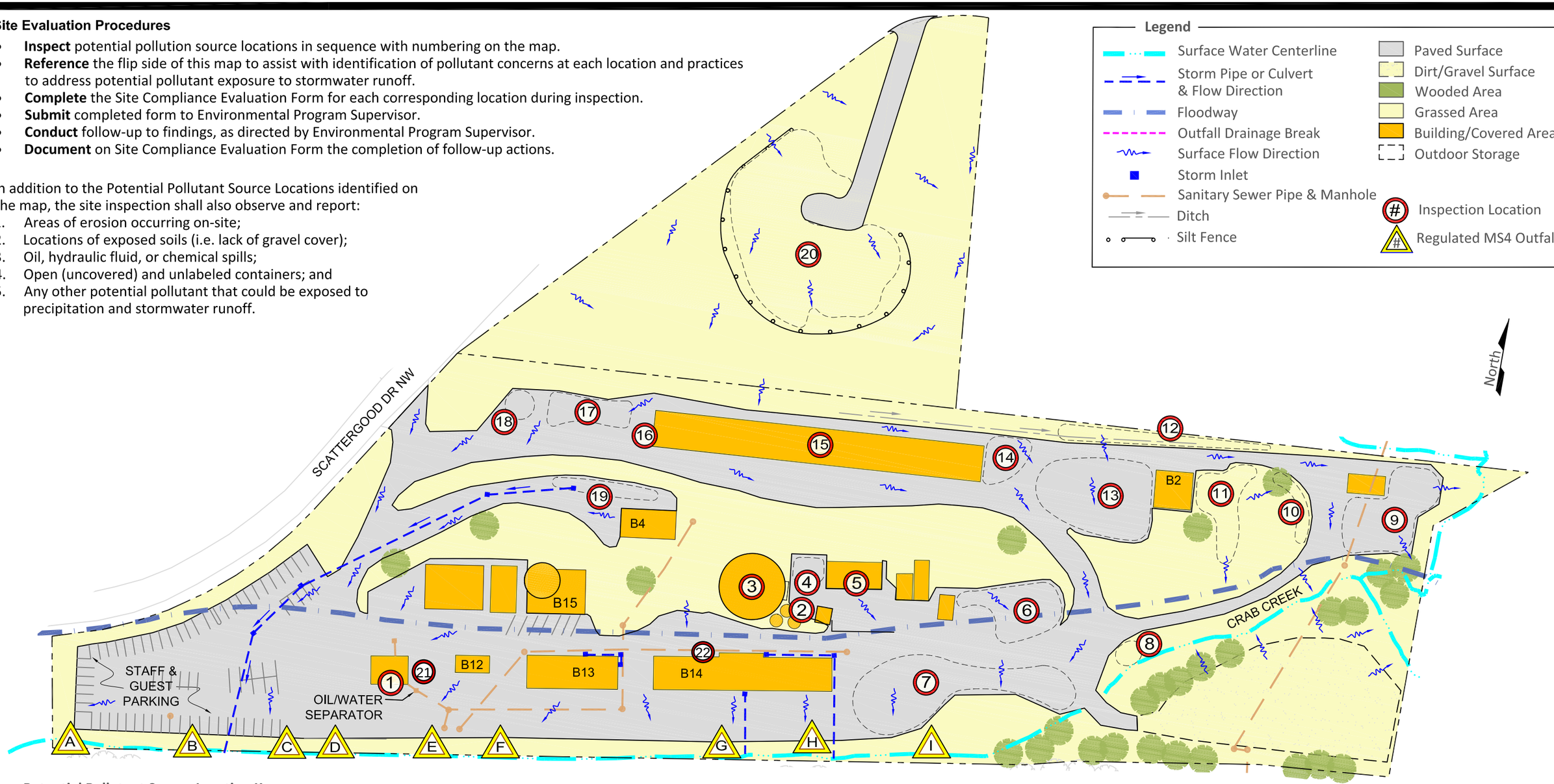
High-Priority Facility Storm Water Pollution Prevention Plans

Site Evaluation Procedures

- **Inspect** potential pollution source locations in sequence with numbering on the map.
- **Reference** the flip side of this map to assist with identification of pollutant concerns at each location and practices to address potential pollutant exposure to stormwater runoff.
- **Complete** the Site Compliance Evaluation Form for each corresponding location during inspection.
- **Submit** completed form to Environmental Program Supervisor.
- **Conduct** follow-up to findings, as directed by Environmental Program Supervisor.
- **Document** on Site Compliance Evaluation Form the completion of follow-up actions.

In addition to the Potential Pollutant Source Locations identified on the map, the site inspection shall also observe and report:

1. Areas of erosion occurring on-site;
2. Locations of exposed soils (i.e. lack of gravel cover);
3. Oil, hydraulic fluid, or chemical spills;
4. Open (uncovered) and unlabeled containers; and
5. Any other potential pollutant that could be exposed to precipitation and stormwater runoff.



Potential Pollutant Source Location Key

- 1 VEHICLE WASHING/OIL-WATER SEPARATOR
- 2 CHLORIDE BRINE TANKS
- 3 COVERED SALT STORAGE/LOADING
- 4 OUTDOOR TEMPORARY GRIT STOCKPILE
- 5 COVERED GRIT STOCKPILING/LOADING
- 22 12 OUTDOOR MATERIAL STORAGE
- 9 10 11 13 OUTDOOR MATERIAL/EQUIPMENT STORAGE
- 18 20 OUTDOOR STOCKPILE
- 6 7 8 14 17 19 OUTDOOR VEHICLE/EQUIPMENT STORAGE
- 21 15 COVERED VEHICLE/EQUIPMENT/ CHEMICAL STORAGE
- 16 FUELING

Match key with map and back of sheet

TOWN OF CHRISTIANSBURG, VIRGINIA

PUBLIC WORKS FACILITY
STORMWATER POLLUTION PREVENTION PLAN MAP

SCALE: 1" = 100'

Note: This map is for SWPPP purposes only and no field survey was conducted in its compilation. This map is required to be updated when any new infrastructure is built (buildings, storm sewer, outfalls, etc.) or any possible pollutant generating activities are created, moved, or eliminated (new dumpster, new stockpile area, etc.). Notify the Environmental Program Supervisor regarding changes in the field not depicted on this map.

3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

November 2018

Site Evaluation Overview

Purpose

The intent of this reference guide is to provide quick access to descriptions of common pollutant sources and common controls and practices to address the pollutants for each location identified on the Stormwater Pollution Prevention Plan (SWPPP) map. If needed, additional information for each potential pollutant source or activity, including source controls, standard operating procedures, and removal/disposal of pollutants is provided in the Town's Good Housekeeping and Pollution Prevention Manual, latest edition.

Training for Performing Site Evaluation

The individual completing the Site Compliance Evaluation Form shall have participated in the Town's Municipal Separate Storm Sewer System (MS4) Good Housekeeping/Pollution Prevention training that includes introduction to the Operations and Maintenance (O&M) included with this SWPPP, by reference, and includes an overview of this SWPPP.

Frequency and Protocol

The Site Compliance Evaluation Form shall be completed a minimum of once annually. The completed form shall be provided to the Environmental Program Supervisor immediately after the evaluation is completed. The Environmental Program Supervisor will provide follow-up for findings. Follow-up when completed shall be noted on the Site Compliance Evaluation Form, as appropriate. *The Site Compliance Evaluation is not complete until appropriate follow-up to findings has been documented on the form.*

Reportable Spills & Discharges

If an onsite spill or occurring discharge to surface waters of any pollutant is observed, immediately contain the pollutant to prevent potential or further discharge. The Environmental Program Supervisor shall be notified immediately to:

1. Determine the further actions necessary to eliminate the potential or occurring discharge and
2. Determine if the discharge was equal to or in excess of a reportable quantity per Section III G of the MS4 General Permit.
   - If the discharge is reportable, the Environmental Program Supervisor will notify the DEQ within 24 hours and prepare the necessary report per Section III G of the MS4 General Permit for submission to DEQ. A copy of the report shall be maintained in a file with the SWPPP materials on site.

For emergencies, call the Town of Christiansburg Fire Department at 9-1-1.

SWPPP Map Quick Reference Guide

Vehicle Washing (1)

Potential Pollutant and Sources: Downstream transport of solvents, grease, sediment, petroleum product and cleaning agents through washwater.

Source Controls: Wash only in designated areas that drain to sanitary sewer.

Best Management Practice(s): Ensure all washwater is directed to the sanitary sewer by inspecting and maintaining diversion directing the washwater to the sanitary sewer. Provide signage clearly identifying the designated washing location(s). Ensure intake to the sanitary sewer is clear of debris and sediment. Regularly inspect and clean-out oil-water separator when needed. Document each time it is inspected and cleaned.

O&M Procedure Reference: Section 5.1

Salt Operations/Loading (2) (3) (4) (5)

Potential Pollutant and Sources: Salt and sand/grit tracked from storage facilities and in mixing locations.

Source Controls: Cover provided by indoor salt storage is the primary source control. Perimeter controls act as source controls for any outdoor stockpiling.

Best Management Practice(s): Remove tracked salt, sand/grit from loading and mixing areas immediately following loading and mixing activities. Install and maintain perimeter controls for outdoor stockpiles.

O&M Operating Procedure Reference: Section 5.10 , 5.9

Grated Storm Inlets

Potential Pollutant and Sources: Sand, grit, sediment or other erodible materials stored outdoors.

Source Controls: Grated storm inlets fitted with filter bags.

Best Management Practice(s): Replace filter bags when clogged. Properly dispose of filter bags.

O&M Operating Procedure Reference: Section 5.14

Outdoor Material Storage (9) (10) (11) (12) (13) (22)

Potential Pollutant and Sources: Petroleum products, solvents, corrosive material, grease or sediment from materials stored outdoors.

Source Controls: Perimeter controls or cover.

Best Management Practice(s): Store materials that could introduce pollutants to runoff indoors. Remove and properly dispose of pollutants on ground surface.

O&M Operating Procedure Reference: Section 5.8

Outdoor Material Stockpiling (18) (20)

Potential Pollutant and Sources: Sand, grit, sediment or any other erodible material stored outdoors.

Source Controls: Perimeter controls to prevent transport of stockpiled materials. Small, temporary stockpiles can be covered. . Sediment trap captures migrating material.

Best Management Practice(s): Regularly inspect stockpile areas and ensure proper maintenance of perimeter controls and sediment trap. Remove and dispose of materials that have migrated outside of perimeter controls daily. Place stockpiles away from outfalls and surface waters.

O&M Operating Procedure Reference: Section 5.9

Outdoor Vehicle/Equipment Storage (6) (7) (8) (9) (10) (11) (13) (14) (17) (19)

Potential Pollutant and Sources: Petroleum products leak from hydraulic hoses or equipment in disrepair.

Source Controls: Drip pans or absorbent pads placed under leaks. Wrap containment bags around leaking components.

Best Management Practice(s): Repair equipment and vehicles leaking fuel or oil. Utilize source controls while leaks occur and inspect regularly to ensure pollutant is not exposed to precipitation. Remove and properly dispose of pollutants on ground surface.

O&M Operating Procedure Reference: Section 5.3

Covered Vehicle/Equipment/Chemical Storage (15) (21)

Potential Pollutant and Sources: Petroleum products leaks from hydraulic hoses or equipment in disrepair. Grease, sediment and other pollutants on equipment. Various chemicals can spill.

Source Controls: Roof cover acts as the primary source control. Drip pans or absorbent pads placed under leaks and containment bags wrapped around leaking components if potential for intermingling with stormwater. Spill kit for chemicals.

Best Management Practice(s): Repair equipment leaking fuel or oil. Utilize source controls while leaks occur and inspect regularly to ensure pollutants are not exposed to precipitation. Keep chemical containers capped and off the floor where they can be knocked over. Place barrels and other containers as far under cover as possible. Use absorbent, scrub with a broom to remove as much of the chemical as possible, and promptly recover all material. Remove and properly dispose of pollutants on ground surface.

O&M Operating Procedure Reference: Sects. 5.3 & 5.6

Fueling Area (16)

Potential Pollutant and Sources: Fuel spills from fueling activities and leaks from pumping equipment.

Source Controls: Maintain a spill kit in the immediate vicinity with posted instruction for use of the kit. Perform timely maintenance repairs to address leaks. Identification of location of cut-off switch.

Best Management Practice(s): Cover spills completely with absorbent and subsequently scrub with a broom. Promptly remove and dispose of material in a waste receptacle for waste oil. For leaks, provide a drip pad or absorbent pad until repairs can be made. Dispose of collected fuel in a waste receptacle for waste oil.

O&M Operating Procedure Reference: Section 5.4

Pertinent Contacts

Normal Business Hours:

DEQ Blue Ridge Regional Office - Roanoke: (540) 562-9700

Nights, Weekends & Holidays (24 Hour Reporting Service):

VA Department of Emergency Management: (804) 674-2400

CHRISTIANSBURG VA

Legend

- Surface Water Centerline
- Storm Pipe or Culvert & Flow Direction
- Outfall Drainage Break
- Surface Flow Direction
- Sanitary Pipe & Manhole
- MS4 Regulated Outfall
- Paved Surface
- Gravel Surface
- Wooded Area
- Grassed Area
- Building/Covered Area
- Outdoor Storage
- # Inspection Location

Potential Pollutant Source Location Key

Match key with map and back of sheet

1 INDOOR CHEMICAL STORAGE

2 4 OUTDOOR MATERIAL STORAGE

3 OUTDOOR STOCKPILE

Site Evaluation Procedures

- Inspect potential pollution source locations in sequence with numbering on the map.
- Reference the flip side of this map to assist with identification of pollutant concerns at each location and practices to address potential pollutant exposure to stormwater runoff.
- Complete the Site Compliance Evaluation Form for each corresponding location during inspection.
- Submit completed form to MS4 Program Coordinator.
- Conduct follow-up to findings, as directed by MS4 Program Coordinator.
- Document on Site Compliance Evaluation Form the completion of follow-up actions.

In addition to the Potential Pollutant Source Locations identified on the map, the site inspection shall also observe and report:

1. Areas of erosion occurring on-site;
2. Locations of exposed soils (i.e. lack of gravel cover);
3. Oil, hydraulic fluid, or chemical spills;
4. Open (uncovered) and unlabeled containers; and
5. Any other potential pollutant that could be exposed to precipitation and stormwater runoff.

TOWN OF CHRISTIANSBURG, VIRGINIA

LANDFILL
STORMWATER POLLUTION PREVENTION PLAN MAP

SCALE: 1" = 160'

Note: This map is for SWPPP purposes only and no field survey was conducted in its compilation. This map is required to be updated when any new infrastructure is built (buildings, storm sewer, outfalls, etc.) or any possible pollutant generating activities are created, moved, or eliminated (new dumpster, new stockpile area, etc.). Notify the Environmental Program Manager regarding changes in the field not depicted on this map.

3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

November 15, 2018

Site Evaluation Overview

Purpose

The intent of this reference guide is to provide quick access to descriptions of common pollutant sources and common controls and practices to address the pollutants for each location identified on the Stormwater Pollution Prevention Plan (SWPPP) map. If needed, additional information for each potential pollutant source or activity, including source controls, standard operating procedures, and removal/disposal of pollutants is provided in the Town's Good Housekeeping and Pollution Prevention Standard Operating Procedures (SOPs) Manual, latest edition.

Training for Performing Site Evaluation

The individual completing the Site Compliance Evaluation Form shall have participated in the Town's Municipal Separate Storm Sewer System (MS4) Good Housekeeping/Pollution Prevention training that includes introduction to the SOPs included with this SWPPP, by reference, and includes an overview of this SWPPP.

Frequency and Protocol

The Site Compliance Evaluation Form shall be completed a minimum of once annually. The completed form shall be provided to the Environmental Program Manager immediately after the evaluation is completed. The Environmental Program Manager will provide follow-up for findings. Once follow-up is completed, it shall be indicated or noted on the Site Compliance Evaluation Form, as appropriate. *The Site Compliance Evaluation is not complete until appropriate follow-up to findings has been documented on the Evaluation Form*.

Reportable Spills & Discharges

If an onsite spill or occurring discharge to surface waters of any pollutant is observed, immediately contain the pollutant to prevent potential or further discharge. The Environmental Program Manager shall be notified immediately to:

1. Determine the further actions necessary to eliminate the potential or occurring discharge and
2. Determine if the discharge was equal to or in excess of a reportable quantity per Section III G of the MS4 General Permit.
    - If the discharge is reportable, the Environmental Program Manager will notify the DEQ within 24 hours and prepare the necessary report per Section III G of the MS4 General Permit for submission to DEQ. A copy of the report shall be maintained in a file with the SWPPP materials on site.

For emergencies, call the Town of Christiansburg Fire Department at 9-1-1.

SWPPP Map Quick Reference Guide

Indoor Chemical Storage (1)

Potential Pollutant and Sources: Various chemicals can spill.

Source Controls: Spill kit. Use absorbent, scrub with a broom to remove as much of the chemical as possible, and promptly recover all material.

Best Management Practice(s): Keep chemicals indoor.

Standard Operating Procedure Reference: Section 5.6

Outdoor Material Storage (2) (4)

Potential Pollutant and Sources: Petroleum products, solvents, corrosive material, grease or sediment from materials stored outdoors.

Source Controls: Perimeter controls or cover.

Best Management Practice(s): Store materials that could introduce pollutants to runoff indoors. Remove and properly dispose of pollutants on ground surface.

Standard Operating Procedure Reference: Section 5.8

Outdoor Material Stockpiling (3)

Potential Pollutant and Sources: Sand, grit, sediment or any other erodible material stored outdoors.

Source Controls: Perimeter controls to prevent transport of stockpiled materials. Soil stockpile storage over 14 days requires temporary turf stabilization.

Best Management Practice(s): Regularly inspect stockpile areas and ensure proper maintenance of perimeter controls. Remove and dispose of materials that have migrated outside of perimeter controls daily. Place stockpiles away from outfalls and surface waters.

Standard Operating Procedure Reference: Section 5.9