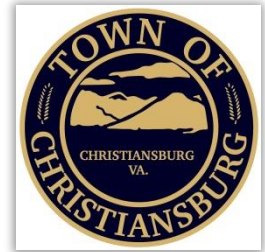


# The Town of Christiansburg MS4 Public Education and Outreach Plan

Revised September 2017

(Incorporated by reference 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), 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.

## **Water Quality Issue No. 1: Youth education on stormwater impacts**

Rationale: This issue was selected based on the need for improved public education, which is a goal of the MS4 Permit. A completed Town survey indicates that there is general knowledge regarding stormwater impacts but also opportunity for additional messaging to improve knowledge regarding stormwater impacts. The respondent age distribution was weighted towards older individuals more likely to read the outreach messaging provided in mailings. The target audience for this quality issue is revised to improve outreach and participation towards a younger demographic. The Montgomery County Public School System indicates that the sixth grade demographic is an appropriate target audience for outreach since the sixth grade curriculum has a science focus on water and renewable/non-renewable resources as well as a goal of a “meaningful watershed experience” at each grade level. The Christiansburg Middle School had a total enrollment of 798 students in 2014 and generally varies from approximately 800-850 students, with some additional cross-attendance of County, Town of Christiansburg, and Town of Blacksburg students across the four middle schools in the County.

Target Audience: The public middle school sixth grade student population of Christiansburg

- Estimated at approximately 300 students.

Relevant Message: To address goals of the MS4 Program, the relevant message will include:

- General information about stormwater runoff (why it’s important, where it drains, pollutants, etc.)
- Steps that can be taken to reduce stormwater pollution
- Knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications
- Information regarding the Town’s Stormwater Program
- Information regarding methods to reduce introduction of TMDL pollutants of concern (sediment and *E. coli*) into stormwater runoff.

Outreach Materials to Convey the Relevant Message: Organize field days at middle schools, or preferably, at the Montgomery County School System outdoor classroom. Provide multiple stations for presentation and hands on experience. Provide subsequent reflection and summative activities that includes use of the Town’s stormwater website and quantitative evaluation of students’ knowledge of stormwater impacts.

Schedule: Outreach activities will be scheduled for multiple middle schools in the 2016-2017 and 2017-2018 school years.

Method to Determine Effectiveness: The pre and post student reflection and summative activities will allow for evaluation of the change in students’ knowledge of stormwater impacts.

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

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*. The Town has also been assigned wasteload allocations for PCBs as part of the *December 2009 Roanoke River PCB TMDL Development (Virginia)*.

### 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.

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 pet owners about the effects of pet waste on water quality and encourage pet owners to pick up and properly dispose of pet waste. Inform town residents of possible household sources of PCBs and inform residents how to properly dispose of waste that may contain PCBs.

Outreach Materials 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 and 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. 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 topics addressed will be staggered with Water Quality Issue #3 to ensure outreach to the entirety of the target audience.

Method to Determine Effectiveness: Provide E. coli and PCB concerns message to a minimum of 20% of the target audience via Christiansburg Connection newsletter, Facebook posts and/or Town website posts. A public survey will be distributed in the spring of 2018 and will incorporate questions related to E. coli and PCB concerns.

### **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 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, over fertilization, over use of pesticide and herbicides, and unattended pet waste on residential lawns are potential contributors of pollutants causing the benthic and bacterial impairments in the Crab Creek and Roanoke River basins.

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 Materials 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 and 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. 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 #2 to ensure outreach to the entirety of the target audience.

Town staff will also pursue opportunities to develop other relevant participation and outreach activities to communicate this water quality issue.

Method to Determine Effectiveness: Provide stream restoration and sediment reducing yard care message to a minimum of 20% of the target audience. A public survey will be distributed in the spring of 2018 and will incorporate questions related to stream restoration and sediment reducing yard care.