

**TOWN OF VINTON, VIRGINIA**

**Municipal Separate Storm Sewer System (MS4)**  
**Annual Report**  
**Permit Year Three: July 1, 2020 – June 30, 2021**

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**Submitted:**

**October 1, 2021**

**Prepared By:**  
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**Vinton, VA 24179**

**Submitted To:**  
**Virginia Department of Environmental Quality (DEQ)**  
**Blue Ridge Regional Office**  
**901 Russell Drive**  
**Salem, VA 24153**

**Pursuant to General Permit Number VAR040026**



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### **Contributing Agencies and Organizations:**

City of Roanoke  
Clean Valley Council (CVC)  
County of Roanoke  
Roanoke County Public Schools (RCPS)  
Roanoke Valley Resource Authority (RVRA)  
Roanoke Valley Television Station (RVTV)  
Virginia Saves Our Streams Foundation  
Western Virginia Water Authority (WVWA)

## Certification Statement and Requirements

As required by the MS4 Permit VAR040026, all reports required by state permits, including annual reports, and other information requested by the board or department shall be signed by a person described in Part III K 1 of the permit, or by a duly authorized representative of that person, as described in Part III K 2 of the permit.

1. For a corporation: by a responsible corporate officer. For the purpose of this chapter, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for state permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
3. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this chapter, a principal executive officer of a public agency includes: the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

### Duly Authorized Representatives

A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described in Part III K 1;
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the operator. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
3. The signed and dated written authorization is submitted to the department.

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### Signed Certification in Accordance with 9VAC25-870-370 B:

*"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."*

Print Name: Richard W. Peters, Jr.

Title: Town Manager

Signature: 

Date: 9/30/21

Permit Number: VAR040026

MS4 Name: Town of Vinton, Virginia

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## **Executive Summary**

The Town of Vinton finds that the uncontrolled and polluted stormwater runoff to the Town's storm sewer system has an adverse impact on the water quality of the receiving waters. When left uncontrolled, this water pollution can result in the destruction of fish, wildlife, and aquatic life habitat; a loss in aesthetic value; and it threatens public health by contaminating food, drinking water supplies, and recreational waterways.

The Town was originally issued a VSMP permit effective July 8, 2003 (Permit No. VAR040026) and successfully met the requirements over the initial five-year permit period. The VSMP permit was re-issued on July 14, 2008 and expired on July 8, 2013. The third VSMP permit was re-issued on July 1, 2013 and expired on June 30, 2018. The fourth VSMP permit was re-issued on November 1, 2018 and will expire on October 31, 2023. While the basic framework has not changed, several permit modifications require changes to the Town's stormwater management program.

The Town is committed to continuing the development, implementation, and enforcement of its Municipal Separate Storm Sewer System (MS4) Program that is designed to reduce the discharge of pollutants from the regulated MS4 and to addressing impaired waters that the MS4 discharges into to the maximum extent practicable (MEP). The main goal of this program is to protect water quality, and to improve waters into which the regulated small MS4 discharges.

Since 2003, the Town with the cooperation with Roanoke County, has developed and continues to develop a comprehensive plan to meet the conditions of the MS4 permit to the maximum extent practicable as outlined in six minimum control measures (MCMs) practices:

**\*MCM-1: Public Education and Outreach on Stormwater Impacts**

**\*MCM-2: Public Involvement and Participation**

MCM-3: Illicit Discharge Detection and Elimination (IDDE)

**\*MCM-4: Construction Site Stormwater Runoff Control**

**\*MCM-5: Post-Construction Stormwater Management for New Development and Development on Prior-Developed Lands**

MCM-6: Pollution Prevention and Good Housekeeping for Municipal Operations

\*The Town along with the cities of Roanoke and Salem and Roanoke County, has contracted with the Clean Valley Council (CVC) to provide services to meet the permit requirements of **MCM-1: Public Education and Outreach on Stormwater Impacts**, and **MCM-2: Public Involvement and Participation**. The associated Best Management Practices, as developed by the Town, for which CVC is responsible (or partially responsible) are listed below:

- BMP 1-3: Stream School Seminars – Stream Monitoring and Education
- BMP 1-4: Stormwater Educational Programs and Activities
- BMP 1-5: Stormwater Public Awareness Program
- BMP 2-1: Storm Drain Marking Program
- BMP 2-2: Clean-up and Environmental Events

\*Roanoke County is responsible for the **MCM-4: Construction Site Stormwater Runoff Control** and its associated BMPs. Since February 14, 1984, the County of Roanoke has been responsible for the Erosion and Sediment Control program for the entire County area, including the Town of Vinton. On April 5, 2016, a resolution was adopted by the Vinton Town Council for the establishment of a Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to continue to administer the Virginia Erosion and Sediment Control Program (VESCP) and to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton.

The Town Planning and Zoning Department has and will continue to work with Roanoke County Department of Community Development to ensure that the MCM-4 associated BMPs as listed below are continued to be implemented and enforced. Please note that the listed BMPs are amended in order to be aligned with the County's MCM-4 since the County is responsible for this MCM-4.

- BMP 4-1: Legal Authorities
- BMP 4-2: Plan Review
- BMP 4-3: Site Inspections
- BMP 4-4: Compliance and Enforcement
- BMP 4-5: Responsible Land Disturber Certification

\*Roanoke County is responsible for the **MCM-5: Post-Construction Stormwater Management in New Development and Development on Prior-Developed Lands** and its associated BMPs. On April 5, 2016, a resolution was adopted by the Vinton Town Council for the establishment of a Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton. The County became the Town's VSMP administrator as of June 1, 2016, with the approval of the State Water Control Board, as indicated in the DEQ correspondence dated, May 27, 2016.

The Town Planning and Zoning Department has and will continue to work with Roanoke County Department of Community Development to ensure that the MCM-5 associated BMPs as listed below (BMP 5-1 to BMP 5-4) are continued to be implemented and enforced. Please note that the listed BMPs are amended in order to be aligned with the County's MCM-5 since the County is responsible for this MCM-5.

- BMP 5-1: Stormwater Management Legal Authorities
- BMP 5-2: Post-Construction Inspections for Existing Stormwater Management Facilities
- BMP 5-3: Stormwater Management Facility Tracking
- BMP 5-4: Strategies to Encourage Long-Term Maintenance of Stormwater Control Measures on SFR lots
- BMP 5-5: Storm Sewer System Maintenance – Responsibility of the Town Public Works Department

Since 2016, the Town has partnered with Roanoke County Stormwater Program Manager in the distribution of Roanoke County Stormwater Newsletter, which is distributed to all Roanoke County residences including Town of Vinton residences. This partnership will continue and has received positive feedback from Town's residents.

In an effort to deliver a consistent message across the entire Roanoke Valley region, the Town participates on the Roanoke Valley-Alleghany Regional Commission's regional Stormwater Advisory Committee. This group is comprised of neighboring MS4s, and interested parties such as the Clean Valley Council (CVC), Western Virginia Water Authority (WVWA), Upper Roanoke River Roundtable (URRR), Virginia Western Community College, the Virginia DEQ, and others.

The Town intends to continue its participation in regional efforts to educate the general public and developers. These efforts are in cooperation with Roanoke Valley governments and other regional organizations such as the Clean Valley Council (CVC), Roanoke Valley Resource Authority (RVRA), Roanoke Valley Television (RVTV) Channel 3, Roanoke Valley Alleghany Regional Commission (RVARC), Upper Roanoke River Roundtable (URRR), Roanoke Valley Greenway Commission, Roanoke Valley Urban Forestry Council (RVUFC), Western Virginia Water Authority (WVWA), and Blue Ridge Land Conservancy. Strong regional cooperation is instrumental in minimizing pollutants in the Roanoke River, creeks and streams, and providing Roanoke Valley citizens with clean water now and into the future.

The Town seeks to implement a comprehensive stormwater management program that addresses stormwater quality and quantity, and protects aquatic habitats through positive action.

Beginning January 2020, the Planning and Zoning Department is responsible for the overall coordination of Virginia Stormwater Management Program (VSMP) and MS4 compliance. **On this reporting period, some of the BMPs under each of the MCMs have been amended as stated in the response letter to Virginia DEQ dated March 24, 2021 and the revised Total Maximum Daily Load (TMDL) Action Plan for Bacteria Reduction (*E. Coli*) in the Roanoke River, Tinker Creek, and Glade Creek; and TMDL Action Plan for Benthic/Sediment Reduction in the Roanoke River, dated April 26, 2021.**

The Minimum Control Measures and associated BMPs developed by the Town and Roanoke County to satisfy the MS4 Permit requirements are described in detail in the Town's and the County's MS4 current Program Plans. In addressing the six MCMs, the Town emphasizes the importance of lowering sediment and bacteria discharges to the storm sewer systems in accordance with the approved TMDLs within the Town. This Annual Report provides the required documentation regarding those MCMs and BMPs for the **reporting period of July 1, 2020 - June 30, 2021**. Both documents are posted on the Town's website at: <https://www.vintonva.gov/230/MS4-Permit>.

## ***Community Profile***

The Town has a population of 8,059 based on 2020 Census; contains 3.2 square miles in area; and 90 miles of roadways. Based on the 2003 land use survey, the Town's developed land use can be categorized as follows: Residential 51%; Commercial 8%; Industrial 6%; Public/Semi-Public 14%; and Transportation 21%. The undeveloped/vacant land is about 16% and consists of heavily wooded areas with steep slopes that are not optimal for development. Majority of the residential areas were developed before the Town adopted the stormwater quality management requirements in 2008 under the VSMP Phase II requirements.

## ***Stormwater Management Program***

The Town's commitment to establish and sustain a comprehensive program that protects the Town's stormwater quality has been made through strong regional cooperation for the implementation of the minimum control measures practices. The Town has and continues to partner with Roanoke County in the stormwater management program. Roanoke County continues to provide services to the Town through already in place agreements for the administration and enforcement of the Virginia Erosion and Sediment Control (ESC) and Virginia Stormwater Management Program (VSMP) requirements including plan review, approval, permit issuance, site and best management practice facilities for construction activities; schools, parks, recreation and tourism services and administration; building reviews, inspections, and approval services and administration.

## ***The Town's Physically Interconnected MS4s to which It Discharges***

The Town of Vinton is located in Roanoke County, and it is bordered on its western and northern limits by the City of Roanoke. To the east, lie Roanoke County and the Blue Ridge Parkway. The southern border lies along the Roanoke River. The northwest and west portions of the Town are bordered by Glade Creek and Tinker Creek. The eastern portion is bordered by Wolf Creek. The Town has 90 miles of roadways and the stormwater outfalls discharging to the waters of the state: Glade Creek, Tinker Creek, Wolf Creek and Roanoke River; see Figure 1.

The Town owns and maintains its roadway systems, solid waste collection operation, and provides water and waste water system services to both Town and East Roanoke County residents. The Town pumps its sewage to the Roanoke Regional Wastewater Treatment Plant located in the City of Roanoke. The Town owns and operates its water system, which uses a series of ten wells drawing ground water from the Falling Creek Aquifer.

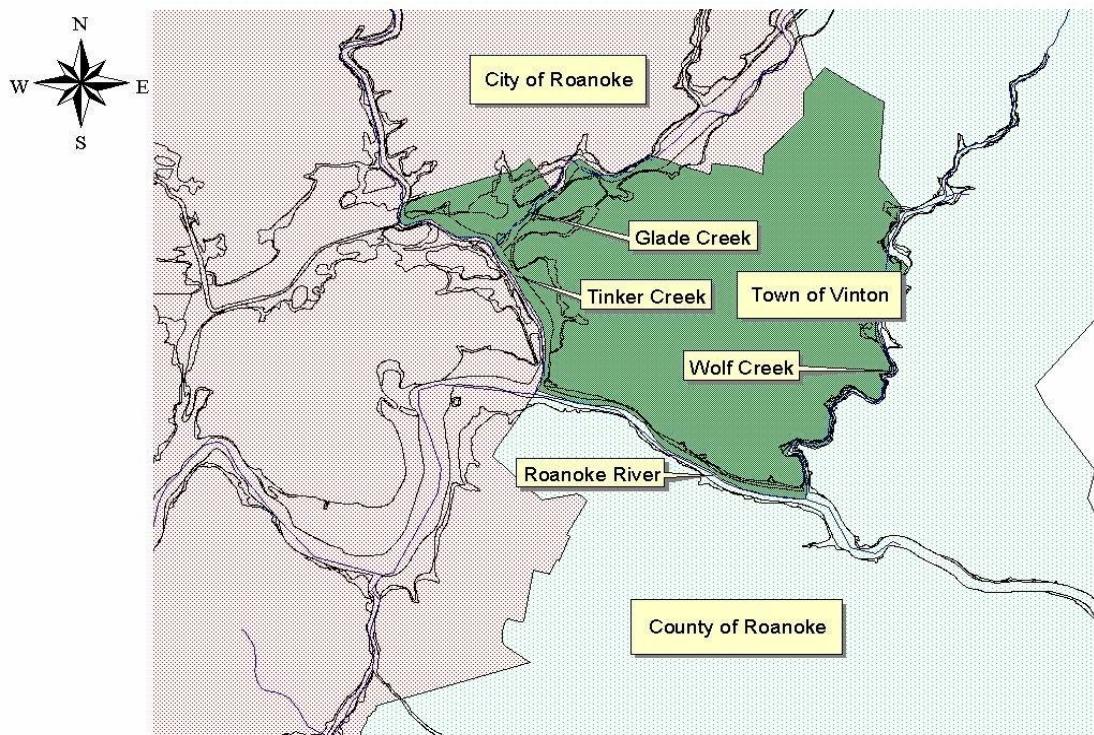


Figure 1. Receiving Waters for the Town of Vinton

The Town transports its solid waste to Tinker Creek Transfer Station, which is owned and operated by the Roanoke Valley Resource Authority (RVRA) and funded by the Cities of Roanoke and Salem, County of Roanoke, and Town of Vinton.

## ***Watershed Summary***

This section details a list of all known waters currently receiving discharges or that have potential to receive discharges from the regulated small MS4. The following Table 1 lists the waterways and the Hydrologic Unit Codes (HUC) as identified in the most recent version of the Virginia's 6<sup>th</sup> Order National Watershed Boundary Dataset and the estimated drainage areas in the Town of Vinton, served by the regulated small MS4 discharging to these surface waters.

Watershed	Hydrologic Unit	Impaired Receiving Waters	Drainage Area (Estimated in Acres)
Glade Creek	RU13	Glade Creek	711
Roanoke River	RU14	Roanoke River	148
Tinker Creek	RU13	Tinker Creek	489
Wolf Creek	RU14	Roanoke River	663

Table 1. Town of Vinton Watersheds HUC's, Impaired Receiving Waters, and Drainage Areas inside Town of Vinton

## SECTION I. MINIMUM CONTROL MEASURES

Pursuant to 9VAC25-89-40, Part I (Discharge Authorization and Special Conditions), the following Minimum Control Measures (MCMs) describe the actions that Town of Vinton will use to develop, implement, and enforce its MS4 Program, all of which are designed to reduce the discharge of pollutants from this small MS4 to the maximum extent practicable (MEP). The measures will also be employed to protect water quality and to satisfy the appropriate water quality requirements of the State Water Control Law and its attendant regulations.

- **MCM-1:** Public Education and Outreach
- **MCM-2:** Public Involvement and Participation
- **MCM-3:** Illicit Discharge Detection and Elimination (IDDE)
- **MCM-4:** Construction Site Stormwater Runoff Control
- **MCM-5:** Post-Construction Stormwater Management for New Development and Development on Prior-Developed Lands
- **MCM-6:** Pollution Prevention and Good Housekeeping for Municipal Operations
- **TMDL:** Total Maximum Daily Load (TMDL) Special Conditions

### NOTE:

*As per Part I.B. of the General Permit, implementation of the above-listed MCMS and the Chesapeake Bay and Local TMDL requirements in Part II (as applicable) consistent with the provisions of an iterative MS4 program required pursuant to the General Permit constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable, " provides adequate progress in meeting water quality standards and satisfies the appropriate water quality requirements of the State Water Control Law and its attendant regulations. Due to this iterative nature of the MS4 Program, over the course of the permit term Town of Vinton may find it necessary to change or replace one or more of the "anticipated" Best Management Practices (BMPs) used to satisfy the MCMs; such changes/replacements will be made when the Town finds the BMP(s) to be ineffective.*

This annual report will provide an evaluation of the MS4 Program Plan implementation, including a review of each MCM to determine the MS4 program's effectiveness and whether or not changes to the MS4 Program Plan are necessary.

## **MCM 1: PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS**

The MCM 1 is intended to implement a public education program to distribute and make available educational materials to the community and conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

A mix of best management practices (BMPs) has been chosen to target school children through outreach programs in the Roanoke County School System which include the Town of Vinton. Homeowners, restaurateurs, industries and the general public have been also be targeted through wastewater education, public forums, and Save Our Streams (SOS) field days. The goals of this minimum control measure are:

1. Increase the public's knowledge of how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;
2. Increase the public's knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and
3. Implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts.

The Town has amended the Best Management Practices (BMPs), as follows, to meet these program goals:

### **BMP 1-1. Stormwater Educational Resources, Publications, Links, and Programs Review**

The Town has created and will maintain a comprehensive listing of existing stormwater-related agencies and organizations along with pertinent educational programs and resources, which shall be made available to the public by way of the Town's stormwater website.

### **BMP 1-2. Stormwater Educational Materials/Roanoke County Stormwater Newsletter (*formerly Development and Distribution of Stormwater Educational Materials*)**

A partnership with Roanoke County Stormwater Division in the creation and distribution of the Roanoke County Stormwater Informational Mailer, which will be annually distributed to all Roanoke County and Town of Vinton residences.

### **BMP 1-3. Stream Monitoring and Education**

On behalf of the Town through a Cooperative Agreement, Clean Valley Council will provide stream monitoring and informational stream seminars for Town residents.

### **BMP 1-4. Stormwater Educational Programs and Activities for School Children and Teachers/Adults**

On behalf of the Town through a Cooperative Agreement, Clean Valley Council will develop and implement a stormwater educational program for the Town school age children. Different programs will target appropriate grade levels.

### **BMP 1-5. Stormwater Public Awareness Programs**

On behalf of the Town through a Cooperative Agreement, Clean Valley Council and continued partnership with Roanoke County, the Town will develop and implement a Stormwater Public Awareness Program that includes the distribution of stormwater merchandise, public service announcements, and other high visibility educational media. The program includes:

1. A list of the high-priority stormwater issues that the Town will communicate to the public as part of its public education and outreach program;
2. The rationale for selection of each high-priority stormwater issue and an explanation of how each education or outreach strategy is intended to have a positive impact on stormwater discharges;
3. Identification of the public audience to receive each high-priority stormwater message;
4. The strategies from Table 1 of Part I.E.1.d. to be used to communicate each high priority stormwater message; and
5. The anticipated time periods the messages will be communicated or made available to the public.

### **BMP 1-6. Town of Vinton Stormwater Webpage**

The Town will maintain and expand its Stormwater webpage as a means to inform the public on the various ways to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and addressing other local water pollution concerns.

### **BMP 1-7. Targeted Education Program**

The Town implements a stormwater quality education program for specific targeted audiences within the Town. This BMP coordinates with BMP 1-5.

This annual report provides a detailed description of the goals of each BMP, the status of the Town's compliance with each BMP, and an evaluation of the BMP and any proposed modifications needed to better achieve the overall MS4 Program goals. In addition, the strategies to ensure consistency with local TMDLs are also provided, and they are broken down by impairment type: Escherichia coli (*E. coli*) bacteria (EC), or sediment (SED).

## BMP 1-1. Stormwater Educational Resources, Publications, Links, and Programs Review

**Goal:** The goal of this BMP is to create and maintain a comprehensive listing of stormwater-related agencies and organizations, educational programs and resources, such as current publications, websites, videos, maps, and training opportunities that directly address stormwater issues such as stormwater management, stormwater quality, floodplain management, stormwater pollution prevention, conservation practices, and riparian habitat protection. Additionally, Roanoke County and CVC maintain and update a collection of handouts and web resources. These materials are available to all citizens across the region, and handout materials are distributed at various events, as described in later sections of this report. The public will be made aware of these resources by way of the Town's stormwater website:

<https://www.vintonva.gov/227/Publications-Resources>

**Responsible Party:** Town of Vinton's Planning and Zoning Department

**Schedule:** The Town maintains and annually updates its stormwater resources database, which provides contact information and website links to aid the public in accessing the various stormwater educational resources.

**Measurable Goal:** Success for this BMP will be measured by tracking website usage and the number of requests received by the Town for this or similar data.

Webpage Name	Unique Page Views	Page Views
Vinton, VA – Official Website - Publication & Resources (PID 227)	30	42
Vinton, VA – Official Website - Public Outreach and Education (PID 393)	24	30
Vinton, VA – Official Website - Quick Facts (PID 228)	33	33
Vinton, VA – Official Website - Rain Barrels (PID 398)	34	41
Vinton, VA – Official Website - Stormwater Public Education Videos (PID 396)	21	45
Vinton, VA – Official Website - Stormwater Quality Information (PID 209)	75	102
Vinton, VA – Official Website - VSMP Permit (PID 230)	71	93
*Vinton, VA – Official Website – Balloon Releases = Littering (PID 495)		
Added February 12, 2021	96	116
<b>TOTALS FOR YEAR -- July 1, 2020 through June 30, 2021</b>	<b>394</b>	<b>502</b>

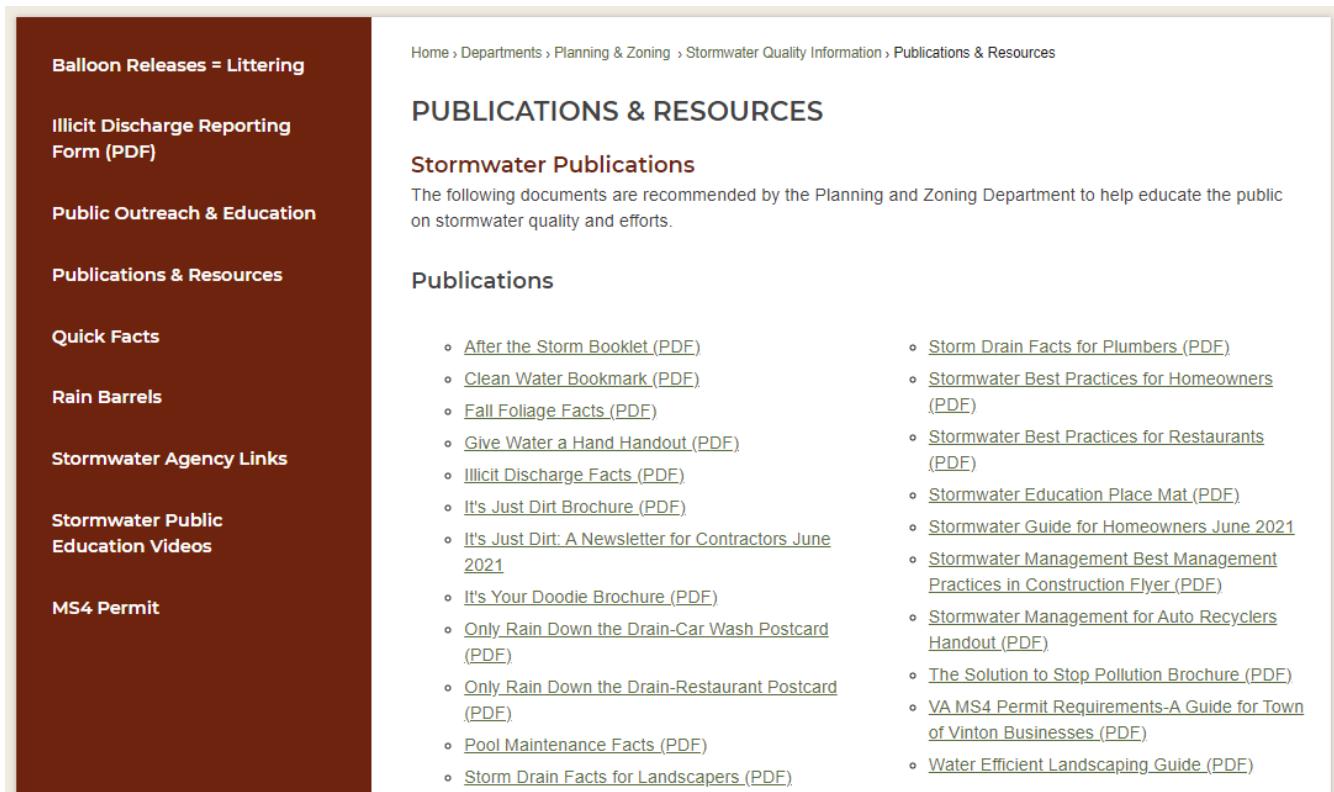
Permit Year	Viewing Statistics
2018 – 2019 (Year 1)	179 Unique Page Views, 294 Page Views
2019 – 2020 (Year 2)	182 Unique Page Views; 354 Page Views
2020 – 2021 (Year 3)	394 Unique Page Views; 502 Page Views

**TMDL Consistency:** The sources available on the Town's, Roanoke County's, and CVC's websites provide extensive educational material concerning the damage pet waste and sediment can do to the waterways (EC/FC, SED). The Town's website provides links to the websites of Roanoke County, CVC, state, and federal that include erosion and sediment control regulations for developers that are interested in ways to stabilize a construction site.

The County's stormwater website highlights a page discussing "Non-point Source Pollution (NPS)." This page illustrates how agriculture and straight pipes can contribute to the overall stormwater pollution problem (EC) and provides a list of NPS pollutants, including fertilizer and pesticides from lawns or farms; organic wastes from manure and sewage; pathogens such as bacteria and viruses; salt from irrigation and acid-mine drainage; sediment from erosion of unprotected lands; and toxins such as airborne chemicals, oils, and metals. (EC, PCBs, SED).

The County's website also contains a "PCBs Fact Sheet" and highlights Illicit Discharge Detection and Elimination (IDDE) through the use of various public service messages from the County's IDDE Public Outreach video kit. The associated messages directly tie to the TMDLs (EC, SED, PCBs). The Fact Sheet can be accessed via the link below:  
<https://www.roanokecountyva.gov/DocumentCenter/View/9349/PCB-Facts-May-2017?bidId=>

**Evaluation and Modification:** In accordance with the MS4 Program Plan, the number of website visits to this database within the permit year illustrates whether the website is an effective format to distribute the information concerning stormwater educational resources. With site visits and page views as shown, the Town believes this BMP is successful. No modifications are planned for this BMP.



The screenshot shows a website with a dark brown sidebar on the left and a white content area on the right. The sidebar contains links to various resources: Balloon Releases = Littering, Illicit Discharge Reporting Form (PDF), Public Outreach & Education, Publications & Resources, Quick Facts, Rain Barrels, Stormwater Agency Links, Stormwater Public Education Videos, and MS4 Permit. The main content area has a breadcrumb navigation: Home > Departments > Planning & Zoning > Stormwater Quality Information > Publications & Resources. The main title is "PUBLICATIONS & RESOURCES". Below it is a section titled "Stormwater Publications" with a subtext: "The following documents are recommended by the Planning and Zoning Department to help educate the public on stormwater quality and efforts." The "Publications" section lists several PDF links, including "After the Storm Booklet (PDF)", "Clean Water Bookmark (PDF)", "Fall Foliage Facts (PDF)", "Give Water a Hand Handout (PDF)", "Illicit Discharge Facts (PDF)", "It's Just Dirt Brochure (PDF)", "It's Just Dirt: A Newsletter for Contractors June 2021", "It's Your Doodie Brochure (PDF)", "Only Rain Down the Drain-Car Wash Postcard (PDF)", "Only Rain Down the Drain-Restaurant Postcard (PDF)", "Pool Maintenance Facts (PDF)", and "Storm Drain Facts for Landscapers (PDF)".

## **BMP 1-2. Stormwater Educational Materials/Roanoke County Stormwater Newsletter**

The Town provides its citizens an annual calendar in early December of each year that contains information on stormwater, special refuse pick-ups, household hazardous waste collection, fall leaf collection, adopt a truck program, clean-up week, and recycling collections. The calendar also lists environmental events in the Town and Roanoke Valley. Roanoke County Stormwater Division creates and distributes an annual Stormwater Newsletter, which is mailed to every residence in Roanoke County and the Town of Vinton.

Stormwater educational materials were given out to students and adults through school outreach programs and community special events such as Roanoke Valley Home Show, Vinton Fall Festival, Earth Day Celebration, and select locations including the Vinton Municipal Building, Roanoke County Administration Building, and Roanoke County Vinton Branch Library.

**Goal:** The Town along with Roanoke County will continue to develop stormwater educational mailer for general public and for specific commercial businesses. The purpose of the County of Roanoke's newsletter is to (1) increase the public's knowledge on ways to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns; and (2) increase the public's knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications. The target public audience for this publication will be the County and Town residents. Additionally, the Town Treasurer/Finance Department continues to hand-out the "Pick It Up....Its' Your "Doodie"!" brochure to pet owners that come in to obtain and/or renew their dog/cat tag.

The newsletter, while primarily aimed at County and Town residents, will also address regional issues that affect the entire Roanoke River watershed. Topics may include: litter prevention, stormwater pollution prevention, stormwater quality education, residential best management practices, updates on local impaired water bodies, and TMDLs. It will also include subjects that are specific to Roanoke County's Stormwater Management Program. The stormwater newsletter's focus will be coordinated with the high-priority water quality issues identified in **BMP 1-5**. The Town will post a version of the materials on its website and/or link for additional outreach, in addition in making these educational materials available at special events and the Information Center located in the lobby of the Town Municipal building.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with Roanoke County Department of Development Services/Stormwater Program Manager.

**Schedule:** The Town provides its annual 2021 calendar to every residence in the Town. Additionally, Roanoke County provides its annual newsletter to every residence in the County and Town and distributes copies to the public libraries and schools. The newsletter is posted on the County's stormwater website at

<https://www.roanokecountyva.gov/1648/Stormwater-Public-Education-Documents>

**Measurable Goal:** For year three, Town's calendar which contains stormwater information was distributed to more than **3,500** households. Roanoke County distributed the annual stormwater newsletter to 34,309 County and Town residences. The Town Treasurer/Finance Department continues to hand-out the "Pick It Up....Its' Your "Doodie"!" brochure to pet owners that come in to obtain and/or renew their dog/cat tag. The Annual June 2021 Stormwater newsletter and list of addresses where the County's stormwater newsletter was mailed to, can be accessed via the link below:

<https://www.roanokecountyva.gov/DocumentCenter/Index/1837>

Permit Year	Type Educational Material	Target Group	Number Reached
2018 – 2019 (Year 1)	- Car Wash Postcard - Restaurant Postcard - A Guide for County of Roanoke/Town of Vinton Businesses Brochure	- Car Wash/Automotive Businesses - Restaurants - Every Business Owner in the Town of Vinton and County of Roanoke	45 22 1,208
	Distribution Statistics	Residents	35,195
2019 – 2020 (Year 2)	- Car Wash Postcard - Restaurant Postcard - A Guide for County of Roanoke/Town of Vinton Businesses Brochure	- Car Wash/Automotive Businesses - Restaurants - Every Business Owner in the Town of Vinton and County of Roanoke	180 106 1,208
	Distribution Statistics	Residents	35,026
2020 – 2021 (Year 3)	Roanoke County Stormwater Newsletter Pet Waste Brochure	Town and County Residents Pet Owners/Business Owners	34,309 25

**TMDL Consistency:** Roanoke County informative annual stormwater newsletter helps address sediment and bacteria.

**Evaluation and Modification:** The Town Planning and Zoning Department will continue to work with Roanoke County Stormwater Division to ensure that the distribution of Roanoke County annual stormwater newsletter will include Town residences, which has been done since 2016. The County's newsletter exclusively focuses on stormwater issues for homeowners. It has been well received by Town residents, making it an effective BMP for delivering stormwater-related information and education to County residents. No modifications are planned for this BMP.

## BMP 1-3. Stream Monitoring and Education

The Town of Vinton in cooperation with Clean Valley Council and the local chapter of the Virginia Save Our Streams will coordinate and conduct "Stream School Seminar" with school students, teachers and interested citizens during school year and at local environmental events such as the annual Fall Waterways Clean-up. CVC conducted classroom programs and STEAM (Science Technology Engineering Arts Mathematics) Day Event at the County/Town Schools and area colleges. The programs/events addressed stormwater, litter, recycling, nutrient and sediment issues.

**Goal:** In cooperation with the Clean Valley Council (CVC), the Town provides stream monitoring and informational stream seminars for Roanoke County/Town students and residents. The goal of this BMP is to educate students and residents about field procedures for biological stream monitoring, in addition to motivating citizens to monitor waterways in their neighborhood and to enhance grassroots cooperation to promote the importance of stream monitoring within the Town. These seminars and monitoring sessions provide some field exposure to aquatic habitats, update citizens on local, state, and federal water quality regulations, and keep citizens updated on local stream health.

**Responsible Party:** Town's Planning and Zoning Department, through the Cooperative Agreement with Clean Valley Council.

**Schedule:** On behalf of the Town, the Clean Valley Council educates Roanoke County Public School System which includes the Town students and citizens by holding stream education seminars and monitoring sessions. Special emphasis is placed on monitoring stream segments with a TMDL designation.

**Measurable Goal:** Tracking the number of citizens/students involved in stream monitoring activities conducted by the CVC on behalf of Vinton, and the number of stream schools given by the CVC, the number of participating students, teachers, and adults. For more details, see the attachment under folder titled BMP 1-3 and the summary provided below.

Permit Year	Number of Stream School Seminars (CVC)	Attendance
2018 – 2019 (Year 1)	17 (69 Valley-wide)	303 (940 Valley-wide)
2019 – 2020 (Year 2)	10 (63 Valley-wide)	258 (1036 Valley-wide)
2020 – 2021 (Year 3)	19 (52 Valley-wide)	2,165 Students* (8,039 Valley-wide) 94 Adults* (350 Valley-wide)

**All in-person stream school seminar locations were on the Roanoke River or its tributaries.**

**\*NOTE:** New virtual program was created in response to the FY20-21 school restrictions due to COVID-19; this venue enabled reaching larger #s of children & adults. Visit <https://cleanvalley.org/cvc-productions/>

Stream School Seminars – Virtual and/or In-Person Programs that Served Town of Vinton Schools, College Students, and Teachers/Adults

July 1, 2020 – June 30, 2021

Date	Location/School	Type of Event	Program Name	# Programs	# Students	# Adults
10/6/20	William Byrd Middle School	Classroom Program	Stream School	4	120	4
10/23/20	All	STEAM Day Event	Virtual Stream	1	200	
10/29 - 31/20	Roanoke County Schools PK-12	STEAM Day Event	Virtual Stream School, Rigsby, & 4 Rs	2	1,115	46
1/1 -3/21	Roanoke County Schools PK-12	STEAM Day Event	Virtual Stream School, Rigsby and the 4 Rs	2	519	30
4/13/21	Roanoke College	Classroom Program	Virtual Guided Stream School	2	42	4
4/20/21	Roanoke College	Classroom Program	In-Person Stream School	2	42	4
5/6/21	William Byrd Middle School	Classroom Program	In-Person Stream School	3	73	1
5/18/21	William Byrd Middle School	Classroom Program	In-Person Stream School	3	54	5
<b>TOTAL</b>				<b>19</b>	<b>2,165</b>	<b>94</b>

**Notes: All denotes when program was given virtually in which everyone can participate**  
**STEAM – Science Technology Engineering Arts and Mathematics**  
**4 Rs – Reduce, Reuse, Recycle and Recover**



Clean Valley Council

## Outdoor Stream School

*What is our local watershed and how does pollution affect our ecosystems?*

### Grade Level

Biology, APES

### High Priority Issues

Pollution Prevention, Excess Bacteria, Sediments, Nutrients

### Standards of Learning

LS.6, LS.7, LS.8, LS.9, LS.10, LS.11, ES.8, BIO.2, BIO.8

### Duration

45-60 minutes

### Setting

Outdoor Space near stream

### Vocabulary

Benthic  
Macroinvertebrate, Riparian Corridor, Vegetative Cover, Soil Erosion, Sedimentation, Point Source Pollution, Nonpoint Source Pollution, Bacterial Load, Nutrient Load, Eutrophication, Algal Bloom, Turbidity, pH, Dissolved Oxygen, Bioassessment, Best Management Practice

### Character Education

Personal effects on effects on watershed.  
Economic effects of external cost from pollution.

### Summary

Students will perform a series of chemical and biological assessments on a local stream. This will enhance their understanding of the factors involved in determining water quality, and the connection between point source and non-point source pollution in their waterways. Common pollutants such as sediment, animal waste, nutrients, fossil fuels, and litter, including cigarette butts are discussed.

### Materials

- Watershed maps
- Stream School Kit
- Water shoes for students

### Pre-Teaching Options

- Watersheds
- Ecosystems

### Objectives

Students will:

- Identify their local watersheds and map the movement of water from the land to storm drains where it empties into local waterways and ultimately the ocean
- Identify macroinvertebrates and discuss how they can determine water quality.
- Discover best management practices for preventing water pollution

**TMDL Consistency:** Stream school activity allows citizens to have an understanding of the many factors that can affect the life in a stream. The effects of pet waste, stream bank erosion, nutrients, and agricultural runoff are discussed during the monitoring sessions as being likely contributors to degraded water quality in receiving streams (EC/FC and SED).

**Evaluation and Modification:** The number of seminars, monitoring events, and participating citizens show that this Stream School Seminars BMP is an effective method to educate young people and citizens and enhance the grass-roots monitoring effort throughout the Town and Roanoke County. The Town's goal is to continue to provide stream seminars and monitoring sessions as a means to educate citizens and encourage their cooperation in regional water quality health. No modifications are planned for this BMP.



Students examine their findings during an outdoor stream school.

Outdoor stream school in action.



## **BMP 1-4. Stormwater Educational Programs and Activities for School Children and Teachers/Adult**

Clean Valley Council (CVC) educators under the direction of the Town, County of Roanoke, Cities of Roanoke and Salem, will continue developing and providing programs addressing stormwater quality issues at public and private schools, and environmental events. Town residents are served by Roanoke County Public School System (William Byrd Middle and High Schools, W.E. Cundiff and Herman I. Horn Elementary Schools), in addition to a number of private and parochial schools.

Additionally, the Western Virginia Water Authority has also developed outreach programs for elementary, middle, and high schools in the Roanoke Valley. Stormwater educational giveaways such as pencils, stormwater chip clips, stormwater pamphlets, lanyards, rain gauges and funnel with stormwater messages were also given to the students that participated in these programs. In conjunction with these school programs, the CVC also holds an annual Earth Summit in November. The Town believes that this program is successful in teaching school children about stormwater issues and the benefits of healthy water bodies.

**Goal:** The Town, through the Clean Valley Council (CVC), has established a stormwater education program for Roanoke County's schoolchildren. The CVC educators develop and implement various programs to address stormwater pollution prevention and related water quality issues. Different programs will target appropriate grade levels and will be correlated with Standards of Learning (SOL). In addition, the messages for the various grade levels have been coordinated with the Town's high-priority water quality issues, as identified in **BMP 1-5**.

**Responsible Party:** The Town's Planning and Zoning Department, through the Cooperative Agreement with Clean Valley Council.

**Schedule:** The Town will document how many children have been educated on stormwater quality by tracking the number of programs provided and the number of children reached. At the end of each annual period, the Town will analyze the statistics of how many programs were provided and how many children were reached to determine the most effective method.

**Measurable Goal:** Success for this BMP will be measured by tracking the number of programs that were provided and the number of schoolchildren that were reached. This Annual Report contains the program names, a brief description of each program and their goals, dates and locations of each program that was presented, the number of participants in each program, and the high-priority water quality issues they address. See the attachment under the folder titled BMP 1-4.

Permit Year	Educational Programs Given	*Student Participants	*Adult Participants
2018 – 2019 (Year 1)	127(404 Valley-wide)		3,044 (9,680 Valley-wide)
2019 – 2020 (Year 2)	24 (250 Valley-wide)		577 (6,128 Valley-wide)
2020 – 2021 (Year 3)	44 (50 Valley-wide)	1,052 (1,127 Valley-wide)	43 (49 Valley-wide)

Date	School	Type of Event	Program Name	Issue Addressed	# Programs	# Students	# Adults
9/15/2020	Virtual	Website	PBL – Stop the Slop	ALL	9	225	9
9/15/2020	Virtual	Website	PBL – Pollution Solution	ALL	16	400	16
9/15/2020	Virtual	Website	PBL – Message in a Bottle	ALL	14	53	3
11/6/2020	William Byrd High School	Virtual Classroom	A World Drowning in Plastic	Pollution Prevention, Stormwater, Nutrients, Bacteria, Sediment	3	519	30
3/12/2021	William Byrd High School	Virtual Conference	Earth Summit	Renewable Energy	1	24	1
3/19/2021	All Roanoke County School/Virtual	Project Based Learning	Food for Thought	Sustainability	1	42	4
<b>TOTAL</b>					<b>44</b>	<b>1,263</b>	<b>63</b>

Listed below is the listing of CVC Educational Program and the High Priority Issue Addressed:

	Classroom Program	High Priority Issue Addressed
1	Green Game	Pollution Prevention
2	Groundwater	Excess bacteria, sediment and nutrients
3	Oceans of Trash	Excess bacteria, sediment and nutrients
4	Soil: Who Needs it	Sediment, nutrients
5	Water Game	Excess bacteria, sediment and nutrients
6	Watersheds to Oceans	Excess bacteria, sediment and nutrients
7	Who Polluted the River	Excess bacteria, sediment and nutrients
8	Storm Drain Stenciling	Excess bacteria, sediment and nutrients
9	Rigsby	Pollution Prevention, Sustainability
10	Wartville Wizard	Pollution Prevention, nutrients
11	A World Drowning in Plastic	Pollution Prevention, nutrients
12	PBL - Litter Booms	Excess bacteria, sediment and nutrients
13	Virtual Rigsby and the 4Rs	Pollution Prevention, Sustainability
14	Virtual Stream School	Pollution Prevention, excess bacteria, sediment and nutrients

**TMDL Consistency:** The educational programs that have been and continue to be presented target sources of bacteria/E. Coli, sediment, and/or nutrients, such as “Indoor and Outdoor Stream Schools”, “Soil: Who Needs It”, “The Water Game”, “Who Polluted the River”, “Groundwater”, (EC/FC, Nutrients), “Watershed to Oceans”, “Oceans of Trash”, “Green Game”, “Rigsby/Recycling”, “Wartville Wizard”, “A World Drowning in Plastic”, and Storm drain Stenciling.– (EC/FC, SED, and Nutrients).

**Evaluation and Modification:** The number of school programs and students reached shows that the stormwater educational programs are an effective method to address stormwater and related water quality issues in the school system. The Town will continue the cooperative agreement with CVC for these educational programs that are grade levels appropriate and SOL applicable. The educational programs will continue to be evaluated and new program may be incorporated to address new issues that impact the community. No modifications are planned for this BMP.

## BMP 1-5. Stormwater Public Awareness Programs

The Town of Vinton will continue to partner with Roanoke County, Roanoke City, Roanoke Valley Television (RVT) Channel 3, The Vinton Messenger, and Clean Valley Council (CVC) in the development of relevant messages for this BMP and uses a variety of means and methods, to communicate with the public via the distribution of printed materials (brochures, fact sheets, and newsletters), radio and TV advertisements, use of websites and social media, storm drain stenciling, speaking engagements, and through giveaways of stormwater-related merchandise to bring stormwater quality issues to the attention of the Town's and Roanoke Valley's citizens.

**Goal:** The Town's Stormwater Public Awareness Program targets three high-priority water quality issues that contribute to the degradation of stormwater runoff and the receiving waters into which it drains: excess bacteria, excess sediments, and excess nutrients.

*Rationale for Selection* - Sediment and bacteria were selected because the Town has been assigned a Total Maximum Daily Load (TMDL) by DEQ for these impairments, meaning the Town has been put on a "pollution diet" to limit these two pollutants from entering its waterways. Nutrients (phosphorus and nitrogen, in particular) were chosen because they have such negative impacts on receiving waters when in large quantities. Excess nutrients wash off of lawns and other managed turf areas, and are carried in stormwater runoff to the area's receiving waters (streams, creeks, and the Roanoke River). Once in the waterways, they cause algal overgrowth, which in turn decreases the oxygen that marine life needs to survive. This often results in fish kills, fish illnesses, and the tainting of human food. Groundwater supplies may also be affected by nutrient pollution.

The Public Awareness Program focuses on (1) ways to increase the public's knowledge about how to prevent these pollutants from getting into stormwater runoff, and (2) the hazards and legal implications of illegal discharges and improper disposal of wastes.

In addition, as outlined in BMP 1-7, the Town also targets certain public audiences with specific educational materials and messages, which are designed to help them reduce stormwater pollution in their day-to-day activities.

**Responsible Party:** The Planning and Zoning Department, with assistance from Roanoke County, CVC, and RVT.

**Schedule:** The Town's Public Awareness Program incorporates the development and distribution of printed materials, mass transit advertisements, signage at select locations, radio and television advertisements, newspaper articles, and use of websites and social media. The Town annually tracks the number and types of materials that are distributed and posted on websites/social media and the size of the audience that is exposed to such materials, as appropriate.

**Measurable Goal:** The Town will document the type of public awareness method that was utilized, including the size of the audience reached, and any impact indicators that show what effect the method had on behavior.

- In this annual period, the Clean Valley Council (CVC) was involved in the following activities on behalf of the Town. Please note that some of the activities/events covered the whole Roanoke Valley.

Permit Year	Attendance	Type/Sources of Media/Merchandise
2018 – 2019 (Year 1)	3,786 (Valley-wide)	Students & general public merchandise; interviews/segments on radio and TV stations; and newspaper articles.
2019 – 2020 (Year 2)	9,962	

Permit Year	Program Givens by CVC	Number of Students Reached	Number of Adults Reached
*2020 – 2021 (Year 3)	64 (Valley-wide) 1 (Vinton – Vinton Sustainability Series)	979 N/A	626,864 20

Due to Covid-19, many of the public awareness events were conducted in virtual fashion. The table below listed the locations; outreach groups, programs, issues addressed, number of programs, etc. that were undertaken by Clean Valley Council (CVC) on behalf of the Roanoke Valley governments through a cooperative agreement.

Date	Location	School or Outreach Group	Type of Program	Issues Addressed	Number of Programs	Total Students	Total Adults	Total Attendance
Quarter 1 - July 1 to Sept 30	ALL	-	Social Media	Bacteria, Nutrients, Excess Sediment	-	-	15105	15,105
Quarterly Stormwater Newsletter	ALL	-	Publication	Bacteria, Nutrients, Excess Sediment	1	-	900	900
Monthly Newsletter	ALL	-	Publication	Bacteria, Nutrients, Excess Sediment	3	-	4425	4425
9/1/2020	Publication	The Roanoker	Magazine	Citizen Science/ Stormwater		-	55000	55000
9/12/2020	Wasena Park	5 Points Music Sanctuary	Outdoor Concert	Recycling/ Litter Prevention	1	-	150	150
9/25/2020	Kennedy Park	City of Roanoke	VASH Beautification Day	Litter Prevention/ Stormwater	1	5	50	55
9/30/2020	Morningside Urban Farm	ALL Contracting Districts	WFXR News	ALL	1	-	58744	58744

Quarter 2 - Oct 1 to Dec 31	ALL	-	Social Media & CVC Website	Bacteria, Nutrients, Excess Sediment	-	-	22115	22115
Quarterly Stormwater Newsletter	ALL	-	Publication	Bacteria, Nutrients, Excess Sediment	1	-	900	900
Monthly Newsletter	ALL	-	Publication	Bacteria, Nutrients, Excess Sediment	3	-	4425	4425
10/3/2020	Vinton	ALL Contracting Districts	Vinton Fall Festival	ALL	1	750	750	1500
10/10/2020	Rockbridge	Rockbridge Area	Household Hazardous Waste Collection	Recycling/ Litter Prevention	1	0	130	130
10/17/2020	Salem Red Sox Stadium	ALL Contracting Districts	Wellness Event	ALL	1	4	40	44
10/22/2020	WFXR	ALL Contracting Districts	Television Interview	ALL	1	-	58744	58744
10/23/2020	Wasena Park	5 Points Music Sanctuary	Outdoor Concert	Recycling/ Litter Prevention	1	-	250	250
10/24/2020	Wasena Park	5 Points Music Sanctuary	Outdoor Concert	Recycling/ Litter Prevention	1	-	75	75
10/24/2020	Wasena Park	5 Points Music Sanctuary	Outdoor Concert	Recycling/ Litter Prevention	1	-	150	150
10/27/2020	Salem/Rotary Park	Roanoke College	Citizen Science/Stream School	Stormwater	1	25	1	26
10/29/2020	WFXR Living Local	ALL Contracting Districts	Television Interview	Stormwater	1	-	58744	58744
10/29/2020	WFXR News Story	ALL Contracting Districts	Television Interview	Stormwater	1	-	58744	58744
10/30/2020	Wasena Plaza	Downshift Bicycle Group	Halloween Ride	ALL	1	-	35	35
10/30/2020	Wasena Park	5 Points Music Sanctuary	5 points	Recycling/ Litter Prevention	1	-	200	200
10/31/2020	Wasena Park	5 Points Music Sanctuary	5 points	Recycling/ Litter Prevention	1	-	250	250

11/17/2020	City of Roanoke	City Resident	Anytime Cleanup Set-up	Litter/SW	1	-	1	1
12/5/2020	Fork in the Market	Downtown	KVB Cigarette Urns	Cig Litter/SW	1	-	5	5
12/5/2020	202 Social House	Downtown	KVB Cigarette Urns	Cig Litter/SW	1	-	3	3
12/20/2020	ALL	CVC Annual Campaign	Mailing Insert Information	Bacteria, Nutrients, Excess Sediment	1	-	2200	2200
Quarter 3 - Jan 1 to Mar 31	ALL	-	Social Media	Bacteria, Nutrients, Excess Sediment	-	-		
Quarterly Stormwater Newsletter	ALL	-	Publication	Bacteria, Nutrients, Excess Sediment	1	-	900	900
Monthly Newsletter	ALL	-	Publication	Bacteria, Nutrients, Excess Sediment	1	-	4425	4425
1/15/2021	ALL	ALL Contracting Districts	WFXR News Living Local	Litter/SW	1	-	58744	58744
1/18/2021	Lawson Building	MLK Day of Service Participants	Cleanup	Litter, Recycling, Stormwater	1	14	32	46
1/18/2021	Lawson Building	Gainsboro History Tour Participants	Cleanup	Litter, Recycling, Stormwater	1	5	25	30
2/16/2021	Roanoke Memorial Hospital	RMH Staff	Anytime Cleanup	SW/Litter	1		10	10
2/16/2021	ALL	WFIR Radio	Radio Spot	SW/Litter	2			99229
2/21/2021	Virtual	Boy Scouts of America	Sustainability Merit Badge	Sustainability	1	16	8	24
2/22/2021	Roanoke County	RC Econ Development Newsletter	e-newsletter	SW/Litter	1		1750	1750
2/25/2021	Virtual	Citizen Science	Monitor Course	SW/Litter	1		43	43

2/25/2021	ALL	ALL Contracting Districts	Living Local	Bacteria, Nutrients, Excess Sediment	1	-	58744	58744
2/25/2021	Virtual	ALL	SCSS (Star City Sustainability Series	Recycling	1		12	12
3/6/2021	Roanoke Mountain Adventures	ALL	Anytime Cleanup Station	SW/Litter	1			12
3/19/2021	ALL	WFXR viewership (Roanoke County)	Living Local	Bacteria, Nutrients, Excess Sediment	1	-	58744	58744
3/19/2021	CoLab	Katherine Devine	Art to Rescue the River	SW/Litter	1			
3/21/2021	CoLab	Jane Gabrielle	Art to Rescue the River	SW/Litter	1			
3/25/2021	Virtual	ALL	SCSS (Star City Sustainability Series	Bacteria, Nutrients, Excess Sediment	1	5	17	22
3/26/2021	Wasena Park	ALL	5 Pts Music Sanctuary	Litter/Recycling	1	75	275	350
3/27/2021	Wasena Park	ALL	5 Pts Music Sanctuary	Litter/Recycling	1	30	170	200
3/27/2021	City of Roanoke	Kiwanis	Cleanup	SW/Litter	1		20	20
Quarter 4 - April 1 to June 30	Roanoke Co	-	Social Media	Bacteria, Nutrients, Excess Sediment	-	-		9,889
Quarterly Stormwater Newsletter	ALL	Salem Veterans Medical Center	Publication	Bacteria, Nutrients, Excess Sediment	1	-	1,900	1,900
Monthly Newsletter	ALL	-	Publication	Bacteria, Nutrients, Excess Sediment	3	-	4425	4425

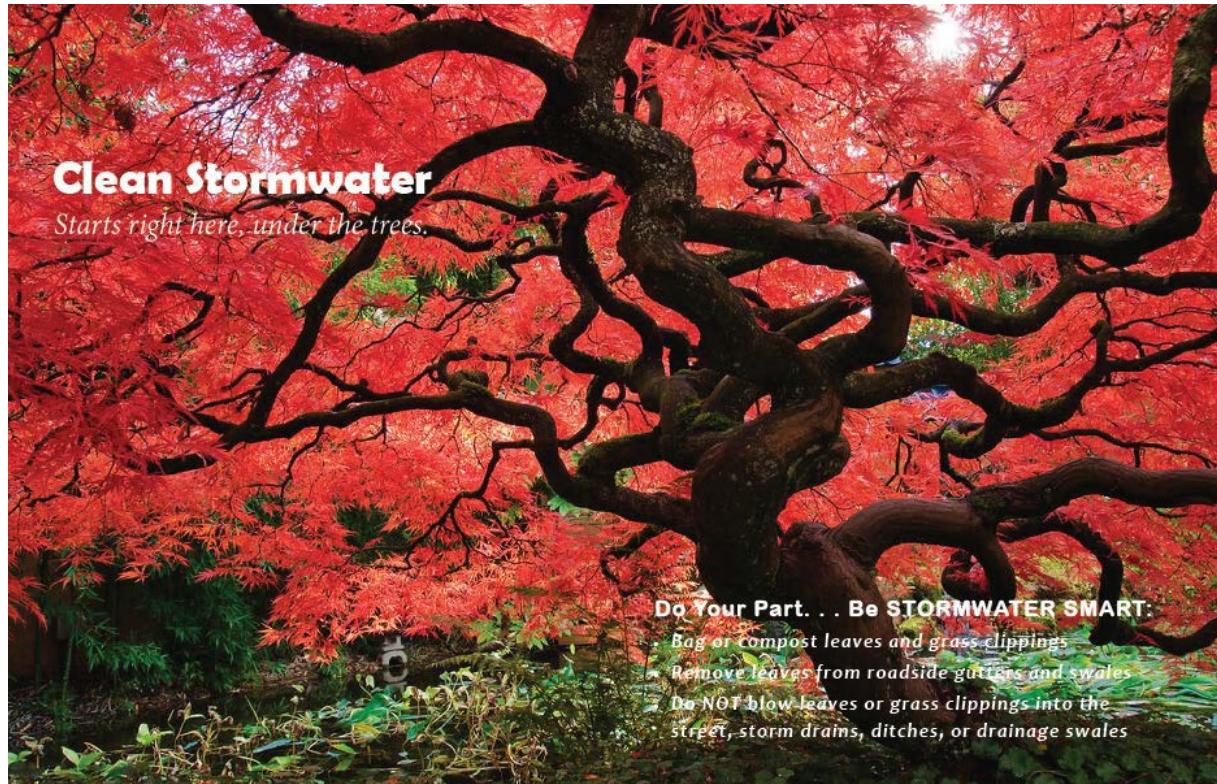
4/2/2021	Roanoke Co		WSLS	Bacteria, Nutrients, Excess Sediment, Litter, Recycling	1		36,000	36,000
4/7/2021	Roanoke Co		WFXR	Bacteria, Nutrients, Excess Sediment, Litter, Recycling	1		36,000	36,000
4/8/2021	City of Roanoke	Wasena Neighborhood Forum	meeting	Bacteria, Nutrients, Excess Sediment, Litter, Recycling, Stormwater	1		16	16
4/15/2021	Roanoke Co	Salem Veterans Medical Center	Virtual Earth Day	Bacteria, Nutrients, Excess Sediment, Litter, Recycling	1		1,900	1,900
4/15/2021	Roanoke Co	Roanoke County students/families combined with students from other municipalities	WFXR-DEQ Competitive grant-Composting -Food for Thought	Bacteria, Nutrients, Excess Sediment, Litter, Recycling	1		36,000	36,000
4/18/2021	River's Edge Sports Complex	People from all municipalities including Roanoke County	Blue Ridge Marathon Slow 5K	Bacteria, Nutrients, Excess Sediment, Litter, Recycling, Stormwater	1		86	86
4/19/2021-4/22/2021	Explore Park	Cleanup	Cleanup	Litter, Recycling, Stormwater	1		20	20
4/23/2021-4/25/2021	Wasena Park	ALL	5 points	Litter, Recycling, Stormwater	2	50	425	475
4/29/2021	City of Roanoke-Morningside Urban Farm	ALL	Make your own reusable tote bag	Litter, Recycling, Stormwater	1		10	10

5/13/2021	City of Roanoke-Morningside Urban Farm	ALL	Make a rain barrel workshop	Litter, Recycling, Stormwater	1		12	12
6/17/2021	Vinton	seniors	Vinton Sustainability Series	Bacteria, Nutrients, Excess Sediment, Litter, Recycling, Stormwater	1		20	20
<b>TOTAL PUBLIC AWARENESS</b>					<b>64</b>	<b>979</b>	<b>626,864</b>	<b>736,973</b>

- The Town of Vinton Planning and Zoning Coordinator who handles the Town's website and social media, posted and publicized the County's annual stormwater newsletter "Stormwater Guide for Homeowners June 2021" and "It's Just Dirt: A Newsletter for Contractors June 2021", on the town's website, Facebook, and Twitter on June 28, 2021. The link to the Town's website under publications and resources: <https://www.vintonva.gov/227/Publications-Resources>  
A link to Roanoke County Stormwater Public Education Documents is also listed under resources on this Town's webpage.
- The Vinton Messenger, local main street newspaper published an article "Grass clippings and storm drains don't mix" and "Vinton Town Ordinance prohibits discharge of yard wastes into storm drain system" on May 6, 2021.
- The County's Planning Department distributes a monthly e-newsletter entitled Community Developments. Pertinent stormwater messages are included from time to time, and the e-newsletter reaches 1,212 individuals. The archived newsletters are available on the County's website, click here: <https://www.roanokecountyva.gov/Archive.aspx?AMID=39&Type=&ADID=>
- The County's Department of Development Services created a new pet waste poster focused on "scooping the poop" as a strategy to reduce bacteria that may enter receiving waters. The poster is on the County's website, in the stormwater (residential) newsletter, and it was shared on the RVTVA website. This poster was also mailed to a variety of targeted (pet-related) businesses, as identified in **BMP 1-7: Targeted Education Program**.
- The County's Department of Development Services created two posters to raise awareness about keeping pollution from entering stormwater, with the ultimate goal of protecting receiving waters from collecting pollutants, such as trash, fertilizers, lawn waste, leaves, and sediment. These posters can be found on the County's website at: <https://www.roanokecountyva.gov/1648/Stormwater-Public-Education-Documents>

The first poster “**CLEAN STORMWATER: Starts right here, under the trees**” was used in the annual residential newsletter entitled “*A Stormwater Guide for Homeowners*,” which was mailed to all single-family residences in Roanoke County and the Town of Vinton. The newsletter can be viewed via the link below:  
<https://www.roanokecountya.gov/1648/Stormwater-Public-Education-Documents>

The second poster, “**CLEAN STORMWATER: Starts right here on your project**” was used in the annual contractor newsletter, entitled “*It’s Just Dirt*,” which was mailed to every land-disturbing contractor, land developer, and civil engineering firm in the region, along with the regional home builders association. Roanoke County is the Town’s ESC and VSMP Administrators. The newsletter can be viewed via the link below:  
<https://www.roanokecountya.gov/1648/Stormwater-Public-Education-Documents>



## Clean Stormwater

*Starts right here, on YOUR project*



### Do Your Part . . . Be STORMWATER SMART:

- Leave existing vegetation in place for as long as possible
- Cover bare dirt as soon as possible
- Install sediment trapping devices FIRST
- Use proper inlet protection
- Disturb the least amount of area possible
- Entrench silt fence

- The County uses various Public Service Announcements (PSAs) to share information with the public as part of its stormwater public awareness/education program. The PSAs encourage folks to "do the right things," such as not littering, bagging or mulching leaves and grass clippings, bagging pet waste, washing cars on the grass, and refraining from pouring anything into the storm drain. The overarching goal for these PSAs is to address the three high priority water quality issues: bacteria, nutrients, and sediments. Visit:  
<https://www.roanokecountyva.gov/1598/Stormwater-Public-Education-Videos>
- The County purchased a set of video programs that were designed for educating the general public on Illicit Discharge Detection and Elimination (IDDE) to the storm drainage system; such discharges include the selected three high-priority water quality issues: excess bacteria, sediment, and nutrients. The kit includes five videos of varying run times, which are designed to be used in specific medium/media or to reach a specific audience. Along with the aforementioned PSAs, the videos are posted on the County's website at  
<https://www.roanokecountyva.gov/1598/Stormwater-Public-Education-Videos>
- Roanoke Valley Television (RVT) runs at least one Clean Valley Council PSA in every edition of Inside Roanoke, which airs 4 times per week. All of the County's stormwater-related PSAs run in regular rotation on the air, meaning each get an estimated 4 plays per day on Cox Cable Channel 3. (NOTE: Cox does not provide RVT with accurate subscriber counts, as it stopped that practice several years ago. However, the rough estimate is that the Station reaches approximately 43,000 households.)

- The County continues to run its anti-littering ad campaign: The World is Not Your Ashtray. Permanent signs with the message have been placed at several prominent intersections, and the County's website provides an opportunity for citizens to report litter thrown out of vehicles. If the vehicle listed in the online complaint form can be confirmed, Roanoke County Police Department sends a notice to the vehicle's owner that the offense was witnessed and requests their compliance with Roanoke County's litter ordinance in the future. Only verified complaints are processed. For access to the form, click here: <https://www.roanokecountyva.gov/FormCenter/Police-6/Report-Littering-44>

**TMDL Consistency:** The various activities used for this BMP are intended to bring stormwater quality issues to the public's attention. Related activities for this BMP focus on bacteria and sediment, because the Town has TMDLs for these pollutants. (EC & SED)

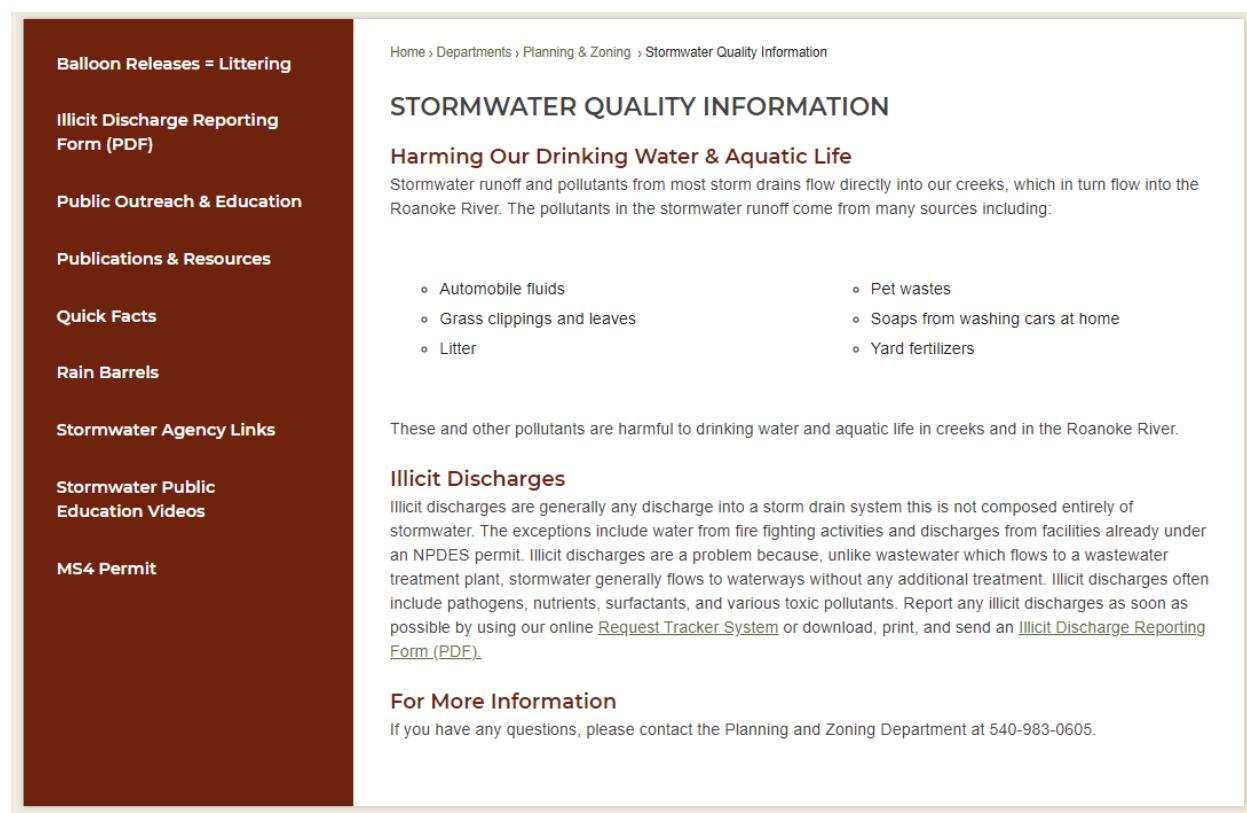
**Evaluation and Modification:** The number and types of activities, and the number and types of materials that are distributed and posted on websites/social media and the size of the audience that is exposed to such materials indicates that the Stormwater Public Awareness Program is effective.

The Town in cooperation with Roanoke County and CVC will continue to use this BMP to increase the public's knowledge about how to prevent pollutants from getting into stormwater runoff and to inform the public about the hazards and legal implications of illegal discharges and improper disposal of wastes. No modifications are planned for this BMP.

## BMP 1-6. Town of Vinton Webpage of Town's Stormwater Management Program

**Goal:** The Town will continue to maintain and monitor the Town's Stormwater webpage, where citizens and visitors can obtain information concerning the Town's Stormwater Management Program; Illicit Discharge Reporting Form, Public Outreach and Education; Publications & Resources; Quick facts; Rain Barrels; Stormwater Agency Links; Stormwater Public Education Videos; and VSMP General Permit. Additionally, the Town's website calendar and Facebook also inform citizens of regional clean-up events, drug take-back event, household hazardous waste and E-Cycling collection events, and other local water quality educational programs, in addition of having the capability of receiving citizens' requests and/or complaints on stormwater issues. The messages for the website will be coordinated with the high-priority water quality issues identified in **BMP 1-5**. The stormwater website address is:

<https://www.vintonva.gov/209/Stormwater-Quality-Information>



**Balloon Releases = Littering**

**Illicit Discharge Reporting Form (PDF)**

**Public Outreach & Education**

**Publications & Resources**

**Quick Facts**

**Rain Barrels**

**Stormwater Agency Links**

**Stormwater Public Education Videos**

**MS4 Permit**

Home > Departments > Planning & Zoning > Stormwater Quality Information

## STORMWATER QUALITY INFORMATION

### Harming Our Drinking Water & Aquatic Life

Stormwater runoff and pollutants from most storm drains flow directly into our creeks, which in turn flow into the Roanoke River. The pollutants in the stormwater runoff come from many sources including:

- Automobile fluids
- Grass clippings and leaves
- Litter
- Pet wastes
- Soaps from washing cars at home
- Yard fertilizers

These and other pollutants are harmful to drinking water and aquatic life in creeks and in the Roanoke River.

### Illicit Discharges

Illicit discharges are generally any discharge into a storm drain system this is not composed entirely of stormwater. The exceptions include water from fire fighting activities and discharges from facilities already under an NPDES permit. Illicit discharges are a problem because, unlike wastewater which flows to a wastewater treatment plant, stormwater generally flows to waterways without any additional treatment. Illicit discharges often include pathogens, nutrients, surfactants, and various toxic pollutants. Report any illicit discharges as soon as possible by using our online [Request Tracker System](#) or download, print, and send an [Illicit Discharge Reporting Form \(PDF\)](#).

### For More Information

If you have any questions, please contact the Planning and Zoning Department at 540-983-0605.

In addition, the stormwater website will contain the appropriate videos from Roanoke County's IDDE Public Outreach kit (discussed in Roanoke County's **BMP 1-5**) in an effort to inform the public about the hazards and legal ramifications of illicit discharges. The webpage includes a link to recent versions of the County's stormwater-related public education materials, such as newsletters, fact sheets, posters, brochures, etc.

<https://www.vintonva.gov/227/Publications-Resources>

**Responsible Party:** The Planning and Zoning Department.

**Schedule:** The Town will maintain its stormwater website and document the webpage usage, including the annual number of visits to each page.

**Measurable Goals:** Webpage statistics including the most- and least- popular material will be analyzed for effectiveness of the website.

Permit Year	Webpage Views
2018 – 2019 (Year 1)	133
2019 – 2020 (Year 2)	112
2020 – 2021 (Year 3) VSMP/MS4 Permit (PID 209)	102

According to Roanoke County Stormwater Program Manager visits to Roanoke County's SWM homepage have steadily increased, with 390 more visits in 2021 than in 2018, representing about a 60% increase over the four years; and, that is with a new website design last permit year that may have made it temporarily more difficult to find familiar data.

A summary of the views of Roanoke County's stormwater-related videos, i.e. Public Service Announcements (PSAs) is shown below. NOTE: It is assumed that some people view these PSAs directly on YouTube rather than through the video page on the County's stormwater site. Views on YouTube are not tracked.

**Views for PSAs (July 1, 2020 - June 30, 2021)**

Video Title	Views	Average View Duration
Illicit Discharge Detection and Elimination (Employee training video)	505	0:07:51
Stormwater Pollution Prevention for MS4s (" ")	199	0:16:17
Stormwater Pollution Prevention for Construction Sites (" ")	110	0:08:59
Granny Says PSA 30	12	0:00:24
Leaf Solution PSA 30	10	0:00:22
Rain Barrel PSA	9	0:00:17
Scoop the Poop	8	0:00:26
SWM Lawn Care PSA 30	7	0:00:17
<sup>1</sup> Cooking Oil and Grease PSA 30	6	0:00:22
<sup>1</sup> Car Wash PSA 30	5	0:00:24
Ilícito de Desechos, Deteccion y Eliminacion (Una gran preocupacion) - 30 seconds	1	0:00:10
<b>Total</b>	<b>872</b>	

<sup>1</sup>The Clean Valley Council (CVC) produced this PSA on behalf of Roanoke County, City of Roanoke, and Town of Vinton

Permit Year	Webpage Views	Most Popular (MP) and Least Popular Page (LP)
2020 – 2021 (Year 3)	872	MP: Illicit Discharge Detection and Elimination LP: Ilícito de Desechos, Deteccion y Eliminacion (Una gran preocupacion)

**TMDL Consistency:** The Town's stormwater webpage, website and Facebook posting inform and educate the general public, citizens, and visitors the overall pollution problem (EC/FC, SED) and how a citizen can prevent nonpoint source pollution through the pamphlets, brochures, flyers, PSAs. Additionally, the County's stormwater webpage contains a broad range of public education materials, which address many topics, including ways to minimize sediment, bacteria, and PCBs in stormwater runoff. (EC, SED, PCBs).

**Evaluation and Modification:** The Town continues to maintain, evaluate and design the stormwater webpage to make it easier to find frequently requested items and make this BMP a more effective method of information distribution and outreach. The Town of Vinton website provides a link to the Roanoke County website for additional information and resources.

The Town finds this BMP to be an effective way to provide the public with information about its Stormwater Management Program and to offer a means by which the public can provide input about the program, report illicit discharges and spills, and submit complaints about land-disturbing activities. No modifications are planned for this BMP.

## BMP 1-7. Targeted Education Program

**\* This BMP is a joint project with Roanoke County. The annual mailing and/or distribution of the educational materials for this targeted education program by Roanoke County includes the Town of Vinton households, businesses, and contractors/home-owners involved in land-disturbing activities.**

**For a list of the materials including brochures, letters, list of homeowners, list of applicable businesses, etc. please refer to Roanoke County BMP 1-7. Supporting Documents that can be accessed via the link below:**

<https://www.roanokecountyva.gov/DocumentCenter/Index/1837>

**Goal:** The goal of this BMP is to implement an education program for specific public (target) audiences to raise their awareness about stormwater quality. This program focuses on three high-priority stormwater issues (i.e., stormwater pollutants) that contribute to the degradation of local waters: excess bacteria, excess sediment, and excess nutrients.

The intention of the program is to inform the target audiences about (1) ways to prevent these pollutants from getting into stormwater runoff and (2) the hazards and legal implications of illegal discharges and the improper disposal of wastes.

The Town and Roanoke County selected the target audiences based on the likelihood that each of them could generate excess bacteria, sediment, and/or nutrients from their day-to-day activities. The educational materials and messages mailed to each of the target audiences are specific to their type of operation (such as car wash operations or kennel cleaning) to ensure the program is effective.

In accordance with Table 1 of Part 1 E 1 of the MS4 permit, the Town and Roanoke County selected various strategies to deliver the targeted materials and messages to the selected public audiences. These are outlined on the next several pages in Table 1-7A. Roanoke County included the Town's household and business owners when they do their annual mailing of these education mailers.

**Responsible Party:** Town Planning and Zoning Department in cooperation with Roanoke County Development Services and Stormwater Program Manager.

**Schedule:** A list of public (target) audiences to receive specific messages on an annual basis about ways to reduce stormwater pollution in their day-to-day activities has been developed.

**Measurable Goals:** The Town along with the County document which materials were provided to the various public audiences, including the size of each audience reached, and any impact indicators that show what effect the method had on behavior.

- The tables provided on the following pages summarize the activities conducted for this permit year:

- Table 1-7.1A, Table 1-7.1B, and Table 1.7.1C: Stormwater Education Program for Specific Audiences in the Town of Vinton
- Table 1-7.2 Print Materials to Address Specific TMDLs
- Table 1-7.3. Program Materials and Target Audiences for BMP 1-7
- Table 1-7.4 Summary of Targeted Mailings and % Reach

Table 1-7.1A Targeted Education Program: Sediment

High-Priority Water Quality Issue	Target Audiences	Means to Determine Audience Size	Estimated Audience Size	Overall Messages	Means to Deliver Messages	Rationale
#1 Sediment	Car Washing/Detail Facilities	Business Licenses/Google	3	<ul style="list-style-type: none"> <li>• All wash water to sanitary sewer.</li> <li>• Potential damage caused to streams by wash water.</li> </ul>	<ul style="list-style-type: none"> <li>• Mailer, annually</li> <li>• PSAs on local cable station</li> </ul>	Commercial car wash facilities can contribute significant sediment if wash water is discharged into the Town's MS4.
	Car Dealers	Business Licenses/Google	3	<ul style="list-style-type: none"> <li>• All wash water to sanitary sewer.</li> <li>• Potential damage caused to streams by wash water.</li> </ul>	<ul style="list-style-type: none"> <li>• Mailer, annually</li> <li>• PSAs on local cable station</li> </ul>	Vehicle washing/detailing can contribute significant sediment if wash water is discharged into the Town's MS4, which drains, untreated, to local streams.
	Auto Body Shops (includes tire and auto parts stores, auto service centers, etc.)	Business Licenses/Google	18	<ul style="list-style-type: none"> <li>• All wash water to sanitary sewer.</li> <li>• Potential damage caused to streams by wash water.</li> </ul>	<ul style="list-style-type: none"> <li>• Mailer, annually</li> <li>• PSAs on local cable station</li> </ul>	
	Homeowners	Tax Records/GIS	3,500	<ul style="list-style-type: none"> <li>• Potential damage caused to streams by wash water.</li> <li>• Direct wash water to grass area for filtration and infiltration.</li> <li>• Never allow wash water to flow into street or storm drains.</li> </ul>	<ul style="list-style-type: none"> <li>• Publication sent annually to ROCO/TOV homeowners</li> <li>• PSAs on local cable station</li> <li>• Handouts at local environmental events, 4 per year minimum</li> </ul>	Residential car washing is specifically allowed; but, it still may contribute significant sediment if wash water is not properly handled.
	Contractors and and/or Homeowners Involved in Land-Disturbing Activities	Roanoke County Development Services/Town Planning and Zoning Department/Business Licenses	28	<ul style="list-style-type: none"> <li>• Damage caused to streams by sediments.</li> <li>• Healthy fish populations require clear stream bottoms.</li> <li>• Silt fence is not enough.</li> <li>• Limit disturbed areas.</li> <li>• Stabilize as quickly as possible.</li> </ul>	<ul style="list-style-type: none"> <li>• Brochure given to land-disturbance permittee when permit is issued</li> <li>• Brochure given with enforcement actions</li> </ul>	Erosion and sediment control is required by regulations; however, more effective implementation may occur with additional education.

Table 1-7.1B Targeted Education Program: Bacteria

High-Priority Water Quality Issue	Target Audiences	Means to Determine Audience Size	Estimated Audience Size	Overall Messages	Means to Deliver Messages	Rationale
#2 Bacteria	Restaurants	Business Licenses/ Google	20	<ul style="list-style-type: none"> <li>Excessive bacteria hinder stream usage and contribute to algae overgrowth, which hurts aquatic life.</li> <li>All wastewater to sanitary sewers.</li> <li>Keep exterior trash receptacles and dumpsters covered and do not wash out into storm drain.</li> <li>Clean kitchen hoods and floor mats; properly dispose of wastewater.</li> </ul>	<ul style="list-style-type: none"> <li>Mailer, annually</li> <li>PSAs on local cable station</li> </ul>	Uncovered dumpsters containing garbage and dumpsters and greasy floor mats that are rinsed out onto the pavement can contribute bacteria to our MS4, which discharges directly to our streams.
	Pet Owners (dogs/cats)	Pet Licenses	395	<ul style="list-style-type: none"> <li>Excessive bacteria hinder stream usage.</li> <li>Dog waste ends up in streams.</li> <li>Pick up after your pet and properly dispose of waste.</li> </ul>	<ul style="list-style-type: none"> <li>Publication sent annually to ROCO &amp; TOV Homeowners</li> <li>PSAs on local cable station</li> </ul>	Dog waste is a major source of bacteria in our streams.
	Veterinarian Offices	Business Licenses/ Google	1	<ul style="list-style-type: none"> <li>Excessive bacteria hinder stream usage.</li> <li>Dog waste ends up in streams.</li> <li>Pick up after your pet and properly dispose of waste.</li> </ul>	<ul style="list-style-type: none"> <li>Brochures placed in Veterinarian offices, annually</li> <li>PSAs on local cable station</li> </ul>	Dog waste is a major source of bacteria in our streams.
	Pet Stores/Pet Boarding/ Grooming	Business Licenses/ Google	3	<ul style="list-style-type: none"> <li>Excessive bacteria hinder stream usage.</li> <li>Dog waste ends up in streams.</li> <li>Pick up after your pet and properly dispose of waste.</li> </ul>	<ul style="list-style-type: none"> <li>Brochures placed in pet stores, annually</li> <li>PSAs on local cable station</li> </ul>	Dog waste is a major source of bacteria in our streams.
	Homeowners	Tax Records/GIS	3,500	<ul style="list-style-type: none"> <li>Do not feed wildlife.</li> <li>Do not feed pets outdoors.</li> </ul>	<ul style="list-style-type: none"> <li>Roanoke County Annual Mailer</li> </ul>	By encouraging wildlife to come close to homes, their feces have a higher chance of finding its way to the MS4.
	Septic Systems Owners	Water/Sewer Billing Records	58	<ul style="list-style-type: none"> <li>Keep septic system maintained; provide periodic pump out.</li> <li>Repair failing septic system.</li> </ul>	<ul style="list-style-type: none"> <li>Roanoke County publication sent annually to septic owners.</li> </ul>	Malfunctioning or poorly maintained onsite sewage disposal systems may result in discharges of bacteria in our stream.
	Town Police; Animal Control Officer	Town Records	5	<ul style="list-style-type: none"> <li>Excessive bacteria hinder stream usage.</li> <li>Dog waste ends up in streams.</li> <li>Pick up after your pet and properly dispose of waste.</li> </ul>	<ul style="list-style-type: none"> <li>In-house training</li> </ul>	Dog waste is a major source of bacteria in our streams; these County employees own or handle dogs as part of their work.

Table 1-7.1C Targeted Education Program: Nutrients

High-Priority Water Quality Issue	Target Audiences	Means to Determine Audience Size	Estimated Audience Size	Overall Messages	Means to Deliver Messages	Rationale
#3 NUTRIENTS	Homeowners	Tax Records/GIS	3,500	<ul style="list-style-type: none"> <li>• How nutrients damage streams.</li> <li>• Do not over-fertilize. Use soil tests.</li> <li>• Keep fertilizer off of pavements.</li> <li>• Do not over-water lawns.</li> </ul>	<ul style="list-style-type: none"> <li>• County Publication sent annually to ROCO/TOV HO</li> <li>• PSAs on local cable station</li> </ul>	Excessive nutrients are carried off lawns and other managed turf areas to the County's MS4 and then to local streams; this leads to algae overgrowth in the streams, which adversely impacts fish and other marine life.
	Nurseries/Greenhouses	Business Licenses/Google	1	<ul style="list-style-type: none"> <li>• How nutrients damage streams.</li> <li>• Do not over-fertilize. Use soil tests.</li> <li>• Keep fertilizer off of pavements.</li> </ul>	<ul style="list-style-type: none"> <li>• Mailer, annually</li> <li>• PSAs on local cable station</li> </ul>	
	Lawn Care Services	Business Licenses/Yellow Pages	8	<ul style="list-style-type: none"> <li>• How nutrients damage streams.</li> <li>• Do not over-fertilize. Use soil tests.</li> <li>• Keep fertilizer off of pavements.</li> <li>• Encourage use of organic products.</li> </ul>	<ul style="list-style-type: none"> <li>• Mailer, annually</li> <li>• PSAs on local cable station</li> </ul>	

**Table 1-7.2 Print Materials to Address Specific TMDLs – Produced by Roanoke County Stormwater Program Manager**

Type	Publication Name	TMDLs Addressed
Poster	"I Carry Your Stuff. You Scoop My Poop. Deal?"	Bacteria
	"Cute? You Betcha.' But Did You Know? I have to poop outside; my peeps have to scoop it up."	Bacteria
	"No, I am NOT the Poop Fairy"	Bacteria
	"Who Left the Dogs' Poop?"	Bacteria
	"Pups Poop, People Scoop. Do it."	Bacteria
	"Clean Stormwater: Starts Right Here Under the Trees"	Bacteria, Sediment, PCBs, and more
	"Clean Stormwater: Starts Right Here on Your Project"	Bacteria, Sediment, PCBs, and more
	"Stormwater - Do Your Part: Keep it Clear"	Bacteria, Sediment, PCBs, and more
	"Sediment Pollution = No Fish. The Choice is Clear"	Bacteria, Sediment, PCBs, and more
	"Granny Says. . ."	Bacteria, Sediment, PCBs, and more
	"Clean Stormwater Makes for Happy Kids"	Bacteria, Sediment, PCBs, and more
	"Clean Stormwater: Wildlife Depend on It"	Bacteria, Sediment, PCBs, and more
	"Clean Stormwater: Happy Kids, Healthy Fish"	Bacteria, Sediment, PCBs, and more
Postcard	"Only Rain Down the Storm Drain" (by CVC)	Bacteria, Kitchen grease, Oil
	"Only Rain May Go Down the Storm Drain" (by CVC)	Sediment (plus Detergent, Oil, Heavy Metals, etc.)
Newsletter	"A Stormwater Guide for Homeowners June 2021"	Bacteria, Sediment, PCBs, and more
	"A Stormwater Guide for Homeowners" (previous issues)	Bacteria, Sediment, PCBs, and more
	"It's Just Dirt, A Newsletter for Contractors" June 2021	Sediment, PCBs (plus Minimum ESC Stds. & more)
	"It's Just Dirt, A Newsletter for Contractors" (previous issues)	Sediment, PCBs (plus Minimum ESC Stds. & more)
Brochure	"It's Just Dirt"	Sediment
	"Stormwater Best Management Practices for Proper Pet Waste Disposal"	Bacteria
	"Stormwater Best Management Practices for Restaurants"	Bacteria
	"Reduce, Reuse, Recycle and Properly Dispose of Hazardous Household Wastes"	Bacteria, Sediment, PCBs, and more
Fact Sheet	"Illicit Discharge Facts"	Bacteria, Sediment, PCBs, and more
	"Facts for Plumbers"	Bacteria, Sediment, PCBs, and more
	"Facts for Landscapers"	Sediment
	"Fall Foliage Facts"	Bacteria, Sediment, and more
	"Fact Sheet for Mosquito Control"	None (published as a Public Service message)
	"Tips for Homeowners - Stormwater Best Practices"	Bacteria, Sediment
	Fact Sheet for PCBs	PCBs
	Pool Fact Sheet**	None**
	Car Washing Tips	Sediment (plus Heavy Metals, Grease, Oil, etc.)

\*Print materials are available online at

<https://www.roanokecountyva.gov/1648/Stormwater-Public-Education-Documents>

\*\*The Pool Fact Sheet is mailed to every pool-related business and pool owner in the County (1,869 total). And while it does not address a specific TMDL, this document is believed to be of value in helping to keep chemicals, such as chlorine and algaecide, out of the area's receiving waters.

 **New in 2020-2021**

TABLE 1-7.3 Program Materials and Targeted Audiences for BMP 1-7

Target Audience	Product Type	Delivery Method	# of Recipients	Nature of Message
Restaurants	Letter and Brochure	Mailed	84 (ROCO & TOV)	Stormwater Management BMPS for Restaurants; MS4 permit requirements.
	Postcard	Mailed	84 (ROCO & TOV)	Only rain down the storm drain; no solid or liquid waste; do not rinse out dumpsters.
Car Washes, Auto Repair Shops, New & Used Car Dealers, Auto Detailers, etc.	Postcard	Mailed	161 (ROCO & TOV)	Wash water carries sediment, oil, and heavy metals to receiving waters.
Vets, Groomers, Pet Daycare and Boarding, etc.	Letter, Brochure, and Poster	Mailed	224 (ROCO & TOV)	Pet waste pollutes receiving streams; owners are encouraged to pick up after their pets.
Landscaping Professionals	Letter and Fact Sheet	Mailed	182 (ROCO & TOV)	Grass/shrub clippings, leaves, sediment, fertilizers, etc. cause pollution to receiving waters; use BMPs to minimize lawn debris, reuse stormwater, install erosion controls, and employ alternative lawn care practices.
Violators of Illicit Discharge Ordinance	Fact Sheet(s) applicable to the discharge	Mailed at time of violation	24 (ROCO & ROCO)	It is illegal to discharge anything into the MS4 system except for the allowable non-stormwater discharges listed in the permit.
Plumbers	Fact Sheet	Provided in the ROCO Development Services Counter	Unknown	It is illegal to discharge anything into the MS4 system except for the allowable non-stormwater discharges listed in the permit
Contractors involved in Land Disturbing Projects	Brochure	Distributed with ESC Permits	179 (ROCO & TOV)	"It's Just Dirt" – brochure describes the harm to receiving waters from excess sediment from construction sites, explains permit requirements, provides techniques to "keep dirt on the project."
	Newsletter	Mailed	335 (ROCO & TOV)	
Residents	Brochure	Provided in the TOV Lobby and ROCO Development Services Counter	Unknown	"Reduce, Reuse, Recycle and properly dispose of hazardous household wastes" brochure.
Residences	Newsletter	Mailed	34,309 (ROCO & TOV)	MS4 Permit requirements; high-priority water quality issues; minimizing PCBs, reducing stormwater pollution at home, do not feed wildlife, pick-up pet waste, prevent illicit discharges, maintain septic system, create stream buffers.

TABLE 1-7.4 Summary of Targeted Mailings and % Reach in Roanoke County & Town of Vinton

Annual Period	Type of Educational Material	Target Group	# Sent /Total # in Target Group	% of Target Audience Reached
2018 - 2019 (Year 1)	Car Wash Postcard, letter, and brochure	Businesses with Car Washes	166 / 166	100%
	MS4 Permit Brochure for Businesses	All Town of Vinton Businesses #	529 / 529	100%
	It's Just Dirt Brochure	Land-disturbing Contractors	298* / 332	~92.5%
	Stormwater Newsletter	Residences	40,305 / 40,305	100%
	Landscaping Fact Sheet	Professional Landscapers, Nurseries, Greenhouses	153 / 153	100%
	Restaurant Postcard, Letter, and Brochure	Restaurants	85 / 85	100%
	Pet Waste Poster, Letter, and Brochure	Veterinarians, Groomers, Stables, Pet Daycare, Pet Boarding, etc.	37	100%
	"Tips for Homeowners - Stormwater Best Practices"	Residential lots using individual stormwater control measures without maintenance agreements	23 / 23	100%
	Pet Waste Poster, Letter, and Brochure "Who Left the Poop"	Veterinarians, Groomers, Stables, Pet Daycare, Pet Boarding, etc.	37 / 37	100%
2019-2020 (Year 2)	Restaurant Postcard, Letter, and Brochure	Restaurants	106 / 106	100%
	Car Wash Postcard, Letter, and Brochure	Businesses with Car Washing	180 / 180	100%
	"It's Just Dirt" Newsletter	Land-disturbing Contractors	335 / 335	100%
	"It's Just Dirt" Brochure	Land-disturbing Contractors	208 / 335	62%
	Stormwater Newsletter	Residences	35,026 / 35,026	100%
	Landscaping Fact Sheet	Professional Landscapers, Nurseries, Greenhouses	158 / 158	100%
	Pet Waste Poster, Letter, and Brochure	Veterinarians, Groomers, Stables, Pet Daycare, Pet Boarding, Animal Control, etc.	44 / 44	100%
	"Tips for Homeowners - Stormwater Best Practices"	Residential lots using individual stormwater control measures without maintenance agreements	30 / 30	100%

TABLE 1-7.4 Summary of Targeted Mailings and % Reach in Roanoke County and Town of Vinton  
(con't)

Annual Period	Type of Educational Material	Target Group	# Sent /Total # in Target Group	% of Target Audience Reached
2020 - 2021 (Year 3)	Restaurant Postcard, Letter, and Brochure	Restaurants	84/84	100%
	Car Washing Tips (Fact Sheet) and Letter	Businesses with Car Washing	161 /161	100%
	"It's Just Dirt" Newsletter	Land-disturbing Contractors	351/351	100%
	"It's Just Dirt" Brochure	Land-disturbing Contractors	*179/351	*51%
	Stormwater Newsletter	Residences	34,309 /34,309	100%
	Landscaping Fact Sheet	Professional Landscapers, Nurseries, Greenhouses	182/182	100%
	Pet Waste Poster, Letter, and Brochure	Veterinarians, Groomers, Stables, Pet Daycare, Kennels, Pet Boarding, Animal Control Officer, etc.	224/224	100%
	"Tips for Homeowners - Stormwater Best Practices"	Residential lots using individual stormwater control measures without maintenance agreements	27/27	100%

**Note: \* Not all contractors obtain a land-disturbing permit in any given year; and, some contractors obtain multiple permits.**

A new Stormwater poster, entitled "Clean Stormwater: Starts Right Here under the Trees" was included as the centerfold of the annual stormwater newsletter for homeowners, which was mailed to every residence in the County and Town. This newsletter included articles about the deadly litter created by the fall-out of released balloons and their plastic ribbons, the anatomy and maintenance requirements of a septic system, the how and why to keep leaves out of the drainage system, the use of pet waste stations, and more.

The "**Stormwater Guide for Homeowners**" was mailed to 35,000 addresses in Roanoke County and Town of Vinton, targeting homeowners.

<https://www.roanokecountya.gov/DocumentCenter/View/21422/Stormwater-Newsletter-JUNE-2021-website-version?bidId=>

A second new poster, entitled "Clean Stormwater: Starts right here on YOUR project" was used as the centerfold of the annual "It's Just Dirt" newsletter, which was mailed (and emailed) to all land-disturbing contractors, land developers, and consulting firms in the region, including the Roanoke Regional Home Builders Association. This newsletter included articles about:

- Designing rip-rap channels for long-term flow.

- Recognition of Stormwater Clean Award recipient, Lionberger Construction, highlighting their excellence in stormwater management and erosion and sediment control on the Saint Francis Service Dogs Pavilion Project.
- Common sense erosion control: Preventing soil loss with stabilization measures is cheaper than replacing soil that has been lost from a construction site.
- Top 10 techniques to keep dirt on the site.
- Minimizing rain drop erosion by covering bare soils.

The “**It’s Just Dirt: A Newsletter for Contractors**” was mailed to 400+ land-disturbing contractors, land developers, and engineering consulting firms that submit plans to Roanoke County for land development projects in the Town and Roanoke County.

<https://www.roanokecountyva.gov/DocumentCenter/View/21410/Contractor-Newsletter-June-2021-website?bId=>

Both newsletters are available via a link through the Town’s website at:

<https://www.vintonva.gov/227/Publications-Resources> and/or

<https://www.roanokecountyva.gov/1648/Stormwater-Public-Education-Documents>

**TMDL Consistency:** The Contractor newsletter is primarily focused on keeping dirt from construction sites out of the river and other local waterways. The Car Washing Tips (fact sheet) targets local businesses that may have uncontrolled discharges from vehicle washing operations, which could increase sediment discharges into local receiving waters. Therefore, these documents address the TMDL for sediment (SED). Similarly, the restaurant postcard addresses rinsing of kitchen equipment and accessories, which may contribute bacteria to receiving waters. The Pet Waste posters focus on bagging pet waste and placing it in the trash. Thus, these documents help address the County’s and the Town’s TMDL for bacteria (EC). The Stormwater newsletter for residents, the It’s Just Dirt newsletter for contractors, and the “PCBs Fact Sheet” help address the County’s TMDL for PCBs. Other outreach materials previously developed by the County also address the TMDLs, as shown in Table 1-7.2.

**Evaluation and Modification:** The Town finds this BMP to be effective in raising the awareness of specific public (target) audiences regarding how their day-to-day activities may affect stormwater quality. No modifications are planned for this BMP.

## **MCM 2: PUBLIC PARTICIPATION AND INVOLVEMENT**

The Town of Vinton along with Roanoke County, Cities of Roanoke and Salem, Roanoke Valley Resource Authority (RVRA), Clean Valley Council (CVC), Inc., and Upper Roanoke and River Roundtable (URRR) Committee will continue to have the community involved with clean-up projects along local streams and riparian corridors. This control measure is intended to provide a means for the public to be involved with and participate in the Town's Stormwater Program in an effort to improve water quality and support local restoration and clean-up projects.

The Town has amended the BMPs and will continue to coordinate several programs to engage citizens' interest in stormwater high-priority water quality issues of excess in sediment, bacteria, and nutrients, as follows:

### **BMP 2-1. A Storm Drain Stenciling Program**

The Town through cooperative agreement with Clean Valley Council will implement a storm drain inlet stenciling program, which is designed to engage citizens and educate the public about the consequences of dumping waste into the storm drainage system.

### **BMP 2-2. Stormwater Public Events (formerly Cleanup and Environmental Events to Bring Attention to Current Stormwater Issues)0000**

The Town will participate in and/or conduct at least four (4) public events per year (in two different categories, as listed in the table below in the MS4 Permit) to bring attention to current stormwater pollution issues.

### **BMP 2-3. MS4 Program and Stormwater Pollution Prevention Website for Citizens Access (Staff and Citizens Representatives in Regional Environmental Organizations)**

The Town will maintain a webpage that is dedicated to the MS4 Program and Stormwater Pollution Prevention. This webpage will contain the effective MS4 permit and coverage letter, the most current MS4 Program Plan, the Annual Report for each permit year covered by the current permit, and a mechanism for the public to report (i) potential illicit discharges, improper disposal, or spills to the MS4, (ii) complaints regarding land disturbing activities, or (iii) other potential stormwater pollution concerns. It will also include the methods for how the public can provide input on the Town's MS4 program.

### **BMP 2-4. Household Hazardous Waste Event (formerly Post Town's VSMP MS4s General Permit Registration Statement and Annual Report on the Town's Website for Citizen Access)**

The Town through RVRA will participate in Household Hazardous Waste Collection events to help citizens dispose of household materials that could be hazardous to dispose of in landfills.

This report provides a detailed description of the goals of each BMP, the status of the Town's compliance with each BMP, and an evaluation of the BMP and any proposed modifications needed to better achieve the overall MS4 Program goals. In addition, the strategies to ensure consistency with local TMDLs are also provided, and they are broken down by impairment type: Escherichia coli (*E. coli*) bacteria (EC), sediment or (SED).

## BMP 2-1. A Storm Drain Stenciling Program

**Goal:** The goal of this BMP is to coordinate a storm drain inlet stenciling program through the Clean Valley Council (CVC). This effort will be coordinated with interested parties from local schools, neighborhoods, businesses, and other groups to stencil messages on storm drain inlets in an effort to educate people about the consequences of dumping waste into the storm drainage system.

**Responsible Party:** The Town's Planning and Zoning Department through a Cooperative Agreement with Clean Valley Council (CVC).

**Schedule:** The Town coordinates its storm drain stenciling program through the CVC. A minimum of 15 storm drain inlets will be stenciled per year with messages designed to raise public awareness about stormwater pollution. The Town will document the number and location of the inlets that are stenciled in each permit year.

**Measurable Goal:** The Town coordinates its storm drain stenciling program through the CVC. A minimum of 15 storm drain inlets will be stenciled per year with messages designed to raise public awareness about stormwater pollution. The Town will document the number and location of the inlets that are stenciled in each permit year.

According to CVC, due to personnel turnover, Covid-19, and heat, they were not able to do any stenciling for year three. For Year 4, 30 storm drain inlets will be stenciled.

Permit Year	Storm Drains Stenciled	Number of Participants
2018 – 2019 (Year 1)	18	15
2019 – 2020 (Year 2)	16	3
*2020 – 2021 (Year 3)	0	0

**\*Due to personnel turnover, Covid-19, and high heat, storm drains stenciling was not done. It is anticipated that 30 storm drain inlets will be stenciled for Year 4.**

**TMDL Consistency:** The storm drain marking program is an outreach method to inform and remind citizens that what goes into the storm drain goes directly to local creeks and streams. The stenciling activity and message will make the citizens understand that the storm drains are not treated by the sanitary sewer, therefore they will be less likely to allow pet waste, other non-stormwater waste, illicit discharges to enter the storm drain through the road-side inlets (EC/FC, SED).

**Evaluation and Modification:** The Town finds this BMP to be an effective method of getting citizens informed on the stormwater issues and illicit discharges. No modifications are planned for this BMP and the Town will ensure that the stenciling program will be done for Year 4 and Year 5 reporting periods.

## **BMP 2-2. Stormwater Public Events**

Town Staff continues to be involved in the coordination of regional clean-up and environmental events such as the annual Clean Valley Day in spring and Fall Waterways Cleanup Events; Prescription Drug Take-back Program; Earth Day; Earth Summit; Go Fest; Riverfest; and public forums on environmental issues related to water quality and impaired water bodies. Since 2000, the Town has been holding an Arbor Day Celebration and Tree Planting event at public properties, public and parochial schools, and/or along the greenways.

A prescription drug drop-off box was placed in the Vinton Police Department in April 2018 as a location to dispose of prescription drugs. This box is available during business hours year-round so that citizens can drop off unused prescription drugs at times other than the publicized Drug Take-back events. The Vinton Police Department also participates with the other Roanoke Valley Law Enforcement Agencies and Western VA Water Authority (WVWA) with the Regional Drug Take-back events and for the Town the event is being held annually at the Town's Lake Drive Plaza Shopping Center.

**Goal:** The goal of this BMP is to engage citizens in various public events to raise awareness about ways to improve water quality and to support local restoration and clean-up projects. To that end, the Town participates in and/or conducts at least 4 public events per year (in two different categories, as listed in the table below to bring attention to current stormwater pollution issues.

**Responsible Party:** The Town's Planning and Zoning Department, in conjunction with Clean Valley Council, Roanoke County, Cities of Roanoke and Salem, Roanoke Valley Resource Authority (RVRA), and the Town's Public Works and Police Departments.

**Schedule:** The Town annually involves in and/or conducts at least four of the following events (in at least two of the various MS4 permit categories) to engage the public and raise awareness about stormwater pollution issues.

Public Event	Responsible Party	Categories (per MS4 Permit)	Metric
Annual CVC Clean Valley Day (Stream and Watershed Clean-up)	CVC	Restoration/ Pollution Prevention	Weight of trash collected; number of participants
Go Fest (booth, stream school)	CVC	Educational; Monitoring	Number of participants/students
Household hazardous waste collection (see <b>BMP 2-4</b> )	RVRA	Disposal or Collection	Weight of waste collected; number of participants
Storm drain stenciling program (see <b>BMP 2-1</b> )	CVC	Pollution Prevention	Number and location of storm drains stenciled; number of participants
Implementation of pet waste stations in along the greenways and public facilities (see <b>BMP B-6</b> in the Town's Bacteria TMDL Action Plan)	TOV Public Works Dept.	Pollution Prevention	Number and location of pet waste stations installed/maintained
Stormwater education program for Roanoke County's/Town's schoolchildren - meets applicable SOLs ( <b>See BMP 1-4</b> )	CVC	Educational	Number of programs provided; number of children taught
Stream monitoring and informational stream seminars ( <b>See BMP 1-3</b> )	CVC	Monitoring	Number of stream schools given; number of participating students
Town of Vinton Annual Arbor Day Celebration/Tree Planting Ceremony Event	TOV Planning & Zoning Dept.	Educational	Number of participating children and adults.
The Annual Prescriptions Drug Take-back Event/Dropbox in Vinton Municipal Building Lobby	TOV Police Dept/ROCO Sheriff Dept.	Educational	Weight of drug collected.

**Measurable Goal:** The Town will document the details of the events, the number of the Town or CVC participants, and the number of people in attendance (where applicable). Success for this BMP will be measured by the completion of at least four of the listed events and fulfillment of their corresponding metrics.

- On behalf of the Town of Vinton and neighboring localities, the Clean Valley Council was active in 14 regional events during the permit year (some were held on multiple dates) and together they involved 3,140 people. During these events, CVC staff distributed a variety of materials with stormwater-related messages and addressed questions and comments about stormwater and water quality. Information highlighted at the booths included the benefits of stream buffers, the differences between storm and sanitary sewers, and the importance of pet waste pick up and disposal.
  - Tinker Creek Cleanup
  - Fall Waterways Cleanup
  - Star City Sustainability Society
  - Roanoke River Currents Conference
  - Mill Mountain Zoo - Zoo Boo
  - Mill Mountain Zoo - Party for the Planet
  - Mill Mountain Zoo - Go Hog Wild
  - MLK Day of Service
  - Roanoke RiverBANK Cleanup

- Virtual Earth Summit
- Clean Valley Day
- Roanoke Riverfest
- Virtual Earth Day Roanoke
- Anytime Cleanups, Community Cleanups

- The Town's Planning and Zoning Department of Planning received matching grant funds through the Virginia Trees for Clean Water program, through the Roanoke Valley-Alleghany Regional Commission, for an annual tree planting/Arbor Day ceremony at greenways, public/parochial schools, and/or public properties. The Arbor Day/Tree Planting event was held on May 25, 2021, in conjunction with the Town's Glade Creek Greenway Phase 2 ribbon cutting. The event was filmed by Roanoke Valley Television and posted on the YouTube and several local TV stations and newspaper reporters were in attendance. The County's Arbor Day/Tree Planting event was canceled due to the COVID-19 emergency, instead, County staff reached out to the public through social media by sharing information about Arbor Day and Earth Day throughout the week of April 20, 2021. This included participation in a virtual "Earth Day Online University" event (April 22) through the RVARC. The Vinton Town Council also recognized National Arbor Day by proclaiming May 25, 2021 as Arbor Day in the Town of Vinton by encouraging citizens to plant a tree in their community. A total of 55 trees were planted along the Town's medians and at the greenway trailhead parking.

Permit Year	Environmental/Clean-up Events	Participants/Attendees
2018 – 2019 (Year 1)	8 Regional/Local Events	>43,000
2019 – 2020 (Year 2)	9 Regional (CVC)	46,308 - CVC events
2020 – 2021 (Year 3)	16 Regional CVC Events/2 Local Events	3,222 – CVC Events >200 – Local Events

Event Name	Event Date	Event Goal or Purpose	Category (per MS4 Permit)	High-priority Stormwater Issue to be Addressed	Brief description of event and planned activity	Metric
Tinker Creek Cleanup	9/5/2020	Public Participation	Restoration	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	An emergency cleanup was needed to clean up storm debris	Total Event: 15 Participants, 35 bags/1150 lbs. of trash collected

Fall Waterways Cleanup	10/3/2020	Public Participation	Restoration	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	A valley-wide volunteer effort to remove trash from area streams, creeks, rivers, and adjacent land	Total Event: 90 participants, 140 bags/5400 lbs. of trash collected
Star City Sustainability Society	10/15/2020, 2/25/2021, 3/25/2021, 4/28/2021, 5/1/2021, 5/27/2021	Public Education & Outreach	Educational	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	Star City Sustainability Society Events bring new information regarding sustainable practices to the public. Six events are held each year.	Total Participants: 115
Roanoke River Currents Conference	10/21/2020 & 10/22/2020	Public Education & Outreach	Educational	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	Virtual Conference hosted by Clean Valley Council, Roanoke Stormwater, and The Upper Roanoke River Roundtable	Total Participants: 98
Mill Mountain Zoo - Zoo Boo	10/24/2020	Public Education & Outreach	Educational	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	A valley-wide event held at the Mill Mountain Zoo with outdoor activities and environmental education.	Total Participants: 444
Mill Mountain Zoo - Party for the Planet	4/17/2021	Public Education & Outreach	Educational	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	A valley-wide event held at the Mill Mountain Zoo with outdoor activities and environmental education.	Total Participants: 195 adults/392 students

Mill Mountain Zoo - Go Hog Wild	6/5/2021	Public Education & Outreach	Educational	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	A valley-wide event held at the Mill Mountain Zoo with outdoor activities and environmental education.	Total Participants: 180 adults/242 students
MLK Day of Service	1/18/2021	Public Participation	Restoration	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	Public day of service in honor of Dr. Martin Luther King Jr. Volunteers perform cleanups across the community	Total Participants: 46
Roanoke RiverBANK Cleanup	3/6/2021	Public Participation	Restoration	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	Community Cleanup Event focused along busy sections of the Roanoke River	Total Participants: 51 total participants - 800 lbs. of trash collected
Virtual Earth Summit	3/12/2021	Public Education & Outreach	Educational	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	Day of learning for local high school and college students about careers in environmental science regarding sustainability, renewable energy, litter prevention, stormwater pollution prevention and recycling	Total Participants: 147
Clean Valley Day	4/10/2021	Public Participation	Restoration	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	Stream and watershed clean-up	Total Participants: 404-10,400lbs of trash and 28 tires

Roanoke Riverfest and Environmental Film Festival	6/19/2021	Public Participation	Educational	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	A valley-wide event held on the Roanoke River - Recycled Regatta Boat Race, SW Outreach Materials, fly-fishing demonstrations, freshwater snorkeling, yoga by the river, macroinvertebrates for citizen scientists, SW Educational Games, Materials/Giveaways	Total Participation: 62
Virtual Earth Day Roanoke	4/22/2021	Education & Outreach; Public Participation	Educational	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	A one-day virtual event held in coordination with Roanoke Valley-Alleghany Regional Commission hosting local speakers on various environmental topics.	Total Participants: 314
Anytime Cleanups, Community Cleanups	July 2020 - June 2021	Public Participation	Restoration	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	Groups sign up to do a cleanup on the streets of their choice anytime throughout the year. CVC provides grabbers, bags, gloves, hand	Total Participants: 345 5,175 lbs. of trash collected

					sanitizer and SW Outreach materials	
Adopt-A-Street	July 2020-June 2021	Public Participation	Restoration	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	Community members sign up to adopt to keep a 2 mile stretch of City of Roanoke clean and free of litter 4 times a year	Total Participants: 17
Deschutes Tinker Creek Cleanup	8/14/2021	Public Participation	Restoration	Sediment, Bacteria, Litter, Recycling, Stormwater Pollution Prevention and Nutrients	Community members volunteer for a day of service to pick up litter from the streets and out of Tinker Creek	Total participants: 65-5.43 Tons of trash/34 tires
<b>TOTAL PUBLIC INVOLVEMENT EVENTS</b>						<b>3,222</b>

**TMDL Consistency:** Since they are key regional water quality issues, pet waste and soil erosion are common issues discussed at the aforementioned events in which CVC participated, (EC & SED). In addition, the tree planting events focus on the value of stream buffers for protecting water quality, through their pollution-filtering capabilities (EC & SED) and for maintaining wildlife habitat.

**Evaluation and Modification:** Based upon the attendance at these public events, the Town finds this BMP to be an effective method of allowing the citizens to inquire about issues and have hands-on involvement in projects that help to improve water quality. Also, they provide the Town with an opportunity to receive public input and also to disseminate pertinent stormwater-related information. No modifications are planned for this BMP.

## **BMP 2-3. MS4 Program and Stormwater Pollution Prevention Website for Citizens' Access**

The Town continues to post the Town's Municipal Separate Storm Sewer Systems (MS4) Program documents on the Town's website which citizens may view and comment upon. This form of public viewing will allow Town citizens to become knowledgeable about the goals of the program and have information with which to comment on existing issues and influence changes in future programs. Each annual report as required will be posted on the website to keep citizens current on annual evaluations of the program's effectiveness and any proposed changes to the stormwater program.

**Goal:** The Town will maintain a webpage that is dedicated to the MS4 Program and to Stormwater Pollution Prevention. This website will contain the effective MS4 permit and coverage letter, the most current MS4 Program Plan, the Annual Report for each permit year covered by the current permit, and a mechanism for the public to report (i) potential illicit discharges, improper disposal, or spills to the MS4, (ii) complaints regarding land disturbing activities, or (iii) other potential stormwater pollution concerns. It will also include the methods for how the public can provide input on Roanoke County's MS4 program.

**Responsible Party:** The Planning and Zoning Department, the Planning and Zoning Coordinator is the Town's webmaster and social media coordinator.

**Schedule:** The Town maintains a webpage that is dedicated to its MS4 Program and Stormwater Pollution Prevention topics. The page can be accessed by clicking on this link: <https://www.vintonva.gov/209/Stormwater-Quality-Information>

The annual report for each year of the current permit's term will be posted to this webpage no later than 30 days after it has been submitted to DEQ.

**Measurable Goals:** Success for this BMP will be measured by the successful posting of the MS4 permit, the corresponding permit coverage letter, the MS4 Program Plan, and the MS4 Annual Report (the latter of which will be posted within 30 days following its submittal to DEQ), along with a mechanism for the public to report its stormwater-related concerns and the methods by which the public can provide input on the Town of Vinton's MS4 program.

- Citizens can report any concerns including stormwater runoff and/or storm drain complaint through the Town's website via the following link below:  
<https://www.vintonva.gov/requesttracker.aspx>

In this Permit Year, the Town received three (3) stormwater-related complaints through its "Request Tracker" web form. See the attached request tracker. These complaints were addressed by staff or forwarded to the proper agency for resolution (i.e., Town's Public Works Department, Roanoke County Stormwater Program Manager and/or

Roanoke County Building and Office Safety, etc.). The resolution to such complaints was tracked through the request tracker database, which is summarized under BMP 3-3.

## RequestTracker

Use Request Tracker to report your concerns.

[Login](#) to check on existing requests.

Public Works	8 Forms
<a href="#">Pothole/Street Repair Request</a>	<a href="#">Street Sign Repair/Replacement Request</a>
<a href="#">Recycle Bin Request</a>	<a href="#">Traffic Signal Repair Request</a>
<a href="#">Stormwater Runoff or Storm Drain Complaint</a>	<a href="#">Trash/Debris Complaint in Rights-of-Ways only (on edge of or in streets or alleys, or on sidewalks)</a>
<a href="#">Street Light Out/Repair Request</a>	<a href="#">Water Quality Request</a>

- Citizens can report an illicit discharge through the Town's website via the link below:  
<https://www.vintonva.gov/DocumentCenter/View/660/Illicit-Discharge-Reporting-Form-Stormwater?bidId=>

**TMDL Consistency:** Access to the MS4 Program documents and stormwater management information gives Town's citizens a means to familiarize themselves with the issues concerning the Town's waterways and creeks, the associated impairments, and any approved TMDLs. In addition, the program documents detail the Town's efforts to address these issues.

This BMP helps to inform citizens on ways to get involved with current water quality issues and to make them aware of available outreach programs, both with the goal of helping citizens minimize any impacts that they may have on local water quality. (EC, and SED).

**Evaluation and Modification:** The Town believes that posting the MS4 program-related documents on its Stormwater Website is an effective way to allow interested citizens to become more familiar with the Town's stormwater program and to provide them with a means to make comments and become involved. No modifications are planned for this BMP.

## **BMP 2-4. Household Hazardous Waste Event**

The Town of Vinton along with Roanoke County and City of Roanoke created Roanoke Valley Resource Authority in 1992. The Roanoke Valley Resource Authority (RVRA) owns the Tinker Creek Transfer Station, the Smith Gap Landfill, and the Waste Line Express train. This regional, public-private partnership was the first project in the United States to use rail as the sole transportation link between a solid waste transfer station and a landfill.

A permanent household hazardous waste facility is continued to be made available at the Roanoke Valley Resource Authority (RVRA). Free monthly collection events take place the third Saturday of each month, beginning at 12 noon for the residents of the Cities of Roanoke and Salem, Roanoke County and Town of Vinton. Preregistration is required to bring items to these events.

In addition to the RVRA HHW monthly collections, the Western Virginia Water Authority (WVWA) holds an annual Rx/Prescription Take-back event in the Roanoke Valley region in which the Vinton Police Department participates by having the event at the Vinton Lake Drive Plaza Shopping Center/Vinton Kroger. These drugs are then collected by Roanoke County Sheriff's Office for destruction.

**Goal:** The goal of this BMP is to provide citizens with an opportunity to dispose of their potentially-hazardous household materials in an environmentally-friendly manner; this will avoid having such products end up in local landfills.

**Responsible Party:** The Town's Planning and Zoning, Police Department, and Public Works Department, through the Roanoke Valley Resource Authority (RVRA) and Western Virginia Water Authority (WVWA).

**Schedule:** The Town will continue to participate in this RVRA Household Hazardous Waste (HHW) Collection and WVWA Rx/Prescription Take-back event. The Town will document the number of these events, participants, and total weight of the collected waste. The Town will continue with the funding to keep the monthly collection at the RVRA facility and to provide staff during the drug take back events. This monthly collection and drug take back events make it easier for citizens to dispose of their household hazardous materials and waste, and their unused prescription drugs. The Vinton Police Department in cooperation with Roanoke County Sheriff Department will continue to maintain the prescription drug drop-off box in the lobby accessible to the public during business hours.

**Measurable Goal:** Success for this BMP will be measured by the continued participation in the RVRA Household Hazardous Waste monthly collections and the WVWA Rx Take-Back Event. The Town will continue to advertise this monthly hazardous waste collection, Rx/Prescription take-back events, and the Police Department drop-off box on its website to increase participation to keep hazardous wastes from being disposed inappropriately into the Roanoke Valley streams and river.

Permit Year	# RVRA Household Hazardous Waste Collection Events	Attendance
2018 – 2019 (Year 1)	12	891
2019 – 2020 (Year 2)	9	618
2020 – 2021 (Year 3)	12	17 Town of Vinton/1,278 (Total)

- Regional statistics on the materials collected, quantities and total weight collected by the RVRA for the household hazardous waste for this permit year is shown below.

**RVRA Household Hazardous Waste Collection Program, July 1, 2020 – June 30, 2021**

*	Oil Gallons	Antifreeze Gallons	Batteries Each	Latex Paint Gallons	Total
YTD Total	1750	90		4,552	
YTD Residents Total	350	18	0	910	1,278

- In addition to the RVRA monthly HHW Events, the Western Virginia Water Authority (WVWA) holds an annual Drug Take-Back event in the Roanoke Valley. This year the event was held on April 25, 2021. The related news video can be accessed via the link below:  
<https://www.wsls.com/news/local/2021/04/24/how-drug-take-back-day-can-be-more-impactful-this-year/>

Permit Year	WVWA Drug Take-back Event	Total (lbs.) Collected	Total (lbs.) Collected at Vinton Kroger
2018 – 2019 (Year 1)	N/A	N/A	N/A
2019 – 2020 (Year 2)	1 – October 26, 2019	2,542.8	181.3
2020 – 2021 (Year 3)	October 24, 2020 (12 Sites)	1,966.2	120.4
	April 24, 2021 (3 Sites)	210	*N/A

- The event on April 24, 2021; 9<sup>th</sup> Street CVS, that is in close proximity to the Town residents collected 80.5 lbs.  
 \*NOTE: Additional medication was collected at the growing number of permanent take-back boxes across Roanoke Valley, but the WVWA has no way of knowing the quantity.

**TMDL Consistency:** Currently, there is no known direct benefit that this BMP will have on any of the TMDL waste load allocations. However, it should have a beneficial effect on stream water quality by keeping these products out of local receiving waters.

**Evaluation and Modification:** Participation in the Household Hazardous Waste events, the prescription take-back events, and the prescription drop-box at the Vinton Municipal lobby are popular with citizens. The Town understands that these programs help to keep hazardous wastes from being disposed of in an inappropriate fashion and out of local waterways, therefore, the Town does not have any plans to modify this BMP.

## **MCM 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)**

The Town has established a program to detect and eliminate illicit discharges in the Town's storm sewer system by developing and adopting ordinances and regulations, outfalls inspections, and an enforcement program to minimize illicit discharges and to prevent illegal discharges into the storm drain system.

The goal of this minimum control measure is to develop, implement, and enforce a program to detect and eliminate illicit discharges to the storm sewer system. The following amended BMPs have been established to complete this measure are listed below.

### **BMP 3-1. The Town Municipal Separate Storm Sewer System (MS4) Map**

The Town in cooperation with Roanoke County Communication/Information Technology (Commit) GIS Division maintains a map of the Town's municipal separate storm sewer system (MS4) in the County's GIS network. This database will be maintained so that a map of all the public storm sewers in the Town will be available to the public.

### **BMP 3-2. Illicit Discharge Ordinance**

Both the Town of Vinton's and Roanoke County's Illicit Discharge Ordinance have been adopted and will be maintained to provide authority to address illicit discharges. It includes language that prohibits non-stormwater discharges into the storm drainage (MS4) system.

### **BMP 3-3. Illicit Discharge Detection and Elimination (IDDE) Program**

*(formerly BMP 3-4. Illicit Discharge Program to Minimize Illicit Discharges)*

The Town maintains written procedures and implements a program to detect, identify, and address non-stormwater discharges and illegal dumping into its MS4.

### **BMP 3-4. Dry Weather Screening *(formerly BMP. 3-3. MS4 Outfall***

*Inspections)*

The Town implements a program to annually inspect storm drain outfalls within its MS4 area in search of unauthorized discharges.

This report provides a detailed description of the goals of each BMP, the status of the Town's compliance with each BMP, and an evaluation of the BMP and any proposed modifications needed to better achieve the overall MS4 Program goals. In addition, the strategies to ensure consistency with local TMDLs are also provided, and they are broken down by impairment type: Escherichia coli (*E. coli*) bacteria (EC) or sediment (SED).

## **BMP 3-1. The Town Municipal Separate Storm Sewer System (MS4) Map**

Roanoke County Department of Communication/Information Technology GIS Division has been responsible for Town's mapping services and needs.

**Goal:** The goal of this program is to develop and maintain an accurate MS4 map (with a corresponding information table), which shows the storm sewer system that is owned or operated by the Town.

The MS4 map shall include the location of MS4 outfalls that discharge to surface waters, a unique identifier for each mapped item, the name and location of receiving waters to which the MS4 outfall (or point of discharge) discharges, and all stormwater management facilities owned or operated by the Town of Vinton.

The information table associated with the MS4 map shall include the following information for each outfall or point of discharge for those cases in which the Town elects to map the known point of discharge:

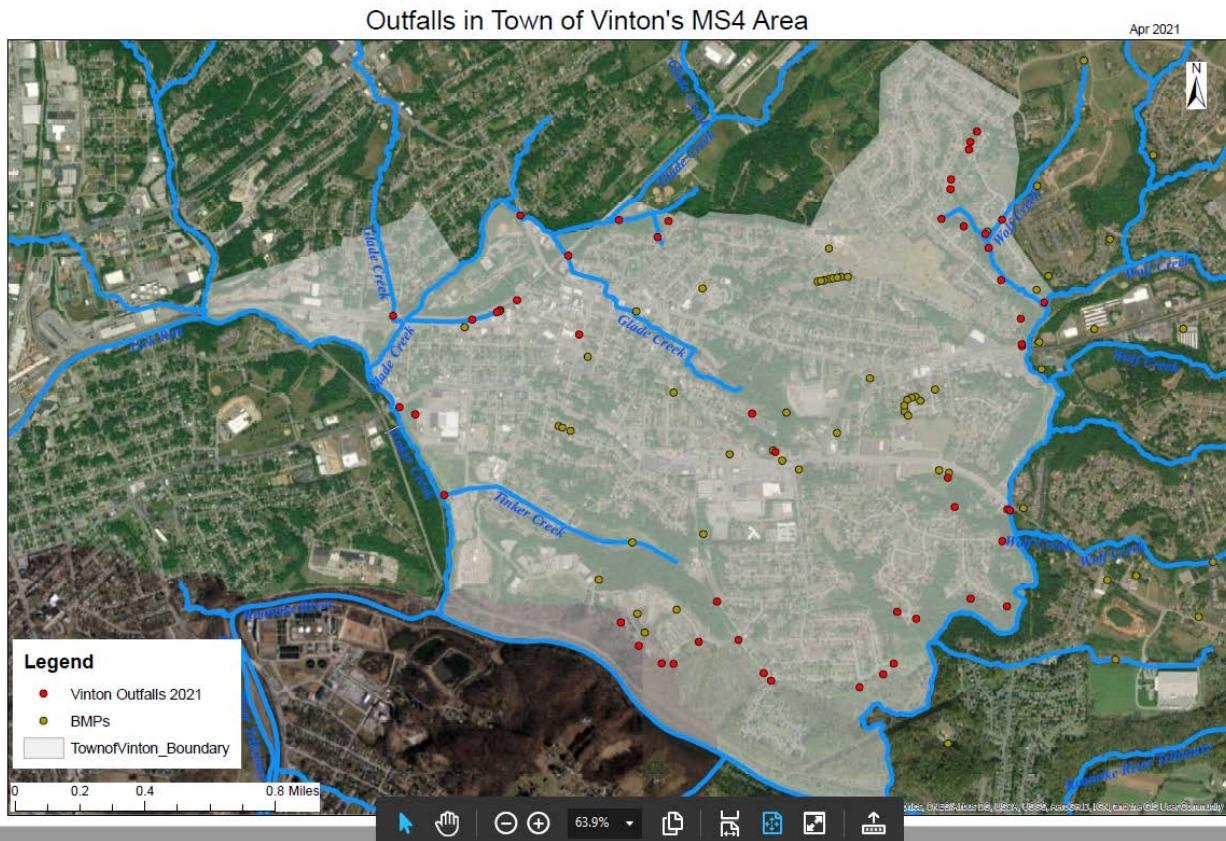
- a) A unique identifier as specified on the storm sewer system map;
- b) The latitude and longitude of the outfall or point of discharge;
- c) The estimated regulated acreage draining to the outfall or point of discharge;
- d) The name of the receiving water;
- e) The 6th Order Hydrologic Unit Code of the receiving water;
- f) An indication as to whether the receiving water is listed as impaired in the Virginia 2016 305(b)/303(d) Water Quality Assessment Integrated Report;
- g) The predominant land use for each outfall discharging to an impaired water; and
- h) The name of any EPA-approved TMDLs for which Town of Vinton is assigned a waste load allocation.

**Responsible Party:** The Town's Planning and Zoning Department, with assistance from Roanoke County's Department of Development Services and Department of Communications/Information Technology.

**Schedule:** The Town will maintain an accurate MS4 map and will annually update it no by October 1 of each year beginning 2022. The Town's updates to the storm sewer system map and outfall information table will include any new outfalls constructed or TMDLs approved, or both, during the immediately preceding reporting period.

The Town will provide written notification to any downstream adjacent MS4 of any known physical interconnection established or discovered after the effective date of the current permit.

**Measurable Goal:** Success for this BMP will be measured by demonstrating that the Town has updated its MS4 map and outfall information table to include any new outfalls constructed or TMDLs approved or both during the immediately-preceding reporting period.



For this reporting year, as of April 2021, per Roanoke County Department of Development Services, the Town of Vinton MS4 map and information table were updated to reflect any changes to the MS4 occurring on or before April 21, 2021. Since April 2021 through June 30, 2020, there were no known outfalls and/or BMPs were added into the Town's MS4.

**TMDL Consistency:** An updated and accurate storm drainage map identifying all of the municipal separate storm sewers and their components aids the Town in the discovery of illicit discharge connections (EC/FC) and the locations where sediment may be entering the regulated MS4 (SED).

**Evaluation and Modification:** The Town believes that the process of mapping the storm (sewer) drainage system is an appropriate method to aid in the enforcement, detection, and elimination of illicit discharges to the system. No modifications are planned for this BMP.

## **BMP 3-2. Illicit Discharge Ordinance**

Illicit discharge detection, identification, and enforcement will be addressed by Town personnel as authorized under Article 3. Illicit Discharge Division 4. Inspections and Monitoring and Division 5. Enforcement and Penalties of the Stormwater Management Ordinance adopted on May 20, 2014.

**Goal:** The goal of this BMP is to adopt regulations that prohibit illicit discharges into the Town's Municipal Separate Storm Sewer System and that also provide the Town with an enforcement mechanism.

**Responsible Party:** The Town's Planning and Zoning and Public Works Departments, in cooperation with the Town Attorney.

**Schedule and Evaluation:** The Town's Illicit Discharge Ordinance was adopted on April 22, 2014, and it is compliant with Virginia's stormwater regulations. Enforcement measures and penalties are included in the Illicit Discharge Ordinance. The Town will update the ordinance, as necessary, to maintain the effectiveness of the program.

**Measurable Goals:** Success of this BMP will be measured by the continued compliance of the Town's Illicit Discharge Ordinance with the MS4 General Permit. The Town's Illicit Discharge Ordinance is available on Town's website via the link below:  
[https://library.municode.com/va/vinton/codes/code\\_of\\_ordinances?nodeId=PTIICO\\_CH\\_79STMA\\_ARTIIIILDI](https://library.municode.com/va/vinton/codes/code_of_ordinances?nodeId=PTIICO_CH_79STMA_ARTIIIILDI)

**TMDL Consistency:** An Illicit Discharge Ordinance aids in the enforcement of illicit discharges to the MS4 system. This legal mechanism aids the Town in eliminating illicit connections and discouraging a wide variety of illicit discharges to the MS4 system (EC, and SED).

**Evaluation and Modification:** The Town finds that the Illicit Discharge Ordinance is an effective tool for use in dissuading its citizens from illegally discharging into the MS4. No modifications are planned for this BMP.

### **BMP 3-3. Illicit Discharge Detection and Elimination (IDDE) Program**

**Goal:** The goal of this BMP is to detect, identify, and eliminate non-stormwater discharges and illegal dumping into the Town's MS4. The Town plans to develop the illicit discharge detection and elimination (IDDE) procedures and processes by September 2022, as follows:

- a. A description of the legal authorities, policies, standard operating procedures or other legal mechanisms available to the Town to eliminate identified sources of ongoing illicit discharges including procedures for using legal enforcement authorities.
- b. A timeframe upon which to investigate, identify, and locate the source of any observed unauthorized non-stormwater discharge. Priority of investigations shall be given to discharges of sanitary sewage and those believed to be a risk to human health and public safety. Per the MS4 permit, discharges authorized under a separate VPDES or state permit require no further action.
- c. Methodologies to determine the source of all illicit discharges. If the Town is unable to identify the source of an illicit discharge within six months of beginning the investigation, then staff will document that the source remains unidentified. If the observed discharge is intermittent, staff will document that attempts to observe the discharge flowing were unsuccessful.
- d. Methodologies for conducting a follow-up investigation for illicit discharges that are continuous or that the Town expects to occur more frequently than a one-time discharge to verify that the discharge has been eliminated except as provided for in Part I E 3 c (4);
- e. A mechanism to track all illicit discharge investigations to document the following:
  - o The dates that the illicit discharge was initially observed, reported, or both;
  - o The results of the investigation, including the source, if identified;
  - o Any follow-up to the investigation;
  - o Resolution of the investigation; and
  - o The date that the investigation was closed.

**Responsible Party:** The Planning and Zoning in cooperation with Public Works Department.

**Schedule:** The Town maintains written procedures for and implements an investigation program to respond to potential illicit discharges into its MS4. To enhance the effectiveness of the existing program, the Town plans to enhance these procedures in Permit Year 4 by adding a water testing protocol for sites where flow is observed.

**Measurable Goals:** Success for this BMP will be measured by compliance with the written procedures and documentation of the complaints received/investigated and closed. The Town utilizes its website to educate its citizens on the issues pertaining to the stormwater runoff including illicit discharges reporting, via the link below:

<https://www.vintonva.gov/209/Stormwater-Quality-Information>

- Citizens can report any concerns including stormwater runoff and/or storm drain complaint through the Town's website via the following link below:  
<https://www.vintonva.gov/requesttracker.aspx>

In this Permit Year, the Town received three (3) stormwater-related complaints through its "Request Tracker" web form. See the attached request tracker. These complaints were addressed by staff or forwarded to the proper agency for resolution (i.e., Town's Public Works Department, Roanoke County Stormwater Program Manager and/or Roanoke County Building and Office Safety, etc.). The resolution to such complaints was tracked through the request tracker database, which is summarized under BMP 3-3.

### RequestTracker

Use Request Tracker to report your concerns.

[Login](#) to check on existing requests.

Public Works	8 Forms
<a href="#">Pothole/Street Repair Request</a>	<a href="#">Street Sign Repair/Replacement Request</a>
<a href="#">Recycle Bin Request</a>	<a href="#">Traffic Signal Repair Request</a>
<a href="#">Stormwater Runoff or Storm Drain Complaint</a>	<a href="#">Trash/Debris Complaint in Rights-of-Ways only (on edge of or in streets or alleys, or on sidewalks)</a>
<a href="#">Street Light Out/Repair Request</a>	<a href="#">Water Quality Request</a>

- Citizens can report an illicit discharge through the Town's website via the link below:  
<https://www.vintonva.gov/DocumentCenter/View/660/Illicit-Discharge-Reporting-Form-Stormwater?bidId=>

A list of illicit discharges to the MS4 including spills reaching the MS4 with information as follows:

- The source of illicit discharge.

- The dates that the discharge was observed, reported, or both. o Whether the discharge was discovered by Town's personnel during dry weather screening, reported by the public, or other method (describe).
- How the investigation was resolved.
- A description of any follow-up activities.
- The date the investigation was closed.

Permit Year	# of Illicit Discharge Complaints Received/Investigated	# of Closed Investigations
2018 - 2019 (Year 1)	10	10
2019 – 2020 (Year 2)	20	19
2020 – 2021 (Year 3)	4	4

Illicit Discharges						
Case Code	Source of Discharge	Observation /Reported Dates	Who Made Report	Resolution	Follow-Up Activities	Date of closure
2943	Oil, gasoline and diesel from crushed cars	2021-03-01	Private Citizen	1. The site was visited and confirmed which business was responsible for the spill. 2. Public works implemented measures at the storm drain affected.	The Plant Manager was contacted and made aware of the incident and suggestions given to prevent future problems	OPEN
2891	Water from basement sump pump system	2020-11-04	Private Citizen	Public Works was asked to look into the issue.	Not valid complaint - 'civil matter'	2020-11-17
2834	Water being discharged from Sump pump	2020-08-08	Private Citizen	1. Public works looked into the issue. 2. Found a problem with the Town's water line which was fixed.	Checked surrounding neighbours properties to ensure water was not being diverted on land.	2020-08-19
N/A (EMAIL)	Debris and dirt from private residence's construction site	2020-09-04	Private Citizen	1. Sent to Stormwater Program Manager for review. 2. Stated that residents were below 2500 sq. ft. therefore no permit was needed.	N/A	2020-09-09

**TMDL Consistency:** Identifying and eliminating illicit discharges to the MS4 system helps to minimize the entry of pollutants into local receiving waters (EC and SED).

**Evaluation and Modification:** The Town believes that this BMP provides a valuable strategy to identify potential illicit discharges into its MS4 system. As noted above, an enhancement is planned for this BMP, which will start in Permit Year 4.

## **BMP 3-4. Dry Weather Screening**

The Town has a total of 53 outfalls discharging to TMDL streams of Roanoke River, Tinker Creek and Glade Creek. Currently, dry weather screenings are performed by the Town's Public Works Department personnel during the regular maintenance of these outfalls.

**Goal:** The goal of this BMP is to inspect storm drain outfalls to detect illicit discharges during dry weather (i.e., when the storm drainage system would normally be dry) so that actions may be taken to eliminate them. The Town plans to develop the illicit discharge detection and elimination (IDDE) procedures and processes by September 2022. The proposed

The Town maintains dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol includes:

- a. A prioritized schedule of field screening activities and rationale for prioritization determined by the Town based on such criteria as age of the infrastructure, land use, historical illegal discharges, dumping or cross connections.
- b. A schedule to annually screen (i.e., inspect) 53 outfalls.
- c. A mechanism to track the following information:
  - The unique outfall identifier;
  - Time since the last precipitation event;
  - The estimated quantity of the last precipitation event;
  - Site descriptions (e.g., conveyance type and dominant watershed land uses);
  - Whether or not a discharge was observed; and
  - If a discharge was observed, the estimated discharge rate (e.g., width and depth of discharge flow rate) and visual characteristics of the discharge (e.g., odor, color, clarity, floatables, deposits or stains, vegetation condition, structural condition, and biology).

**Responsible Party:** The Planning and Zoning Department in cooperation with Public Works Department.

**Schedule:** The Town implements an annual outfall inspection program to detect and locate the source of dry weather illicit discharges that enter its MS4. To enhance the effectiveness of the existing program, the Town plans to enhance these procedures in Permit Year 4 by adding a water testing protocol for sites where flow is observed.

**Measurable Goals:** Success for this BMP is measured by field screening of the 53 outfalls on an annual basis and documenting the results of these inspections. The results of these inspections follow are listed below.

Permit Year	# Outfalls Inspected	# of Illicit Discharges Found
2018 - 2019 (Year 1)	51	0
2019 – 2020 (Year 2)	20	19
2020 – 2021 (Year 3)	53	0

**TMDL Consistency:** Dry Weather Screening of outfalls aids in the location, identification, and elimination of illicit discharges to the MS4. This method provides staff with the methodology needed to screen, target, and monitor the storm drain system in an effort to discover existing illegal discharges and illegal connections to the MS4 (EC and SED).

**Evaluation and Modification:** The Town believes that Dry Weather Screening is a critical component in the detection and elimination of illicit discharges and illicit connections to its storm sewer system. The Town will continue inspecting outfalls. As noted above, an enhancement is planned for this BMP, which will start in Permit Year 4.

## MCM 4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

\* The implementation of this MCM and its associated BMPs is the responsibility of Roanoke County Department of Development Services in cooperation with the Town of Vinton Planning and Zoning Department.

The Town works cooperatively with Roanoke County in this measure since the County's is the Town's Erosion Sediment Control (ESC) Administrator beginning February 14, 1984. On April 5, 2016, a resolution was adopted by the Vinton Town Council for the establishment of a Memorandum of Understanding (MOU) agreement between the County of Roanoke Board of Supervisors and the Vinton Town Council for the County to continue to administer the Virginia Erosion and Sediment Control Program (VESCP) and to administer the Virginia Stormwater Management Program (VSMP) for the Town of Vinton. The Town and County recognize that construction sites can deposit significant amounts of silt and sediment in stormwater runoff due to large areas of land disturbances. The programs that have been established by the County and supported by the Town to meet this MCM measure are listed below, as amended to correspond with the County's BMPs:

**BMP 4-1. Legal Authority** (*formerly Erosion and Sediment Control Ordinance*)

Roanoke County utilizes certain legal authorities to comply with Virginia's Erosion and Sediment Control Program and its Stormwater Management Program in an effort to reduce pollutants that may enter its MS4 via stormwater runoff from construction activities.

**BMP 4-2. Site Plan Review** (*formerly Erosion and Sediment Control Certification*)

The County maintains and implements written procedures to ensure the proper implementation of controls for erosion and sediment and stormwater management to reduce pollutants that may enter its MS4 via stormwater runoff from construction activities.

**BMP 4-3. Site Inspections** (*formerly Erosion and Sediment Control Plan Review*)

The County maintains and implements written inspection procedures to ensure that controls for erosion and sediment and stormwater management are properly implemented and that all associated documents are utilized during inspection, including the inspection schedule.

**BMP 4-4. Compliance and Enforcement** (*formerly Erosion and Sediment Control Inspection*)

The County maintains and implements written procedures for compliance and enforcement regarding construction site stormwater runoff requirements.

**BMP 4-5. Responsible Land Disturber Certification (formerly Erosion and Sediment Control Compliance and Enforcement)**

Roanoke County employees who oversee the performance of regulated land disturbance activities conducted by the County are DEQ-certified as Responsible Land Disturbers in accordance with the VESC Program.

Town's Planning and Zoning Department continues to work cooperatively with Roanoke County Department of Development Services in this measure. Any new development, re-development, and/or addition meeting certain criteria will require site plans be submitted for review and approval as stated in the County's and Town's codes. The site plans must be submitted to the Town's Planning and Zoning Department and Roanoke County's Department of Development Services.

As provided by Roanoke County Stormwater Program Manager, this report provides a detailed description of the goals of each BMP, the status of the County's compliance with each BMP, and an evaluation of the BMP and any proposed modifications needed to better achieve the overall MS4 Program goals. In addition, the strategies to ensure consistency with local TMDLs are also provided, and they are broken down by impairment type: Escherichia coli (*E. coli*) bacteria (EC), sediment (SED), or Polychlorinated biphenyls (PCBs).

## **BMP 4-1. Legal Authorities**

**Goal:** The goal of this BMP is to maintain and use certain legal authorities to comply with Virginia's Erosion and Sediment Control Program and the Virginia Stormwater Management Program (VSMP). The County uses the following legal authorities:

- **Erosion and Sediment Control (ESC) Ordinance #022316-7:** adopted on February 23, 2016 and revised on July 27, 2021 to incorporate 25' stream buffers along perennial streams; its purpose is to reduce pollutants in stormwater runoff from construction activities in an effort to keep such pollutants from entering the County's and Town's MS4.

This ordinance requires ESC controls for all regulated land disturbances of 2,500 square feet or more and an engineered ESC Plan for any land disturbance greater than 10,000 square feet. The ESC Plan must provide for the implementation of appropriate erosion and sediment controls, to include their proper placement, design, and maintenance requirements. The ordinance includes site inspection and compliance/enforcement procedures for erosion and sediment control.

- **Erosion and Sediment Control (ESC) Permit:** authorizes commencement of land disturbing activities for which an approved ESC Plan or Agreement-in-lieu-of an ESC Plan have been approved by the County and the Town.
- **Agreement-in-lieu-of an Erosion and Sediment Control Plan:** requires compliance with the minimum control measures, as listed in the Virginia Erosion and Sediment Control Regulations (9VAC25-840), for projects that disturb less than 10,000 square feet.
- **Stormwater Management Ordinance #042214-12:** adopted on April 22, 2014; its purpose is to protect property, state waters, stream channels, and other natural resources from the potential harm of unmanaged stormwater, and to establish requirements whereby stormwater is managed to protect water quality and downstream property owners.
- **Virginia Stormwater Management Program (VSMP) Permit:** issued by the County for projects that will cause one acre or more of land disturbance, and for which there is a County-approved stormwater management plan.
- **Agreement-in-lieu-of a Stormwater Management Plan:** requires compliance with certain stormwater management control strategies and is only applicable for the construction of single-family homes.
- **VSMP Approval Letter from the Virginia DEQ:** provides Roanoke County with coverage under the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems General Permit Number VAR040022 and the Town of Vinton with coverage under the General Permit

for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems General Permit Number VAR040026 .

- **Letter from DEQ Approving Alternative Inspection Program (ESC):** authorizes Roanoke County to conduct an alternative inspection program for ESC.
- **Stormwater Management Design Manual:** provides design guidelines for regulated land-disturbing projects to ensure their compliance with the VSMP requirements.

**Responsible Party:** Roanoke County Department of Development Services implements the County's Erosion and Sediment Control and Stormwater Management programs, which includes conducting plan reviews, site inspections, compliance/enforcement activities, and project permitting.

Roanoke County Attorney's office provides support to the Department Development Services during compliance/enforcement actions, as necessary.

**Schedule:** Roanoke County implements an ESC ordinance to comply with Virginia's Erosion and Sediment Control Law and Regulations and a SWM Ordinance to comply with the Virginia Stormwater Management Program (VSMP). The County will update the ordinances and supporting documents, as needed, to remain consistent with both programs.

**Measurable Goals:** Success for this BMP will be measured by the annual evaluation of the ESC and SWM ordinances, coordinating updates to the supporting documents, and the continued compliance of the ordinances with Virginia's ESC and VSMP programs.

- The aforementioned documents are in the Roanoke County MS4 Program Plan and can be accessed on the County's website at  
<https://www.roanokecountuya.gov/DocumentCenter/Index/1538>, or via  
<https://www.roanokecountuya.gov/DocumentCenter/Index/1837>

**TMDL Consistency:** Roanoke County ESC and VSMP ordinances target the reduction of sediment and other pollutants in stormwater runoff from construction sites. Both ordinances require the installation of onsite control measures to ensure compliance under local law. (SED)

**Evaluation and Modification:** Town of Vinton and Roanoke County believe that the ESC and VSMP ordinances are critical components to aid in reducing sediment and other pollutants carried by stormwater runoff from construction activities into its MS4. No modifications are planned for this BMP.

## BMP 4-2. Site Plan Review

**Goal:** The goal of this BMP is to maintain and implement written procedures to address the proper implementation of erosion and sediment controls and stormwater management controls to address construction site stormwater runoff.

**Responsible Party:** The Town's Planning and Zoning Department in cooperation with Roanoke County's Department of Development Services.

**Schedule:** Roanoke County maintains and implements ESC and VSMP procedures to comply with Virginia's Erosion and Sediment Control Program and the Virginia Stormwater Management Program. The County will update these procedures and supporting documents, as necessary, to remain consistent with both programs.

**Measurable Goals:** Success for this BMP will be measured by the annual evaluation of the written procedures and supporting documents and the number of plans approved.

- The Town agrees with the County's statement "Roanoke County finds its land development procedures and other supporting documents to be effective at this time. No changes are currently proposed."

Permit Year	# of ESC Plan Reviews	# of VSMP Plan Reviews	# of Agreement-in-lieu-of ESC Plans	# of Agreement-in-lieu-of SWM Plans
(1) 2018 - 2019	10 SFR 0 TOV; 10 RoCo  27 Commercial 1 TOV; 26 RoCo	1 SFR 0 TOV; 1 RoCo  26 Commercial 0 TOV; 26 RoCo	162 SFR 6 TOV; 156 RoCo,  35 Commercial 1 TOV; 34 RoCo	23 SFR 1 TOV; 22 RoCo
(2) 2019 - 2020	<b>13 SFR</b> 1 TOV; 12 RoCo  <b>10 Commercial</b> 0 TOV; 10 RoCo	<b>2 SFR</b> 0 TOV; 2 RoCo  <b>9 Commercial</b> 0 TOV; 9 RoCo	<b>144 SFR</b> 4 TOV; 140 RoCo,  <b>5 Commercial</b> 2 TOV; 3 RoCo	<b>24 SFR</b> 0 TOV; 24 RoCo
(3) 2020 - 2021	<b>20 SFR</b> 0 TOV; 20 RoCo  <b>23 Commercial</b> 2 TOV; 21 RoCo	<b>0 SFR</b> 0 TOV; 0 RoCo  <b>24 Commercial</b> 2 TOV; 22 RoCo	<b>138 SFR</b> 3 TOV; 135 RoCo  <b>37 Commercial</b> 1 TOV; 36 RoCo	<b>33 SFR</b> 0 TOV; 33 RoCo

**Note: TOV – Town of Vinton RoCo – Roanoke County**

- Any construction and/or land disturbance activities within the Town Limits will require the issuance of a Town's zoning permit through the Town Planning and Zoning Department since the Town has a separate zoning law. The Town Planning and Zoning Department is informed by the County Department of Development Services when an applicant applied for a building permit which will involve ESC plan reviews by the County, through Roanoke County instead of

coming to the Town Planning and Zoning Department. Additionally, the Planning and Zoning Department keeps track of the building permits issued by the County Department of Development Services the County's Citywork's application.

**Town of Vinton Zoning Permit Issued by the Town of Vinton and Building Permits Issued/ESC Plan Review by Roanoke County**

Installation Date	Owner/Contractor	Address	Description	
			Commercial	Residential
12-Aug-2020	BSCB LLC/W. Chester Butler	1675 MOUNTAIN VIEW RD	X	New SFR on Slab
9-Oct-2020	Jones, Thomas + Kimberly/Fields Construction	1118 MOUNTAIN VIEW RD	X	New SFR
9-Nov-2020	Bank of Botetourt	410 S. POLLARD ST	New bldg. w/ drive-thru	X
1-Dec-2020	Colonial Downs/Rosie's/ CK Bosworth Construction	1135 VINYARD RD	4 story Parking Garage/17560 sq. ft. addition	X
2-Dec-2020	Greenway Const. Inc.	300 9TH ST	X	New SFR on Slab
3-Dec-2020	Greenway Const. Inc.	302 9TH ST	X	New SFR on Slab
12-Jan-2021	McCarthy + Poff/Dogwood Restaurant	106 E. LEE AVE	Restaurant expansion and Patio alteration	X
12-Jan-2021	Robertson/Aquarius Pools Inc.	738 PITT AVE	X	In Ground Pool Installation
2-Mar-2021	Stokes, James+ Deborah	307N. PRESTON RD	X	Detached Storage Building 14' x 28'
31-Mar-2021	One Level Dev. LLC	740 RUDDELL RD	X	New SFR
29-Apr-2021	Petersen, Nicholas	217 MINNIE BELL LANE	X	Above Ground Pool 21' x 52'
30-Apr-2021	Welch, Melissa	222 CEDAR AVENUE	X	Above Ground Pool 14' x 42'
17-May-2021	Stiltner, Jennifer	627 ARAGONA DR	X	Above Ground Pool 21' x 52'
26-May-2021	Duff, Shane + Sherri	216 LYNN HAVEN CIR.	X	Above Ground Pool 10' x 16' x 48'

**TMDL Consistency:** Conducting plan reviews for ESC and VSMP compliance helps to ensure that active construction projects minimize sediment and other pollutants in their stormwater runoff. Both ordinances require the installation of onsite control measures to control pollutants. (SED)

**Evaluation and Modification:** The Town of Vinton/Roanoke County believe that ESC and VSMP plan reviews are critical components to aid in reducing sediment and other pollutants carried by stormwater runoff from construction activities into its MS4. No modifications are planned for this BMP.

### **BMP 4-3. Site Inspections**

**Goal:** The goal of this BMP is to maintain and implement written inspection procedures to address the proper installation and maintenance of erosion and sediment controls and stormwater management techniques used on active, regulated land-disturbing projects and to ensure that all associated documents are utilized during inspection, including the inspection schedule.

**Responsible Party:** The Town's Planning and Zoning Department in cooperation with Roanoke County's Department of Development Services.

**Schedule:** Town of Vinton/Roanoke County maintains and implements ESC and VSMP site inspection procedures to comply with Virginia's Erosion and Sediment Control Program and Virginia's Stormwater Management Program. The County will update these procedures and supporting documents, as necessary, to remain consistent with both programs, as they relate to construction site stormwater runoff. In addition, ESC inspections will be conducted in accordance with the County's Alternate Inspection Schedule, as approved by DEQ.

**Measurable Goals:** Success for this BMP will be measured by the annual evaluation of the written ESC/VSMP site inspection procedures and the number of inspections conducted.

- Roanoke County find its written ESC/VSMP site inspection procedures and other supporting documents to be effective at this time. No changes are currently proposed.

Permit Year	Total # of ESC Inspections	Total # of VSMP Inspections
(1) 2018 - 2019	1,662 SFR 24 TOV; 1,638 RoCo,  989 Commercial 19 TOV; 970 RoCo	4 SFR 0 TOV; 4 RoCo,  90 Commercial 0 TOV; 90 RoCo
(2) 2019 - 2020	<b>2,381 SFR</b> 48 TOV; 2,333 RoCo,  <b>1,343 Commercial</b> 20 TOV; 1,323 RoCo	<b>35 SFR</b> 0 TOV; 35 RoCo,  <b>156 Commercial</b> 1 TOV; 155 RoCo
(3) 2020 - 2021	<b>1653 SFR</b> 17 TOV; 1636 RoCo  <b>1012 Commercial</b> 13 TOV; 999 RoCo	<b>82 SFR</b> 0 TOV; 82 RoCo,  <b>262 Commercial</b> 2 TOV; 260 RoCo

Note: **TOV – Town of Vinton RoCo – Roanoke County**

## ESC Inspections by Roanoke County within the Town of Vinton

Date	Owner/Contractor	Address	Description	
			Commercial	Private
12-Aug-2020	BSCB LLC/W. Chester Butler	1675 MOUNTAIN VIEW RD	X	New SFR on Slab
9-Oct-2020	Jones, Thomas + Kimberly/Fields Constrc.	1118 MOUNTAIN VIEW RD	X	New SFR
9-Nov-2020	Bank of Botetourt	410 S. POLLARD ST	New bldg. w/ drive-thru	X
1-Dec-2020	Colonial Downs/Rosie's/ CK BosWorth Constr.	1135 VINYARD RD	4 story Parking Garage/17560 sq. ft. addition	X
2-Dec-2020	Greenway Const. Inc.	300 9TH ST	X	New SFR on Slab
3-Dec-2020	Greenway Const. Inc.	302 9TH ST	X	New SFR on Slab
12-Jan-2021	McCarthy + Poff/Dogwood Restaurant	106 E. LEE AVE	Restaurant expansion and Patio alteration	X
12-Jan-2021	Robertson/Aquarius Pools Inc.	738 PITT AVE	X	In Ground Pool Installation
2-Mar-2021	Stokes, James+ Deborah	307N. PRESTON RD	X	Detached Storage Building 14' x 28'
31-Mar-2021	One Level Dev. LLC	740 RUDDELL RD	X	New SFR
29-Apr-2021	Petersen, Nicholas	217 MINNIE BELL LANE	X	Above Ground Pool 21' x 52'
30-Apr-2021	Welch, Melissa	222 CEDAR AVENUE	X	Above Ground Pool 14' x 42'
17-May-2021	Stiltner, Jennifer	627 ARAGONA DR	X	Above Ground Pool 21' x 52'
26-May-2021	Duff, Shane + Sherri	216 LYNN HAVEN CIR.	X	Above Ground Pool 10' x 16' x 48'

**TMDL Consistency:** Conducting ESC and VSMP site inspections of construction activities helps to ensure that the required controls, as shown on the approved plan, are implemented and properly maintained in the field; such controls help reduce sediment in stormwater runoff from construction sites. (SED)

**Evaluation and Modification:** Town of Vinton and Roanoke County believe that conducting ESC and VSMP site inspections against written procedures and approved plans helps to reduce sediment and pollutants in stormwater runoff during land-disturbing activities. No modifications are planned for this BMP.

## **BMP 4-4. Compliance and Enforcement**

**Goal:** The goal of this BMP is to maintain and implement written procedures for achieving compliance on active construction sites through corrective action or enforcement action to the extent allowable under federal, state, or local law, regulation, ordinance, or other legal mechanisms.

**Responsible Party:** The Town's Planning and Zoning Department in cooperation with the County's Department of Development Services.

- The Department of Development Services has the overall responsibility to implement the County's ESC program and VSMP, which includes conducting plan reviews, site inspections, compliance/enforcement activities, and project permitting.
- The County Attorney's office provides support to the Department of Development Services during compliance/enforcement actions, as necessary.

**Schedule:** Roanoke County implements compliance and enforcement procedures to strive for compliance with its ESC program and VSMP on active construction sites. The County will revise its written enforcement procedures, as needed.

**Measurable Goals:** Success for this BMP will be measured by the annual evaluation of the erosion and sediment control and VSMP compliance/enforcement procedures and documentation of the total number and type of enforcement actions implemented.

- Roanoke County finds its written ESC/VSMP compliance and enforcement procedures and other supporting documents to be effective at this time. No changes are currently proposed.
- A summary of the enforcement actions taken for this reporting period, including the number and type of enforcement actions, is shown below; supporting data is included on Roanoke County's MS4 compact disk under the folder titled **BMP 4-4**.

Year	# of ENFORCEMENT ACTIONS			
	Notice to Comply (NTC)	Stop Work Order (SWO)	Notice of Permit Requirement (NOP)	Civil Penalty (Summons)
(1) 2018 - 2019	35	6	5	1
(2) 2019 - 2020	<b>59</b> 52 RoCo, 7 TOV	<b>8</b> 7 RoCo, 1 TOV	<b>9</b> 7 RoCo, 2 TOV	<b>9</b> 8 RoCo, 1 TOV
(3) 2020 - 2021	<b>47</b> 46 RoCo, 1 TOV	<b>20</b> 18 RoCo, 2 TOV	<b>18</b> 16 RoCo, 2 TOV	<b>16</b> 15 RoCo, 1 TOV

TOV – Town of Vinton RoCo – Roanoke County

**TMDL Consistency:** Conducting ESC and VSMP compliance and enforcement activities helps to ensure that active construction projects minimize sediment and other pollutants in their stormwater runoff. (SED)

**Evaluation and Modification:** Town of Vinton and Roanoke County believe that ESC and VSMP compliance and enforcement activities are critical components to aid in reducing sediment and other pollutants carried by stormwater runoff from construction activities into its MS4. No modifications are planned for this BMP.

## **BMP 4-5. Responsible Land Disturber Certification**

**Goal:** The goal of this BMP is to ensure that employees who oversee the performance of regulated land disturbance activities conducted by the County will have the qualifications to properly implement erosion and sediment control measures. Such employees will be DEQ-certified as Responsible Land Disturbers in accordance with the Virginia Erosion and Sediment Control Law and Regulations.

**Responsible Party:** The Town's Planning and Zoning Department in cooperation with Roanoke County's Department of Development Services.

**Schedule:** Roanoke County requires employees that oversee the performance of regulated land disturbance activities conducted by the County to be certified by DEQ as Responsible Land Disturbers.

**Measurable Goals:** Success for this BMP will be measured by maintenance of the Responsible Land Disturber certification by the applicable employees.

ROANOKE COUNTY EMPLOYEE	CERTIFICATION	CERTIFICATION #	EXPIRATION DATE
Jeff Altice	RLD	39411	4-4-22

**TMDL Consistency:** Requiring employees that have responsibility to oversee the performance of regulated land disturbance activities to have the qualifications to properly implement erosion and sediment control measures helps to minimize the amount of sediment that leaves the construction site and thereby minimizes the potential of sedimentation in receiving waters. (SED)

**Evaluation and Modification:** Roanoke County will continue to require the applicable personnel to hold the proper RLD certification. No modifications are planned for this BMP.

## **MCM 5: POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND DEVELOPMENT ON PRIOR-DEVELOPED LANDS**

**\* The implementation of this MCM and its associated BMPs is the responsibility of Roanoke County Department of Development Services in conjunction with the Town of Vinton Planning and Zoning Department.**

The Town of Vinton and Roanoke County recognize that addressing water quality in post construction runoff is an important way to prevent deposition of sediment and other pollutants into our streams and river. The County became the Town's VSMP administrator as of June 1, 2016, with the approval of the State Water Control Board, as indicated in the DEQ correspondence dated, May 27, 2016.

The programs that have been established by the County and supported by the Town to meet this MCM measure are listed below, as amended to correspond with the County's BMPs. The goal of this minimum control measure is to implement a post-construction stormwater runoff management program that is consistent with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and the Virginia Stormwater Management Program (VSMP) Regulations (9VAC25-870).

**BMP 5-1. Stormwater Management Legal Authorities** *(formerly Stormwater Management Ordinance and Manual)*

Roanoke County utilizes certain legal authorities to comply with Virginia's Stormwater Management Act and Stormwater Management Program (VSMP) Regulations.

**BMP 5-2. Post-Construction Inspections for Existing Stormwater Management Facilities** *(formerly Stormwater Management Plan Review)*

Roanoke County maintains and implements written inspection and maintenance procedures for post-construction stormwater management facilities (SWMFs) that discharge to the MS4s to address the long-term operation and maintenance requirements of these facilities.

**BMP 5-3. Stormwater Management Facility Tracking** *(formerly Stormwater Management Facility Construction Inspection)*

Roanoke County maintains and implements a GIS-based system to track stormwater management facilities to address the long-term operation and maintenance requirements of these facilities.

**BMP 5-4. Strategies to Encourage Long-Term Maintenance of Stormwater Control Measures on Single-Family Residential Lots** *(formerly Stormwater Management Facility Post-Construction Inspection)*

Roanoke County implements strategies to promote the long-term maintenance of stormwater control measures that are designed to treat stormwater runoff solely from the individual single-family residential lot. These strategies are used in lieu of recorded maintenance agreements and post-construction inspections by the County.

**BMP 5-5. Storm Sewer System Maintenance (formerly Stormwater Management Facility Tracking)**

Town of Vinton implements a program to maintain and repair its storm sewer system within its MS4 program area. Such maintenance helps to keep the system working as designed, which minimizes the risk of surcharging and overflows; it also helps to minimize street flooding associated with clogged inlet structures and conveyances.

This report as provided by Roanoke County Stormwater Program Manager provides a detailed description of the goals of each BMP, the status of the Town of Vinton's/Roanoke County's compliance with each BMP, and an evaluation of the BMP and any proposed modifications needed to better achieve the overall MS4s Program goals. In addition, the strategies to ensure consistency with local TMDLs are also provided, and they are broken down by impairment type: Escherichia coli (*E. coli*) bacteria (EC), sediment (SED), or Polychlorinated biphenyls (PCBs).

## **BMP 5-1. Stormwater Management Legal Authorities**

**Goal:** The goal of this BMP is to maintain and use certain legal authorities to comply with Virginia's Stormwater Management Act and Stormwater Management Program (VSMP) Regulations, as it relates to post-construction stormwater management facilities. The County uses the following legal authorities:

- **Stormwater Management Ordinance #042214-12, adopted on April 22, 2014;** its purpose is to protect property, state waters, stream channels, and other natural resources from the potential harm of unmanaged stormwater, and to establish requirements whereby stormwater is managed to protect water quality and downstream property owners.

**Responsible Party:** The Town's Planning and Zoning Department in cooperation with Roanoke County's Stormwater Program Manager.

- The Department of Development Services has the overall responsibility to implement the County's SWM Ordinance.
- The County Attorney's office provides support to the Department of Development Services during compliance/enforcement actions, as necessary.

**Schedule:** Roanoke County implements a SWM ordinance to comply with Virginia's Stormwater Management Act and Stormwater Management Program (VSMP) Regulations. The County will update this ordinance and the supporting documents, as necessary, to remain consistent with Virginia's VSMP program.

**Measurable Goals:** Success for this BMP will be measured by an annual evaluation of the Stormwater Management Ordinance.

- Roanoke County finds its Stormwater Management Ordinance to be effective at this time. No changes are currently proposed. The ordinance is posted on the County's website at:  
<https://www.roanokecountyva.gov/DocumentCenter/View/5470/Stormwater-Management-OrdinanceChap-23-July-1?bidId>

**TMDL Consistency:** The County's Stormwater Management Ordinance requires the property owner to provide for the maintenance and repair of their stormwater structures and stormwater management facilities. This helps to ensure that such structures and facilities operate properly, which in turn helps to minimize sediment and bacteria in stormwater runoff from such facilities. (SED & EC)

**Evaluation and Modification:** The County's Stormwater Management Ordinance is an effective means to achieve compliance. The ordinance provides the necessary enforcement options to ensure that property owners provide for the maintenance and repair of their stormwater structures and stormwater management facilities. No modifications are planned for this BMP.

## **BMP 5-2. Post-Construction Inspections for Existing Stormwater Management Facilities**

**Goal:** The goal of this BMP is to develop and implement written inspection and maintenance procedures to provide for the long-term operation and maintenance requirements of post-construction stormwater management facilities. Inspections will be conducted as follows:

- Town-owned and County-owned SWM facilities will be annually inspected.
  - When it is determined that maintenance is required during inspections of Town-owned, County-owned facilities, the Town's Public Works Department will conduct the maintenance in accordance with its written procedures.
  - The County will inspect all privately-owned SWM facilities that discharge into the MS4 once every 5 years. In addition, the County will:
    - Require the owner to develop and record a maintenance agreement, including an inspection schedule to the extent allowable under state or local law or other legal mechanism;
    - Utilize its legal authority for enforcement of the maintenance responsibilities if maintenance is neglected by the owner; and
    - Will implement a progressive compliance and enforcement strategy, which is included in the Program Plan.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with Roanoke County Department of Development Services. The County's Department of Development Services, with assistance from the County Attorney's office during compliance/enforcement actions, as needed.

- Note that the Town of Vinton rely on Roanoke County's Department of Development Services to conduct inspections of the privately-owned SWM facilities and the Town-owned SWMFs. The Town Public Works Department conducts maintenance and will be responsible for any needed repair for the Town-owned SWMFs.

**Schedule:** As the Town's VSMP administrator, Roanoke County maintains and implements procedures for post-construction stormwater management facility inspection/maintenance and compliance/enforcement to comply with the Virginia Stormwater Management Act and the Stormwater Management Program Regulations. The County will update these procedures and supporting documents, as necessary, to remain consistent with Virginia's VSMP program.

**Measurable Goals:** Success for this BMP will be measured by the annual evaluation of the written post-construction inspection procedures and completion of the required post-construction inspections.

- Town of Vinton/Roanoke County finds its post-construction stormwater management facility inspection/maintenance and compliance/enforcement procedures to be effective at this time. No changes are currently proposed.
- The inspection summary for this permitting year is as follows:

Permit Year	Private SWMFs			Public BMPs (Owned by County or RCPS)	
	Total #	# Inspected	# of Enforcement Actions	Total #	# Inspected
(1) 2018 - 2019	684	316	0	79 31 RoCo; 44 RCPS; 4 TOV	79 31 RoCo; 44 RCPS; 4 TOV
(2) 2019 - 2020	<b>678</b> 641 RoCo, 37 TOV	<b>319</b> 285 RoCo, 34 TOV	0	<b>79</b> 31 RoCo; 44 RCPS; 4 TOV	<b>79</b> 31 RoCo; 44 RCPS; 4 TOV
(3) 2020 - 2021	<b>680</b> 642 RoCo, 38 TOV	<b>376</b> 347 RoCo, 29 TOV	0	<b>79</b> 32 RoCo; 43 RCPS; 4 TOV	<b>79</b> 32 RoCo; 43 RCPS; 4 TOV

**Note: TOV - Town of Vinton RoCo - Roanoke County RCPS - Roanoke County Public Schools**

- During this permit year, Roanoke County inspected the Town-owned SWMFs and Town Public Works Department conducted routine maintenance, where needed. During last year's inspection, the summary of the inspection is listed below or can be accessed via the Roanoke County website link:  
<https://www.roanokecountyva.gov/DocumentCenter/Index/1837>
  - Hardy Road Detention Basin # 1 – Repair is needed to restore emergency spillway and restore the crest of the spillway to the design elevation. Vinton Public Works Department completed the repair.
  - Craig Avenue Recreational Center Basin – From the review of 1988 construction plans, there is no emergency spillway but it is performing satisfactorily.

## **Town of Vinton/Public-Owned Best Management Facilities**

BMP Name	BMP Type	Date of Inspection	Status	Maintenance Needed	Remarks
Gladetown/Craig Ave. Recreational Center	Detention Basin	3/22/21	Satisfactory	Continue routine mowing on embankment to keep woody plants of the embankment.	From review of construction plans, there is no emergency spillway.
Hardy Road # 1	Detention Basin	3/22/21	Repair Needed to restore emergency spillway crest	<ul style="list-style-type: none"> <li>- Remove metal grating and gravel from across the emergency spillway and restore the crest of the spillway to the design elevation.</li> <li>- Continue routine mowing.</li> </ul>	N/A
Hardy Road # 2	Detention Basin	3/22/21	Satisfactory	<ul style="list-style-type: none"> <li>- Clear vegetative debris from around the low trash rack.</li> <li>- Continue routine mowing.</li> </ul>	N/A
Vinton War Memorial	Detention Basin	3/22/21	Satisfactory	Continue routine maintenance	N/A

**TMDL Consistency:** This BMP ensures that all permanent stormwater management facilities (SWMFs) are adequately maintained and properly functioning, which is critical for flood protection and erosion prevention. (SED)

**Evaluation and Modification:** The Town and Roanoke County believe that inspecting permanent stormwater management facilities is a critical component in reducing pollutants in and reducing volume and velocity of stormwater runoff from developed sites. No modifications are planned for this BMP.

### **BMP 5-3. Stormwater Management Facility Tracking**

As of June 1, 2016, the County of Roanoke became the Town's VSMP administrator. Any new SWMF information in the Town of Vinton is entered by Roanoke County in the DEQ Construction General Permit tracking system when the Notice of Termination for the associated project is entered to initiate project closeout.

**Goal:** The goal of this BMP is to maintain an electronic database or spreadsheet of all known Town-owned, County-owned, and privately-owned stormwater management facilities that discharge into the MS4. This spreadsheet is available online through Roanoke County's website in the "Quick Links" section of the following webpage:

<https://www.roanokecountyva.gov/1755/Stormwater-MS4-Permit> or

<https://www.roanokecountyva.gov/DocumentCenter/Index/1837>

The Town/County's database includes the following information, as applicable:

- The SWMF type
- The SWMF location (latitude and longitude)
- The 6th Order Hydrologic Unit Code in which the SWMF is located
- The acres treated by the SWMF, including total acres, impervious acres, and pervious acres
- The date the SWMF was brought online (MM/YYYY). If the date brought online is not known, the County will use June 30, 2005
- Indication as to whether the SWMF is owned by the County or privately-owned
  - If the stormwater management facility is privately-owned, whether or not a maintenance agreement exists
- Indication as to whether the SWMF is part of Roanoke County's local TMDL action plans
- The date of Roanoke County's most recent inspection of the SWMF

**Responsible Party:** The Town Planning and Zoning Department in cooperation with Roanoke County Department of Development Services, with the assistance of the County's Department of Communications and Information Technology (CommIT).

#### **Schedule:**

- The electronic database or spreadsheet of all known Town-owned, County-owned and privately-owned SWMFs that discharge into the MS4 will be updated no later than 30 days after (1) a new SWMF is brought online, (2) a new BMP is implemented to meet a TMDL load reduction, or (3) after discovery of an existing SWMF.
- Roanoke County will use DEQ's Construction Stormwater Database, or other application as specified by DEQ, to report each of its SWMFs installed after July 1, 2014, to address the control of post-construction runoff from land-disturbing

activities for which Roanoke County is required to obtain a General VPDES Permit for Discharges of Stormwater from Construction Activities.

- No later than October 1 of each year, Roanoke County will electronically report all other SWMFs and BMPs implemented between July 1 and June 30 of each year using the DEQ BMP Warehouse and associated reporting template.

**Measurable Goals:** Success for this BMP will be measured by updating of the electronic database or spreadsheet and by submittal of the SWMF information to DEQ through the Virginia Construction Stormwater General Permit database and the DEQ BMP Warehouse, as described above.

- This spreadsheet that is prepared by Roanoke County Department of Development Series available online in the “Quick Links” section of the following webpage: <https://www.roanokecountyva.gov/1755/Stormwater-MS4-Permit>
- The Town did not have any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities for the reporting period of July 1, 2020 – June 30, 2021.
- Roanoke County enters new SWMF information in the DEQ Construction General Permit tracking system when the Notice of Termination for the associated project is entered to initiate project closeout. The Town did not have any new SWMF for the reporting period of July 1, 2020 – June 30, 2021.

**TMDL Consistency:** Tracking permanent SWMFs helps to ensure that all permanent stormwater management facilities are inspected, adequately maintained, and properly functioning, which is critical for flood protection and erosion prevention. (SED)

**Evaluation and Modification:** The Town of Vinton and Roanoke County believe that tracking permanent SWMFs helps to ensure that these facilities are routinely inspected, adequately maintained, and properly functioning, which is critical for flood protection and erosion prevention. No modifications are planned for this BMP.

## **BMP 5-4. Strategies to Encourage Long-Term Maintenance of Stormwater Control Measures on Single-Family Residential Lots**

**Goal:** The goal of this BMP is to implement strategies to promote the long-term maintenance of stormwater control measures that are intended to treat stormwater runoff solely from the individual single family residential (SFR) lot. These strategies will be used to replace recorded maintenance agreements and post-construction inspections by Roanoke County.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with Roanoke County Department of Development Services.

**Schedule:** Roanoke County implements various strategies to promote the long-term maintenance of stormwater control measures to treat runoff from SFR structures. The County will update these strategies, as necessary, to remain consistent with Virginia's VSMP program.

**Measurable Goals:** Success for this BMP will be measured by tracking the number of new residential lots covered by the strategies, proper implementation of the strategies, and evaluating the effectiveness of the strategies in promoting the long-term maintenance of stormwater control measures.

- See Roanoke County MS4 Annual Permit folder titled **BMP 5-4** on their attached compact disk for a list of the **27 new SFRs** covered by the strategies, which include.
  - Directing stormwater runoff from rooftops as non-erosive sheet flow to well-vegetated areas on the property to the maximum extent practicable
  - Directing stormwater runoff from impervious surfaces (e.g., driveways, parking areas, sidewalks) as non-erosive sheet flow to well-vegetated areas on the property to the maximum extent practicable, and
  - Directing stormwater runoff from lawns as non-erosive sheet flow to undisturbed naturally-vegetated areas on the property to the maximum extent practicable.
- For Year Three reporting, there were five single-family building permits obtained/issued within the Town of Vinton, as shown in the table below:

<b>Installation Date</b>	<b>Owner/Contractor</b>	<b>Address</b>	<b>Type of Single-Family</b>
12-Aug-2020	BSCB LLC/W. Chester Butler	1675 MOUNTAIN VIEW RD	New SFR on Slab
9-Oct-2020	Jones, Thomas + Kimberly/Fields Construction	1118 MOUNTAIN VIEW RD	New SFR
2-Dec-2020	Greenway Construction, Inc.	300 9TH ST	New SFR on Slab
3-Dec-2020	Greenway Construction, Inc.	302 9TH ST	New SFR on Slab
31-Mar-2021	One Level Development, LLC	740 RUDDELL RD	New SFR

- Roanoke County's Fact Sheet entitled "Tips for Homeowners: Stormwater Best Practices" provides strategies and maintenance tips for residential stormwater practices. It is on the County's website at  
<https://www.roanokecountyva.gov/DocumentCenter/View/7072/SW-Tips-for-Homeowners-?bidId=>

**TMDL Consistency:** By implementing strategies to promote the long-term maintenance of stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot, this BMP helps to assure that such sites are not contributing large volumes of sediment to receiving waters. (SED)

**Evaluation and Modification:** The Town of Vinton and Roanoke County believe this is an effective BMP to address the maintenance of relatively simple stormwater management practices used on individual single-family residences (SFRs). No modifications are planned for this BMP at this time.

## **BMP 5-5. Storm Sewer System Maintenance**

**Goal:** The goal of this BMP is to actively maintain and repair the Town's storm sewer (i.e., drainage) system in its MS4 program area. Such maintenance helps to keep the system working as designed, which minimizes the risk of surcharging and overflows; it also helps to minimize street flooding associated with clogged inlet structures and conveyances. In addition, the Town of Vinton Public Works Department personnel have the potential to discover illicit connections and observe where pollutants may be entering the regulated storm sewer system.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with the Town Public Works Department.

**Schedule:** The Town implements and is committed to continuing its storm sewer (drainage) system maintenance program. The number of large stormwater maintenance/repair projects will be documented. In addition, the number of emergency projects and small-scale maintenance/ repair projects completed each year will be tracked.

**Measurable Goals:** Success for this BMP will be measured by the continuation of this program, and the increase in total value of improvement that has been completed to maintain the storm sewer system.

- The Town Public Works Department has two construction crews with a total of 6 employees. These crews perform a large variety of duties including installation of storm and sewer piping and infrastructure, repair of damaged structures, emergency response to flooding problems, storm drain structure cleaning and mapping along with other Town storm drain system maintenance.
- The maintenance and improvement projects were completed from July 1, 2020 through June 30, 2021, resulting in the following:
  - Total storm drain structures mapped: 0
  - Total storm drain structures inspected: 71
  - Total storm drain structures improved: 2
  - Total storm drain structures replaced: 1
  - Small projects completed: 3
  - Number of emergency projects: 6
  - Total feet of pipe installed: 640
  - Total feet of open/rip rap channel improved: 30

The following table summarizes the Public Works Department's total expenditures for labor, materials, and equipment to maintain the stormwater system to correct deficiencies. A total of **1,404.25** labor hours were spent on the storm sewer systems. maintenance and repair. The value of these improvements was estimated to be **\$105,814.23**.

Reporting Period	Work Hours	Total Labor	Materials	Total Equipment	Total Expenditures
2018 – 2019 (Year One)	2,601.25	\$69,040.23	\$56,020.24	\$66,500.12	\$191,560.59
2019 – 2020 (Year Two)	2,115.50	\$55,786.24	\$40,882.30	\$53,500.32	\$150,168.86
2020 – 2021 (Year Three)	1,404.25	\$36,283.25	\$35,805.34	\$33,725.64	\$105,814.23

**TMDL Consistency:** This program is responsible for maintaining the regulated storm sewer system. This includes the improvement of eroding stream banks and channels. This program directly remediates existing areas where sediment is eroding and stabilizes the system, removing the input of sediment to the streams and channels. (SED) This program also increases the potential for discovering illicit connections to the storm drain system. (EC)

**Evaluation and Modification:** The Town Public Works Department will continue to maintain the Town's storm sewer system as a means to keep the system properly functioning. Such work also provides an opportunity for the Town to discover potential illicit connections its MS4. No modifications are planned for this BMP.

## **MCM 6: Pollution Prevention and Good Housekeeping for Municipal Operations**

The goal of this minimum control measure is to reduce stormwater runoff pollution and prevent illicit discharges from during the Town's day-to-day operations at the Town of Vinton's various high-priority municipal facilities. The amended programs listed below will be used to satisfy this minimum control measure are listed below:

**BMP 6-1. Public Street Sweeping and Fall Leaf Collection Programs** (*formerly Spill Prevention, Control, and Countermeasures Plans, which is removed since currently there is no Town-owned facility meets the parameters for an SPCC Plan.*)

The Town has and will continue with its street sweeping and the fall leaf collection programs.

**BMP 6-2. Standard Operating Procedures (SOP)** (*formerly Household Hazardous Waste Event and has been amended to BMP. 2-4; SOP changed from BMP 6-5 to BMP 6-2*)

Town of Vinton will maintain and implement written standard operating procedures (SOPs) for daily operations and maintenance activities that have a potential of discharging pollutants directly or with stormwater runoff into the MS4. The SOPs will be used in training activities.

**BMP 6-3. Training Programs for Town Employees** (*formerly Storm Sewer Systems Maintenance Program and has been moved to MCM 5 BMP. 5-5*)

The Town of Vinton implements biennial training for applicable employees in (1) recognition and reporting of illicit discharges; (2) good housekeeping and pollution prevention practices for: (a) road, street, and parking lot maintenance, (b) maintenance and public works facilities, and (c) recreational facilities; (3) spill response by emergency response employees; (4) herbicide application training; and (5) contractor oversight for environmental compliance.

**BMP 6-4. Stormwater Pollution Prevention Plans (SWPPPs) for Municipal Facilities** (*formerly Training Program for Town Employees, which is now BMP 6-2*)

Town of Vinton will identify all high-priority facilities with a high potential to discharge pollutants in stormwater. Stormwater Pollution Prevention Plans (SWPPPs) will be prepared, implemented, and maintained. SWPPPs will be used in training activities.

**BMP 6-5. Nutrient Management Plans** (*formerly Standard Operating Procedures and has been moved from BMP. 6-7*)

The Town of Vinton will identify all Town-owned lands where nutrients are applied to a contiguous area of 1 acre or more. Nutrient Management Plans will be prepared by a certified nutrient management planner and will be implemented and maintained.

**BMP 6-6. Pesticide Applicator Certification** (*formerly Stormwater Pollution Prevention Plans (SWPPPs) for Municipal Facilities and has been changed to BMP. 6-4)*

Any employees and Town-hired contractors who apply pesticides/herbicides shall have the proper Virginia Pesticide Applicator Certificate.

This annual report provides a detailed description of the goals of each BMP, the status of the Town's compliance with each BMP, and an evaluation of the BMP and any proposed modifications needed to better achieve the overall MS4 Program goals. In addition, the strategies to ensure consistency with local TMDLs are also provided, and they are broken down by impairment type: Escherichia coli (*E. coli*) bacteria (EC), and/or sediment (SED).

## BMP 6-1. Public Street Sweeping and Fall Leaf Collection Programs

**Goal:** The goal for this program is for the Town to maintain an effective street sweeping and the fall leaf collection programs.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with the Town's Public Works Department.

**Schedule:** The Town implements and is committed to continuing its public street sweeping and the leaf collection program storm sewer (drainage) system maintenance program. The number of large stormwater maintenance/repair projects will be documented. In addition, the number of emergency projects and small-scale maintenance/ repair projects completed each year will be tracked.

**Measurable Goal:** The street sweeping program to target weekly sweeping of all primary streets will return the greatest benefit of collecting and thus preventing roadway contaminants, sediment and debris, from entering the stormwater collection system. Other streets are swept bi-weekly or at three-week intervals. Sweeping frequency is impacted by inclement weather and equipment downtime. This continues to optimize both the use and effectiveness of the Town single street sweeper and achieves desired results.

The fall leaf collection program, which is normally done in the months of November and December, also minimizes leaf and yard waste from entering the stormwater collection system. For year three reporting period, the total expenses on wages, and equipment cost of street sweeping program was \$108,570.70 and the total expense of the leaf collection program was \$22,910.56. Additionally, beginning this Year Three report, information on the amount of debris collected by the street sweeping program has also been tracked, which was 86 cubic yards.

The Town will continue to maintain the street sweeping program and the leaf collection program. This program of collections of roadway contaminants, sediment, debris, leaf, yard waste, prevents them from entering the Town's storm sewer collection system, and is of aesthetic benefit.

Reporting Period	Street Sweeping Program		Fall Leaf Collection Program
	Expenses/Wages	Weight Collected	
2018 – 2019 (Year One)	\$53,889.38		\$17,768.40
2019 – 2020 (Year Two)	\$108,647.13		\$31,658.85
2020 – 2021 (Year Three)	\$108,570.70	86 Cubic Yards	\$22,910.56

Please see the table below for the amount of sediment removed by street sweeping from July 1, 2020 through June 30, 2021.

Land Use	WLA, T/yr	Total WLA, T	% of Total WLA	Percent Reduction	Existing Load, T/yr	
DF	79	4573.3	1.7%	0.0%	79	
EF	6.1	4573.3	0.1%	0.0%	6.1	
MF	29.3	4573.3	0.6%	0.0%	29.3	
P/H	160.7	4573.3	3.5%	69.5%	231.2	
RC	62.3	4573.3	1.4%	69.5%	89.6	
LIR	38.1	4573.3	0.8%	69.5%	92.9	
HIR	22.1	4573.3	0.5%	69.5%	53.9	
C/I	988.9	4573.3	21.6%	69.5%	2411.8	
OW	0	4573.3	0.0%	0.0%	0	
WW	0	4573.3	0.0%	0.0%	0	
EH	0	4573.3	0.0%	0.0%	0	
Q/SM/GP	122.6	4573.3	2.7%	69.5%	299	
T	98.1	4573.3	2.1%	69.5%	239.3	
U/RG	9.7	4573.3	0.2%	69.5%	23.7	
ISE	2956.4	4573.3	64.6%	69.5%	7210.2	
<b>Total</b>	<b>4573.3</b>				<b>10766</b>	
<b>Vinton Existing</b>	<b>Vinton WLA</b>	<b>% WLA Non-ISE</b>	<b>Runoff WLA, T</b>	<b>ISE WLA, T</b>	<b>Existing Runoff</b>	<b>Existing ISE</b>
391.15	119.3	0.25	30.2	89.1	97.8	293.4
Street Sweeping, Mass Load	CY 86	lbs/CY 865	Total Lbs 74,390.00	W to D 52,073.00	Particle Size 15,621.90	Tonnage 7.81
	(Enter CY here)			(Multiplies Lbs by 0.7)	(Multiplies W to D by 0.3)	
<b>Vinton Existing</b>	<b>Vinton WLA</b>	<b>Required Reduction</b>	<b>Street Sweeping, T</b>	<b>Remaining Reduction, T</b>		
391.15	119.3	271.85	7.81	264.04		
	ISE	203.9		203.9		
	SW Runoff	68	7.81	60.19		

**TMDL Consistency:** The street sweeping program offers the greatest benefit to capture roadway contaminants, debris, and sediment (SED) before entering the Town's storm sewer collection system. The leaf collection program minimizes leaf and yard debris that contaminated with pet waste from entering storm sewer system (EC/FC).

**Evaluation and Modification:** The street sweeping program offers the greatest benefit to capture roadway contaminants, debris, and sediment (SED) before entering the Town's storm sewer collection system. The leaf collection program minimizes leaf and yard debris that contaminated with pet waste from entering storm sewer system (EC/FC). No modifications are planned for this BMP.

## **BMP 6-2. Standard Operating Procedures (SOP)**

**Goal:** The goal of this BMP is to develop and implement written standard operating procedures (SOPs) to help prevent pollutant discharge from activities at municipal facilities such as (1) road, street, and parking lot maintenance, (2) equipment maintenance, and (3) the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. These SOPs will be used in the employee training program (**see BMP 6-3**) and are designed to:

- 1) Prevent illicit discharges;
- 2) Ensure the proper disposal of waste materials, including landscape wastes;
- 3) Prevent the discharge of wastewater or Town vehicle wash water or both into the MS4 without authorization under a separate VPDES permit;
- 4) Require implementation of best management practices when discharging water pumped from utility construction and maintenance activities;
- 5) Minimize the pollutants in stormwater runoff from bulk storage areas (e.g., salt storage, topsoil stockpiles) through the use of best management practices;
- 6) Prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and
- 7) Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.

**Responsible Party:** The Planning and Zoning Department in cooperation with the Human Resources/Risk Management Director; develop, evaluate, and amend the written water quality-related SOPs and provides support to applicable departments, the latter of which are responsible to comply with the SOPs that are pertinent to their activities.

**Schedule:** SOPs will be annually evaluated and revised, as needed.

**Measurable Goals:** Success for this BMP will be measured by the updating of the written SOPs, as necessary, and by employee training on the appropriate SOPs. There were no additions or modifications to the Town's Water Quality-Related Standard Operating Procedures during the permit year.

**TMDL Consistency:** This BMP ensures that all Standard Operating Procedures for water quality are in place and used for training. This is an effective BMP to help ensure pollutants from the Town's daily operations do not enter the MS4. (SED)

**Evaluation and Modification:** The Town believes it is effective to maintain water quality-related SOPs and to train employees to use them, as a means to protect receiving waters from pollutants that may be carelessly handled by employees in their daily operations. No modifications are planned for this BMP.

## BMP 6-3. Training Programs for Town Employees

Goal: The goal of this BMP is to provide Town employees with necessary training to support the requirements of the MS4 Permit. The written training plan provides for the following:

- 1) Field personnel receive training in the Recognition and Reporting of Illicit Discharges no less than once per 24 months;
- 2) Employees performing road, street, and parking lot maintenance receive training in Pollution Prevention and Good Housekeeping associated with those activities no less than once per 24 months;
- 3) Employees working in and around maintenance, public works, or recreational facilities such as greenways, receive training in Pollution Prevention and Good Housekeeping practices associated with those facilities no less than once per 24 months;
- 4) Employees and contractors hired by the Town of Vinton who apply pesticides and herbicides are trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia). Certification by the Virginia Department of Agriculture and Consumer Services (VDACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement;
- 5) As required by Roanoke County as the Town's Erosion and Sediment Control Administrator; employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations;
- 6) Employees and contractors implementing the stormwater program obtain the appropriate certifications as required under the Virginia Stormwater Management Act and its attendant regulations; and
- 7) Employees whose duties include emergency response have been trained in spill response. Training of emergency responders such as firefighters and law-enforcement officers on the handling of spill releases as part of a larger emergency response training shall satisfy this training requirement, and it shall be documented in the training plan. **\*As of July 2019, the fire and emergency services within the Town Limits are provided by Roanoke County.**

The training provided by Roanoke County Fire/EMS Department and the EMS employees completed the training can be accessed via the County's supporting document link as follows:

<https://www.roanokecountyva.gov/DocumentCenter/Index/1837>

**Responsible Party:** The Planning and Zoning Department in cooperation with the Human Resources/Risk Management Director, provide the appropriate departments with access to the training materials; each department is responsible to make certain that their employees take and comply with the pertinent training.

**Schedule:** Employee training is conducted on a biennial basis. The Town will review the training program on a biennial basis and update it, as needed. Due to Covid-19, the Town provided the Good Housekeeping and Reporting and Recognizing Illicit Discharge Training online on June 2020 which fall under the Permit Year 2 (2019-2020) reporting. 60 employees completed training out of 68 employees on payroll.

**Measurable Goals:** This BMP will be measured by training of the pertinent Town employees in accordance with the schedule. In addition, the Town will maintain documentation of each training event for a minimum of three years after the training event.

Employees will receive training in one or more of the topics listed below, depending on job class, on a biennial basis.

*Recognition and Reporting Illicit Discharges*

Applicable field personnel receive training in the recognition and reporting of illicit discharges. This training video takes approximately 30 minutes.

*Good Housekeeping and Pollution Prevention Practices*

Employees that perform road, street, and parking lot maintenance, or are employed in and around maintenance and public works facilities and at recreational/greenway facilities receive training in good housekeeping and pollution prevention practices. This training video takes approximately 1 hour.

**NOTE:** All employees who are required to take *Good Housekeeping and Pollution Prevention Practices* are required to read and follow the Town's Water Quality-Related Standard Operating Procedures (SOPs). These procedures were designed to eliminate or minimize pollutant discharges in stormwater.

*Contractor Oversight for Environmental Compliance*

Supervisors who oversee Contractors that perform work for the Town or employees involved in developing contracts for Contractors take this training. The training explains that all Contractors must have their own written good housekeeping and pollution prevention program, or they must comply with the Town/County's written policies and water quality-related SOPs. Town employees who oversee Contractors working for the Town must ensure compliance by Contractors. This training video takes approximately 30 minutes.

*Hazardous Materials (HAZ-MAT) Training*

On behalf of the Town of Vinton, the County of Roanoke currently maintains basic hazardous materials training for its employees in Fire and Rescue. All career (paid) staff are certified to HAZ-MAT Operations. For this permit year, there are 186 uniformed, career employees. The number of volunteers is always in flux, but the County estimates that there are also 101 volunteers that currently have HAZ-MAT Operations training. HAZ-MAT certification does not expire from the Virginia Department of Fire Programs; however, all career personnel receive annual, internal training on this topic as part of their career development training.

**Stormwater Pollution Prevention Plan (SWPPP) Training**

Employees who work at a Town municipal facility that has a SWPPP are required to take SWPPP training to assure that they know (1) where the SWPPP document is kept, (2) what it is for, and (3) which pollution prevention practices are to be used in and around the particular facility. This training presentation (PowerPoint) takes approximately 30 minutes to view.

Additionally, Roanoke County as the Town's ESC and VSMP administrator as part of their annual MS4 reporting, provides a summary report of all DEQ-certified staff who review, approve, and inspect the implementation of stormwater management plans in the County's enclosed compact disk in the folder titled **BMP 6-3**.

**TMDL Consistency:** This BMP ensures that all employees receive pollution prevention training and targeted employees receive additional training for municipal good housekeeping, pollution prevention, and Illicit Discharge Detection and Elimination (IDDE) (SED/EC). It also ensures that all Roanoke County Fire and Rescue employees maintain basic hazardous waste training to prevent any mishandling of hazardous materials in ways that could be detrimental to the environment (SED/EC).

**Evaluation and Modification:** The Town believes it is effective to train employees in the above-mentioned topics. No modifications are planned for this BMP.

## **BMP 6-4. Stormwater Pollution Prevention Plans (SWPPPs) for Municipal Facilities**

**Goal:** The goal of this BMP is to identify high-priority facilities in the Town that have a high potential of discharging pollutants and to prepare, maintain, and implement a site-specific stormwater pollution prevention plan (SWPPP) for each identified facility.

High-priority facilities that have a high potential for discharging pollutants are those facilities that are not covered under a separate VPDES permit and for which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt, or runoff:

- 1) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;
- 2) Materials or residuals on the ground or in stormwater inlets from spills or leaks;
- 3) Material handling equipment;
- 4) Materials or products that would be expected to be mobilized in stormwater runoff during loading or unloading or transporting activities (e.g., rock, salt, fill dirt);
- 5) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);
- 6) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
- 7) Waste material except waste in covered, non-leaking containers (e.g., dumpsters);
- 8) Application or disposal of process wastewater (unless otherwise permitted); and
- 9) Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.

The Town of Vinton has developed SWPPPs for all of its five (5) high-priority facilities and will be updated as necessary. Along with the previously-developed Implementation Schedule, the SWPPPs have been posted on the Town's website via the link below:

The schedule identifies the high-priority facilities that have a high potential to discharge pollutants. This document also indicates when the various SWPPPs were prepared.

Each SWPPP is kept at the high-priority facility for which it was written and contains the following information:

- 1) A site description that includes a site map identifying all outfalls, direction of stormwater flows, existing source controls, and receiving water bodies.
- 2) A description and checklist of the potential pollutants and pollutant sources.
- 3) A description of all potential non-stormwater discharges.
- 4) Written procedures designed to reduce and prevent pollutant discharge.
- 5) A description of the applicable training as required in Part I E 6 m of the MS4 Permit. (**See BMP 6-3 in this Report.**)
- 6) Procedures to conduct an annual comprehensive site compliance evaluation.
- 7) An inspection frequency of no less than once per year and maintenance requirements for site-specific source controls. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP.
- 8) A log of each unauthorized discharge, release, or spill incident reported in accordance with Part III G of the MS4 Permit, to include the following:
  - a. Date of incident.
  - b. Material discharged, released, or spilled.
  - c. Estimated quantity discharged, released or spilled.

**Responsible Party:** The Planning and Zoning Department in cooperation with the Human Resources/Risk Management Director will evaluate the high-priority facilities and prepares and updates the necessary SWPPPs. The applicable departments implement their SWPPPs, conduct the requisite training and facility inspections, and handle incident reporting in the event of an unauthorized discharge, release, or spill.

**Schedule:** The Town has identified its five (5) municipal high-priority facilities, and it has determined which of these high-priority facilities have a high potential to discharge pollutants in stormwater. All necessary SWPPPs have been completed, and they will be maintained for as long as each facility has a high potential to discharge pollutants.

If activities change at a facility such that it no longer meets the criteria of a high-priority facility with a high potential to discharge pollutants, the Town may remove the facility from the list of high-priority facilities with a high potential to discharge pollutants.

**Measurable Goals:** Success for this BMP will be measured by the implementation/maintenance of the required SWPPPs and the SWPPPs being kept at the high-priority facility for which they were written and used as part of the staff training conducted at said facility. These five (5) SWPPPs can be accessed via the link below:

<https://www.vintonva.gov/230/6126/MS4-Permit>

In addition, the Town will review the contents of any site-specific SWPPP no later than 30 days after any unauthorized discharge, release, or spill reported in accordance with Part III G of the MS4 Permit to determine if additional measures are necessary to prevent future unauthorized discharges, releases, or spills. If necessary, the Town will update the SWPPP no later than 90 days after the unauthorized discharge.

Vinton Public Works Facility	Location	Date of SWPPP Completed
# 1: Vehicle Maintenance Facility/Fueling Center	804 3 <sup>rd</sup> Street	June 2015
# 2: Material Laydown Yard	3 <sup>rd</sup> Street	June 24, 2019
# 3: Road Salt and Vehicle/Equipment Storage	3 <sup>rd</sup> Street	September 19, 2018
# 4: Organic Materials Collection Site	3 <sup>rd</sup> Street	June 2017
# 5: Vehicles and Equipment Storage	804 3 <sup>rd</sup> Street and 860 Industry Circle	June 2017

- In this permit year, no new SWPPP was required or developed.
- Beginning October 2021, these facilities will be inspected on a quarterly basis with a due date as follows: October 1, 2021; January 1, 2022; April 1, 2022; and July 1, 2022.
- Annual assessment of the facilities' SWWP will be completed by July 1 of each year.
- All of the Town's SWPPPs will be made available in the MS4 Program Plan by July 1, 2022.

Facility Name	Completed SWPPP Inspections				
	Qtr. 1 (due Oct 1, 2021)	Qtr. 2 (due Jan 1, 2022)	Qtr. 3 (due April 1, 2022)	Qtr. 4 (due July 1, 2022)	Annual Assessment (due July 1, 2022)
# 1: Vehicle Maintenance Facility/Fueling Center					
# 2: Material Laydown Yard					
# 3: Road Salt and Vehicle/Equipment Storage					
# 4: Organic Materials Collection Site					
# 5: Vehicles and Equipment Storage					

**TMDL Consistency:** This BMP ensures that all high-priority facilities that have a high potential to discharge pollutants in stormwater have a SWPPP in place with employees

trained to understand, implement, and maintain it. The SWPPP identifies Best Management Practices to be employed at each facility to prevent the discharge of pollutants into the MS4 (SED/EC).

**Evaluation and Modification:** The Town will continue to implement and update the completed SWPPPs and will prepare new SWPPPs, as necessary. No modifications are planned for this BMP.

## **BMP 6-5. Nutrient Management Plan (NMP)**

Currently, the Vinton War Memorial property is the only Town-owned land that meets the requirement for a Nutrient Management Plan (NMP). The NMP was prepared in 2016 and was updated on July 1, 2019 with an end date of June 30, 2024.

**Goal:** The goal of this BMP is to ensure that excessive nutrients are not being applied to Town-owned lands. To achieve this, the Town will maintain and implement 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 the land (Vinton War Memorial) owned or operated by the Town where nutrients are applied to a contiguous area greater than one acre. If nutrients are being applied to achieve final stabilization of a land disturbance project, application amounts will follow the manufacturer's recommendations.

**Responsible Party:** The Planning and Zoning Department of Development in cooperation with the Town Community Programs and Facilities Director is responsible for the preparation, implementation, and maintenance of Nutrient Management Plans on Town-owned lands.

**Schedule:** The Town-owned land where nutrients are applied to a contiguous area of 1 acre or more has been identified and Nutrient Management Plan is in place. The Town will continue to implement this plan and update it, as needed.

**Measurable Goals:** Success for this BMP will be measured by the implementation of the Nutrient Management Plan (NMP) for the applicable land; Vinton War Memorial. The NMP can be accessed via this link: <https://www.vintonva.gov/230/MS4-Permit>

- There were no updates in this Permit Year 3, and no additional acreages were added.

**TMDL Consistency:** This BMP ensures that excessive nutrients are not being applied for the Town-owned lands where nutrients are applied to a contiguous area of 1 acre or more. While there is no known benefit towards satisfying the TMDL requirements for *E. coli* or sediment, there is a water quality benefit associated with proper application of nutrients. The minimization of land-applied nutrients helps the Town address one of its high priority water quality issues, that of preventing excess nutrients from entering receiving waters via stormwater runoff.

**Evaluation and Modification:** The Town will continue to implement its NMP for the Vinton War Memorial.

## **BMP 6-6. Pesticide Applicator Certification**

**Goal:** The goal of this BMP is to ensure that all employees and contractors hired by the Town who apply pesticides and herbicides are trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia). Certification by the Virginia Department of Agriculture and Consumer Services (VCACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement.

**Responsible Party:** The Planning and Zoning Department shall track compliance. The Public Works Department is responsible to ensure that their employees or contractors who apply pesticides on Town-owned lands have current pesticide/herbicide applicator certifications.

**Schedule:** The Town annually reviews the pesticide/herbicide applicator certifications held by its employees and hired contractors.

**Measurable Goals:** Success for this BMP will be measured by maintenance of current certification by the applicable employees and any hired contractors. See the summary table, below, for those Town employees that hold the requisite certifications:

EMPLOYEE	CERTIFICATION TYPE	CERTIFICATION #	EXPIRATION DATE
Kenny Sledd	Pesticide Applicator	127627-G	6/30/2023

**TMDL Consistency:** While there is no known benefit towards satisfying the TMDL requirements for *E. coli* or sediment, there is a water quality benefit associated with proper application of pesticides so as to avoid excess products entering the receiving waters by way of stormwater runoff.

**Evaluation and Modification:** The will continue to require the applicable personnel to hold the proper pesticide and fertilizer applicator certifications. No modifications are planned for this BMP.

## **SECTION II. TOTAL MAXIMUM DAILY LOAD (TMDLs) ACTION PLANS**

### **A. INTRODUCTION**

The Town of Vinton has developed two Total Maximum Load (TMDL) Action Plans to reduce loadings for two pollutants of concern (sediment and bacteria), because the Town discharges (or may discharge) these pollutants to impaired waters for which a TMDL has been approved by the U.S. Environmental Protection Agency (EPA) and in which an individual or aggregate waste load has been allocated to the Town of Vinton. The plans have been modified and submitted to VA DEQ Blue Ridge Regional Office on April 26, 2021 are summarized below:

#### **TMDL Action Plan for Bacteria (*E. coli*)**

The *Total Maximum Daily Load (TMDL) Action Plan for Bacteria Reduction (*E. coli*) in the Roanoke River, Tinker Creek, and Glade Creek* was completed on July 1, 2015 and submitted to DEQ with the corresponding MS4 Annual Report. The latest version of this plan, dated April 26, 2021, is on the Town's website at:

<https://www.vintonva.gov/DocumentCenter/View/2225/TOV-Bacteria-TMDL-Action-Plan-April-26-2021>

#### **TMDL Action Plan for Benthic/Sediment**

The *Total Maximum Daily Load (TMDL) Action Plan for Benthic/Sediment Reduction in the Roanoke River* was completed on July 1, 2015 and submitted to DEQ with the corresponding MS4 Annual Report. The latest version of this plan, dated April 26, 2021, is on the Town's website at:

[https://www.vintonva.gov/DocumentCenter/View/2226/TOV-Sediment-TMDL-Action-Plan\\_April-26-2021](https://www.vintonva.gov/DocumentCenter/View/2226/TOV-Sediment-TMDL-Action-Plan_April-26-2021)

Pursuant to the MS4 permit requirements, a summary of the BMPs conducted by the Town to implement each of its local TMDL Action Plans follows next in this report, along with a detailed description of the goals of each BMP, the status of the Town's compliance with each BMP, and an evaluation of the BMP and any proposed modifications needed to better achieve the TMDL goals. Each BMP describes how it is consistent with the local TMDL and identifies which impairment type it addresses: Escherichia coli (*E. coli*) bacteria (EC), or sediment (SED).

## B. BMPs to Address Bacteria (*E. coli*)

The latest version of the TMDL Action Plan for Bacteria Reduction (*E. coli*), dated April 26, 2021, is posted on the Town's website at:

<https://www.vintonva.gov/DocumentCenter/View/2225/TOV-Bacteria-TMDL-Action-Plan-April-26-2021>

This plan was developed to reduce bacteria in the Roanoke River, Tinker Creek, and Glade Creek. The BMPs that will be used to address bacteria are listed below:

BMP # Designation	BMP Name/Task	Implementation Date
B-1*	Digital Assessments for Glade, Tinker, and Wolf Creeks Visual Steams Assessment and BMP Planning – Phase II 1. Seven (7) Stream Reaches of Tinker and Glade Creeks 2. Wolf Creek	Completed January 2017 Completed May 2017 To be Completed May 2022
B-2*	*Enhanced Public Outreach for Bacteria ( <i>E. coli</i> ) (See Roanoke County BMP # B-7)	Ongoing
B-3*	Enhanced Employee Training ( <i>E. coli</i> )	Ongoing
B-4	*Business Outreach: Eliminating Illicit Discharges	Ongoing
B-5	*Public Education: Septic System Repair and Maintenance (See Roanoke County BMP # B-5)	Ongoing
B-6	Dog Waste Stations and Signage	Ongoing
B-7	*Public Education: Reducing Food Sources Accessible to Wildlife (See Roanoke County BMP # B-4)	July 2020 Ongoing
B-8	Protect Stream Buffers: No-Mow Policy for Town-Owned Land	Ongoing
B-9*	*Protect Stream Buffers: Roanoke County ESC ordinance since the County is the Town's ESC and VSMP Administrators (See Roanoke County BMP # B-2) • Finalize Ordinance Language • Present to Board of Supervisors for Considerations • Implement ordinance (if approved)	Fall 2020 Winter 2020 Fall 2021
B-10*	Public Street Sweeping and Leaf Collection Program	Ongoing

\*BMPs Also Effective in Reducing Sediment Discharges to the Roanoke River

**Note: Roanoke County is the Town of Vinton's Erosion and Sediment Control (ESC)  
Roanoke County Public Outreach/Information Dissemination Includes the Town Residences, Business Owners, Dog/Cat Owners, and/or Active Land Disturbers (Homeowner/Contractor/Developers)**

## **BMP B-1. Visual Stream Assessment and BMP Planning**

**Goal:** The goal of this BMP is to perform field and office investigations of streams within the MS4 area to document existing conditions and identify opportunities for implementation of cost-effective BMPs.

**Responsible Party:** The Planning and Zoning Department.

**Schedule:** In Permit Year 4 (2016 - 2017) of the previous permit, the Town hired a consultant to perform this task. The consultant completed a digital assessment (Phase 1) of approximately 10 miles of streams in the four (4) watersheds located in the Town's MS4 Area in January 2017. The Phase II //Visual Assessment of Tinker Creek and Glade Creek was completed and documented in a report dated April 24, 2017. The report was summarized in the Town's Bacteria TMDL Action Plan Dated April 26, 2021 and submitted to VA DEQ Blue Ridge District.

**Measurable Goal:** The digital assessment was designed to identify stream reaches with eroding streambanks as well as other potential sediment and bacterial sources. Data collected as part of the digital assessment was entered directly into Roanoke County's Spatial Database Engine (SDE) for use in future pollutant reduction activities (Roanoke County operates the SDE for the overall County including the Town). 100 linear feet eroded streambank along Glade Creek was stabilized as of December 8, 2020.

**TMDL Consistency:** This initial stream assessment identified locations where Town efforts should be concentrated, at this time, to lower bacteria and sediment discharges. (EC & SED)

**Evaluation and Modification:** This initial stream assessment is valuable in understanding existing stream conditions and in prioritizing the Town's efforts. No modifications are planned for this BMP.

## **BMP B-2. Enhanced Public Outreach for Bacteria (*E. Coli*)\***

**\*Please also refer to Roanoke County BMP B-7 since the County Public Outreach information dissemination include the Town of Vinton.**

**Goal:** The goal of this BMP is to enhance the BMPs used under MCM 1 and MCM 2, where applicable, to ensure that they address bacteria as a high priority water quality issue. This will help to raise awareness of the water quality issues involving *E. coli* (bacteria) in target audiences and the general public.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with Roanoke County Department of Development Services, with assistance from the CVC, RVT, and the Town's and County's web content manager.

**Schedule:** Town of Vinton will continue to work cooperatively with Roanoke County; Roanoke County has developed a list of public (target) audiences to receive specific messages on an annual basis about ways to reduce *E. coli* (bacteria) pollution in their day-to-day activities.

**Measurable Goals:** Success for this BMP will be measured by the incorporation of information concerning *E. coli* (bacteria) into the MS4 Program public education and outreach efforts in accordance with the Roanoke County **Figure 7** of the County's TMDL Action Plan for *E. coli*. Also, see the Town of Vinton **BMP 1-7** in this annual report for a detailed assessment of compliance with goals and complete versions of Tables 1-7.1 through 1-7.4. Note that Table 1-7.1B shows how the Town addresses *E. coli* for certain target audiences and the general public.

**TMDL Consistency:** The enhanced Public Education and Outreach goals were specifically tailored to address water quality issues related to *E. coli*. (EC)

**Evaluation and Modification:** Use of messages tailored to address *E. coli* (bacteria) that are focused on the proper target audiences is an effective means to raise awareness, improve individual's actions, and increase support for water quality programs. The Town believes that its current activities in this area are robust, and no modifications are planned for this BMP.

### **BMP B-3. Enhanced Employee Training for Bacteria (*E. Coli*)**

**Goal:** The goal of this BMP is to enhance **BMP 6-3** to ensure that it addresses *E. coli* (bacteria) as a high priority water quality issue. This will help to raise awareness of those Town employees that are required to take such training.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with the Town Human Resources/Risk Management Director will provide the appropriate departments with access to the training materials; each department is responsible to make certain that their employees take and comply with the pertinent training.

**Schedule:** Employee training will be conducted on a biennial basis. The Town will review the training program on a biennial basis and update it, as needed.

**Measurable Goals:** Compliance with **BMP 6-3** training goals in the following topics with evidence that *E. coli* (bacteria) will be incorporated into the training material as a high priority water quality issue.

- Recognition and Reporting of Illicit Discharges
- Good Housekeeping and Pollution Prevention Practices
- Contractor Oversight for Environmental Compliance
- Hazardous Materials (HAZ-MAT) Training

This training will be every two years, pursuant to the MS4 permit requirements, and it will be conducted for Permit Year Four (2021-2022) reporting.

**TMDL Consistency:** The Enhanced Employee Training was specifically tailored to address ways to reduce *E. coli* (bacteria) in stormwater runoff.

**Evaluation and Modification:** This training is important to give town employees the understanding that *E. coli* (bacteria) is a high priority water quality issue and that measures shall be implemented, where practical, to reduce its discharge into stormwater. No modifications are planned for this BMP.

## **BMP B-4. Business Outreach: Eliminating Illicit Discharges**

**\*Roanoke County dissemination of educational literature includes the Town of Vinton businesses.**

**Goal:** The goal of this BMP is to visit targeted businesses that have an elevated potential to discharge bacteria in the conduct of their day-to-day activities and to take corrective actions where illicit discharges are observed.

**Responsible Party:** The Planning and Zoning Department.

**Schedule:** The Town of Vinton annually conducts site inspections of targeted businesses that have an elevated potential to discharge bacteria, such as veterinary clinics, kennels, pet stores, restaurants, vehicle maintenance shops, and car washing facilities.

**Measurable Goals:** The Town of Vinton will annually conduct site inspections of 5 selected facilities; Town staff will meet with business owners or managers to discuss ways to minimize illicit discharges in the day-to-day operations at each facility. If an actual or potential illicit discharge is identified, the Town's inspection staff will work with the business owner to eliminate or reduce the risk.

***NOTE: In this reporting period, no site inspections were conducted due to business closures associated with COVID-19. However, all of the businesses in the target group for bacteria were sent educational literature by Roanoke County Department of Development Services , in accordance with Table 1-7.1A through 1-7.1C: Stormwater Education Program for Specific Audience.***

***In addition, the Town Planning and Zoning Department handed out the applicable brochures to targeted business owners when they are issued a zoning permit by Planning and Zoning Department personnel, prior to the issuance of the Town's business license.***

**TMDL Consistency:** Actions that reduce discharges of *E. coli* are consistent with the TMDL for bacteria. (EC)

**Evaluation and Modification:** The Town of Vinton finds this to be an effective means to identify potential or actual illicit discharges. No changes are planned for this BMP at this time.

## **BMP B-5. Public Education: Septic System Repair & Maintenance**

**\*Roanoke County implementation and dissemination of the annual stormwater newsletter includes Town residents.**

**Goal:** The goal of this BMP is to incorporate messages into the existing public education program to encourage citizens to properly maintain their septic systems, because malfunctioning or poorly maintained onsite sewage disposal systems may result in discharges of bacteria from human waste.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with Roanoke County Department of Development Services.

**Schedule:** By July 2020, Town of Vinton/Roanoke County expanded its public education program to encourage citizens to periodically pump out their septic systems and to keep them properly operating.

**Measurable Goals:** Success for this BMP will be measured by the incorporation of messages into the existing public education program to encourage citizens to properly maintain and periodically pump out their septic systems. The Town Planning and Zoning Department along with the Town's billing personnel maintain a database of properties in the Town Limits that are on septic system.

**TMDL Consistency:** Actions that reduce discharges of *E. coli* are consistent with the TMDL for bacteria. (EC)

**Evaluation and Modification:** Roanoke County currently incorporate messages in its public education program about the need to periodically pump out septic systems and to keep systems properly operating. The dissemination of this informational brochure includes the Town of Vinton residences. The Town/Roanoke County will continue these messages.

## **BMP B-6. Dog Waste Stations and Signage**

**Goal:** The goal of this BMP is to increase the number of maintained dog waste stations and associated signage on Town-owned properties and greenways to reduce discharge of *E. coli* from dog waste into receiving waters.

**Responsible Party:** The Planning and Zoning Department will be responsible for plan development and the Public Works Department will install and maintain the dog waste stations and accompanying signage, as needed. Roanoke County Department of Parks, Recreation, and Tourism (PRT) is responsible in the maintenance and installation of the dog waste stations and accompanying signage for the two parks in the Town of Vinton; Gearhart Park and M.A. Banks.

**Schedule:** By July 1, 2022, the Town will develop a written plan that describes where dog waste stations should be installed; for example, when a new greenway is constructed and/or new locations are identified.

**Measurable Goals:** As of July 1, 2021, six dog waste stations and coordinating signage reminding owners to pick up after their dogs have been installed on town-owned properties and at Roland E. Cook Lofts by the apartment owner.

Roanoke County PRT is also assessing the current and proposed locations of Mitt Mutt stations that could possibly be located closer to pavilions or other existing trash cans that are routinely serviced. For the locations of existing “Mutt Mitt” dog waste stations, see the online map that also listed dog waste stations within the Town of Vinton. The map can be accessed via this link: <https://www.roanokecountyva.gov/2594/GIS-Mapping-Support>

**TMDL Consistency:** Actions that decrease discharges of *E. coli* are consistent with the TMDL for bacteria. (EC)

**Evaluation and Modification:** The Town will continue to install when needed, and maintain dog waste stations, as outlined above. No modifications are planned for this BMP.

## **BMP B-7: Public Education: Reducing Food Sources Accessible to Wildlife**

**\*Roanoke County Public Educational Information such as The Annual Stormwater Newsletter is mailed to all Roanoke County and Town of Vinton Residences.**

**Goal:** The goal of this BMP is to incorporate messages into the existing public education program to encourage citizens to reduce food sources accessible to wildlife. This messaging is to help assure that wild animals do not become dependent on people for food, to minimize the potential for spreading disease between people and animals, to minimize property damage, and to minimize the discharge of bacteria-carrying animal waste that may find its way into the nearest storm drainage system.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with Roanoke County Department of Development Services.

**Schedule:** By July 2020, Town of Vinton/Roanoke County expanded its public education program to encourage citizens to reduce food sources accessible to wildlife. Typical messages in this program have and will include:

- Keep trash cans covered and protected from animals
- Do not feed pets outdoors
- Secure bird feeders from squirrels, bears, and other animals
- Do NOT feed wild animals, including Canadian geese

**Measurable Goals:** Success for this BMP will be measured by the incorporation of messages into the existing public education program to encourage citizens to reduce food sources accessible to wildlife.

**TMDL Consistency:** Actions that reduce discharges of *E. coli* are consistent with the TMDL for bacteria. (EC)

**Evaluation and Modification:** Evaluation and modification are not appropriate at this time.

## **BMP B-8: Protect Stream Buffers: No-Mow Policy for Town-owned Lands**

**Goal:** The goal of this BMP is to evaluate the possibility of a “no-mow policy for town-owned lands” along streams, as a means to minimize stream bank erosion and dissuade access to streams by dogs.

**Responsible Party:** The Planning and Zoning Department is responsible to develop the no-mow policy for Town-owned lands with assistance from the Public Works Department and Roanoke County’s Department of Parks, Recreation, and Tourism (PRT) for greenways and/or parks maintained by County’s PRT .

**Schedule:** A draft no-mow policy for Town-owned lands will be prepared by June 2022, even though the Public Works Department mowing personnel have not been mowing along the streams of the Wolf Creek and Tinker Creek since 2015.

Per Roanoke County Stormwater Program Manager, a no-mow policy for County-owned lands is being implemented by the County’s PRT. This policy attempts to balance the competing goals of providing adequate access to streams for the public, providing adequate views of the streams, excluding dogs, protecting stream banks, and providing vegetative filters.

**Measurable Goals:** Success for this BMP will be measured by the preparation and implementation of a “no-mow policy for Town-owned lands.”

**TMDL Consistency:** Actions that reduce discharges of *E. coli* are consistent with the TMDL for bacteria. (EC)

**Evaluation and Modification:** Evaluation and modification are not appropriate at this time.

## **BMP B-9. Protect Stream Buffers: Ordinance**

**\* Roanoke County is the Town of Vinton Erosion and Sediment Control ESC's Administrator. The implementation of this BMP is the responsibility of Roanoke County Department of Development Services in cooperation with the Town of Vinton Planning and Zoning Department.**

**Goal:** The goal of this BMP is to evaluate the possibility of enacting stream buffer requirements, because stream buffers can be effective in dissuading stream access and in filtering stormwater runoff that sheet flows through the buffer, which helps to remove sediment, bacteria, and other pollutants.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with Roanoke County's Department of Development Services. The County's Department of Development Services is responsible to develop and implement the Stream Buffer Ordinance.

**Schedule:** This activity began in permit year 2016 - 2017. The new stream buffer requirements were incorporated into the County's Erosion & Sediment Control (ESC) Ordinance. The new requirements state that a 25 ft. wide stream buffer along perennial streams must be established in which no land grading may occur. The stream buffer requirements were accepted by Roanoke County Board of Supervisors and the revised ordinance became effective on July 27, 2021.

The revised ESC Ordinance with the proposed Stream Buffer requirements can be viewed in the folder entitled TMDLs, sub-folder B-2 on the attached compact disk and online at

<https://www.roanokecountyva.gov/2610/Ordinances-and-Design-Manuals>

or, a direct link to the document follows:

<https://www.roanokecountyva.gov/DocumentCenter/View/17847/ESC-Ordinance-eff-7-27-21?bId=> or

<https://www.roanokecountyva.gov/DocumentCenter/Index/1837>

**Measurable Goals:** Success for this BMP has been achieved, as the ordinance has been adopted. The County, through its Department of Development Services, will implement this ordinance, beginning with its effective date of July 27, 2021.

**TMDL Consistency:** Actions that reduce discharges of *E. coli* are consistent with the TMDL for bacteria (EC).

**Evaluation and Modification:** Evaluation and modification are not appropriate at this time.

## BMP B-10. Public Street Sweeping and Fall Leaf Collection Programs

**Goal:** The goal for this program is for the Town to maintain an effective street sweeping and the fall leaf collection programs.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with the Town's Public Works Department.

**Schedule:** The Town implements and is committed to continuing its public street sweeping and the leaf collection program storm sewer (drainage) system maintenance program. The number of large stormwater maintenance/repair projects will be documented. In addition, the number of emergency projects and small-scale maintenance/ repair projects completed each year will be tracked.

**Measurable Goal:** The street sweeping program to target weekly sweeping of all primary streets will return the greatest benefit of collecting and thus preventing roadway contaminants, sediment and debris, from entering the stormwater collection system. Other streets are swept bi-weekly or at three-week intervals. Sweeping frequency is impacted by inclement weather and equipment downtime. This continues to optimize both the use and effectiveness of the Town single street sweeper and achieves desired results.

The fall leaf collection program, which is normally done in the months of November and December, also minimizes leaf and yard waste from entering the stormwater collection system. In Year Three report, information on the amount of debris collected by the street sweeping program has also been tracked, which was 86 cubic yards.

The Town will continue to maintain the street sweeping program and the leaf collection program. This program of collections of roadway contaminants, sediment, debris, leaf, yard waste, prevents them from entering the Town's storm sewer collection system, and is of aesthetic benefit.

Reporting Period	Street Sweeping Program		Fall Leaf Collection Program
	Expenses/Wages	Weight Collected	
2018 – 2019 (Year One)	\$53,889.38		\$17,768.40
2019 – 2020 (Year Two)	\$108,647.13		\$31,658.85
2020 – 2021 (Year Three)	\$108,570.70	86 Cubic Yards	\$22,910.56

**TMDL Consistency:** The street sweeping program offers the greatest benefit to capture roadway contaminants, debris, and sediment (SED) before entering the Town's storm sewer collection system. The leaf collection program minimizes leaf and yard debris that contaminated with pet waste from entering storm sewer system (EC/FC).

**Evaluation and Modification:** The leaf collection program minimizes leaf and yard debris that contaminated with pet waste from entering storm sewer system (EC/FC). No changes are planned for this BMP at this time.

## C. BMPs to Address Benthic/Sediment

The latest version of the TMDL Action Plan for Bacteria Reduction (*E. coli*), dated April 26, 2021, is posted on the Town's website at:

[https://www.vintonva.gov/DocumentCenter/View/2226/TOV-Sediment-TMDL-Action-Plan\\_April-26-2021](https://www.vintonva.gov/DocumentCenter/View/2226/TOV-Sediment-TMDL-Action-Plan_April-26-2021)

This plan was developed to reduce sediment in the Roanoke River. The BMPs that will be used to address sediment are listed below:

BMP # Designation	BMP Name/Task	Implementation Date
S-1	*Lower Threshold for Compliance – Erosion and Sediment Control (ESC) Program Administered by Roanoke County as the Town's ESC Administrator (See Roanoke County BMP # S-1)	Ongoing
S-2	Town of Vinton MS4 Capital Improvement Program (CIP)	Started – Initial Capital Project Identified in March 2021
S-3	*Enhanced Public Outreach for Sediment – Roanoke County Public Outreach Include the Town of Vinton	Ongoing
S-4	Enhanced Employee Training for Sediment	Ongoing
S-5	*Contractor Appreciation Program – ESC Program Administered by Roanoke County as the Town's ESC Administrator (See Roanoke County BMP # S-5)	Ongoing
S-6	Public Street Sweeping and Fall Leaf Collection Programs	Ongoing
S-7	Stream Digital Assessments – Phase I 1. Glade Creek 2. Tinker Creek 3. Roanoke River 4. Wolf Creek Visual Stream Assessment and BMP Planning – Phase II 1. Seven (7) Stream Reaches of Tinker and Glade Creeks 2. Wolf Creek	Completed January 2017 Completed January 2017 Completed January 2017 Completed January 2017 Completed May 2017 To be Completed May 2022

**Note: Roanoke County is the Town of Vinton's Erosion and Sediment Control (ESC) Administrator**

**Roanoke County Public Outreach/Information Dissemination Includes the Town Residences, Business Owners, Dog/Cat Owners, and/or Active Land Disturbers (Homeowner/Contractor/Developers)**

## **BMP S-1. Lower Threshold for Compliance: Erosion & Sediment Control Program**

**\* The implementation of this MCM and its associated BMPs is the responsibility of Roanoke County Department of Development Services in conjunction with the Town of Vinton Planning and Zoning Department.**

**Goal:** The goal of this BMP is to reduce the offsite discharge of silt and sediment from construction sites, particularly from smaller sites that disturb less than 10,000 square feet, which is the state's threshold for compliance under the Virginia Erosion & Sediment Control Program. As discussed in the County's TMDL Action Plan for Sediment Reduction, it is estimated that this lower threshold keeps approximately **1,680 tons/year** of sediment out of the area waterways.

**Responsible Party:** The Town of Vinton Planning and Zoning Department in cooperation with Roanoke County's Department of Development Services.

**Schedule:** Roanoke County has been implementing a lower threshold of compliance (2,500 square feet) under its Erosion and Sediment Control Program for many years due to its steep terrain, highly erodible soils, and sediment-impaired waterways.

**Measurable Goals:** Success for this BMP will be measured by the continued implementation of the County's Erosion and Sediment Control Program using a lower threshold of compliance (i.e., 2,500 sq. ft.)

**TMDL Consistency:** Actions or activities that reduce discharges of sediment to receiving waters are consistent with the TMDL for sediment. (SED)

**Evaluation and Modification:** Roanoke County will continue to implement its Erosion and Sediment Control Program using a lower threshold of compliance (i.e., 2,500 square feet). No changes are planned for this BMP

## **BMP S-2. Town of Vinton MS4 BMP Capital Improvement Program (CIP)**

**Goal:** The goal of this BMP is to employ capital resources in the most cost-effective means to reduce sediment loads in the Roanoke River.

**Responsible Party:** The Planning and Zoning Department in cooperation with the Public Works Department.

**Schedule:** This program is ongoing. The initial Capital Improvement Project was identified in March 2021 for eroded streambank section of Glade Creek. Additionally, a consultant was hired in May 2021. Two eroded outfalls have been identified, inspected and analyzed, and the report dated June 7, 2021 was completed. The Town's consultant recommended that the most cost-effective BMP to reduce sediment discharged from the Town's MS4 would be to stabilize these eroded outfalls. The consultant's recommendation was supported by the reported experiences of other localities.

**Measurable Goal:** Since the Town believes that stream stabilization is one of the most cost-effective means to lower sediment loads in the Roanoke River, the Town stabilized a section of an eroded streambank along Glade Creek. Additionally, based on the consultant's recommendation of the two eroded drainage sites, a streambank stabilization project has been submitted for the Virginia Stormwater Local Assistance Fund (SLAF). This program also assumes that 50% of the cost will be provided through the Virginia Stormwater Local Assistance Fund (SLAF). Thus, success for this BMP will be measured by the continued funding and implementation of one capital BMP project about every three years.

- 100 linear feet eroded streambank along Glade Creek was stabilized as of December 8, 2020.
- Two eroded drainage sites were inspected and analyzed on June 7, 2021; Woodland Outfall and Hargis Outfall – A VA SLAF grant application was submitted for Woodland Place in July 2021.

**TMDL Consistency:** Structural BMPs that reduce discharges of sediment to receiving waters are consistent with the TMDL for sediment. (SED)

**Evaluation and Modification:** Town of Vinton will continue to implement its MS4 BMP Capital Improvement Program. No modifications are planned for this BMP.

### **BMP S-3. Enhanced Public Outreach for Sediment**

**\*Roanoke County implementation and dissemination of public education that include the annual stormwater newsletter, PSAs, brochures, etc., includes Town residents and business owners.**

**Goal:** The goal of this BMP is to enhance the BMPs used under MCM 1 and MCM 2, where applicable, to ensure that they address sediment as a high priority water quality issue. This will help to raise awareness of the water quality issues involving sediment in target audiences and the general public.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with Roanoke County's Department of Development Services, with assistance from the CVC, RVT, and the Town/County's web content manager.

**Schedule:** The Town and Roanoke County have developed a list of public (target) audiences to receive specific messages on an annual basis about ways to reduce sediment pollution in their day-to-day activities.

**Measurable Goals:** Success for this BMP will be measured by the incorporation of information concerning sediment into the County's public education and outreach efforts. See **BMP 1-7** in this report for a detailed assessment of compliance with goals. Note that **Table 1-7.1A** shows how the Town addresses sediment for certain target audiences and the general public.

**TMDL Consistency:** The enhanced Public Education and Outreach goals were specifically tailored to address water quality issues related to sediment. (SED)

**Evaluation and Modification:** Use of messages tailored to address benthic/sediment that are focused on the proper target audiences is an effective means to raise awareness, improve individual's actions, and increase support for water quality programs. The Town believes that its current activities in this area are robust, and no modifications are planned for this BMP.

## **BMP S-4. Enhanced Employee Training for Sediment**

**Goal:** The goal of this BMP is to enhance **BMP 6-3** to ensure that it addresses sediment as a high priority water quality issue. This will help to raise awareness of those Town employees (Public Works Department) that are required to take such training.

**Responsible Party:** The Planning and Zoning Department in cooperation with Human Resources/Risk Management Director and Public Works Department. The appropriate departments with access to the training materials; each department is responsible to make certain that their employees take and comply with the pertinent training.

**Schedule:** Employee training will be conducted on a biennial basis. The Town will review the training program on a biennial basis and update it, as needed.

**Measurable Goals:** Compliance with **BMP 6-3** training goals in the following topics with evidence that sediment has been incorporated into the training material as a high priority water quality issue.

- Recognition and Reporting of Illicit Discharges
- Good Housekeeping and Pollution Prevention Practices
- Contractor Oversight for Environmental Compliance
- Hazardous Materials (HAZ-MAT) Training

This training is performed every two years, pursuant to the MS4 permit requirements,

**TMDL Consistency:** The Enhanced Employee Training was specifically tailored to address ways to reduce sediment in stormwater runoff. (SED)

**Evaluation and Modification:** This training is important to give Town employees the understanding that sediment is a high priority water quality issue and that measures shall be implemented, where practical, to reduce its discharge into stormwater. No modifications are planned for this BMP.

## BMP S-5. Contractor Appreciation Program

**\* The implementation of this MCM and its associated BMPs is the responsibility of Roanoke County Department of Development Services in cooperation with the Town of Vinton Planning and Zoning Department.**

**Goal:** To reduce discharge of sediment from construction sites.

**Responsible Party:** The Town of Vinton Planning and Zoning Department in cooperation with Roanoke County Department of Development Services, with the assistance from the County's Public Information Officer (PIO).

**Schedule:** Roanoke County has implemented the Contractor Appreciation Program to recognize those contractors that are proactive in implementing erosion and sediment controls and employing stormwater management measures to "keep their dirt on their project."

**Measurable Goals:** Success for this BMP will be measured by the continued implementation of the Contractor Appreciation Program.

In this permit year, Lionberger Construction (*Saint Francis Service Dogs Pavilion project*) won the program's prestigious Stormwater Clean Award. For specific details about the project and the program, visit

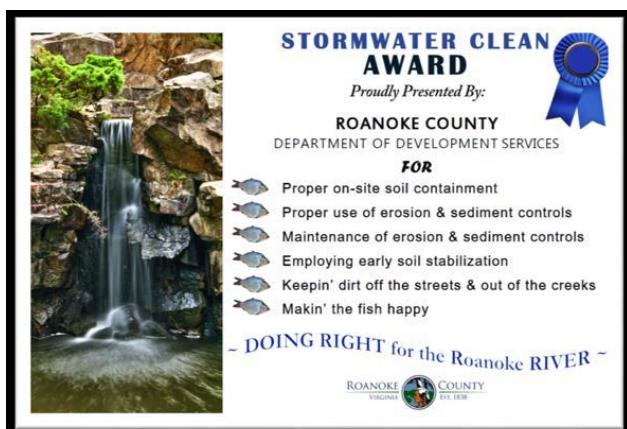
<https://www.roanokecountyva.gov/1780/Stormwater-Contractor-Appreciation>

or Roanoke County's Document Center via the link below:

<https://www.roanokecountyva.gov/DocumentCenter/Index/1837>

**TMDL Consistency:** Actions that result in lowering the discharge of sediment from construction sites are consistent with the TMDL (SED).

**Evaluation and Modification:** The Town and County believe that this program is very effective in raising awareness among contractors to 'do the right thing' by keeping their dirt on their projects and out of the local receiving waters. It gives staff an opportunity to work with the Contractors in a positive way and provides the recipient contractors with positive and free publicity for their projects. No modifications are planned for this BMP.



## BMP S-6. Public Street Sweeping and Fall Leaf Collection Programs

**Goal:** The goal for this program is for the Town to maintain an effective street sweeping and the fall leaf collection programs.

**Responsible Party:** The Town Planning and Zoning Department in cooperation with the Town's Public Works Department.

**Schedule:** The Town implements and is committed to continuing its public street sweeping and the leaf collection program storm sewer (drainage) system maintenance program. The number of large stormwater maintenance/repair projects will be documented. In addition, the number of emergency projects and small-scale maintenance/ repair projects completed each year will be tracked.

**Measurable Goal:** The street sweeping program to target weekly sweeping of all primary streets will return the greatest benefit of collecting and thus preventing roadway contaminants, sediment and debris, from entering the stormwater collection system. Other streets are swept bi-weekly or at three-week intervals. Sweeping frequency is impacted by inclement weather and equipment downtime. This continues to optimize both the use and effectiveness of the Town single street sweeper and achieves desired results.

The fall leaf collection program, which is normally done in the months of November and December, also minimizes leaf and yard waste from entering the stormwater collection system. For year three reporting period, the total expenses on wages, and equipment cost of street sweeping program was \$108,570.70 and the total expense of the leaf collection program was \$22,910.56. In Year Three report, information on the amount of debris collected by the street sweeping program has also been tracked, which was 86 cubic yards.

The Town will continue to maintain the street sweeping program and the leaf collection program. This program of collections of roadway contaminants, sediment, debris, leaf, yard waste, prevents them from entering the Town's storm sewer collection system, and is of aesthetic benefit.

Reporting Period	Street Sweeping Program		Fall Leaf Collection Program
	Expenses/Wages	Weight Collected	
2018 – 2019 (Year One)	\$53,889.38		\$17,768.40
2019 – 2020 (Year Two)	\$108,647.13		\$31,658.85
2020 – 2021 (Year Three)	\$108,570.70	86 Cubic Yards	\$22,910.56

Please see the table below for the amount of sediment removed by street sweeping from July 1, 2020 through June 30, 2021.

Land Use	WLA, T/yr	Total WLA, T	% of Total WLA	Percent Reduction	Existing Load, T/yr	
DF	79	4573.3	1.7%	0.0%	79	
EF	6.1	4573.3	0.1%	0.0%	6.1	
MF	29.3	4573.3	0.6%	0.0%	29.3	
P/H	160.7	4573.3	3.5%	69.5%	231.2	
RC	62.3	4573.3	1.4%	69.5%	89.6	
LIR	38.1	4573.3	0.8%	69.5%	92.9	
HIR	22.1	4573.3	0.5%	69.5%	53.9	
C/I	988.9	4573.3	21.6%	69.5%	2411.8	
OW	0	4573.3	0.0%	0.0%	0	
WW	0	4573.3	0.0%	0.0%	0	
EH	0	4573.3	0.0%	0.0%	0	
Q/SM/GP	122.6	4573.3	2.7%	69.5%	299	
T	98.1	4573.3	2.1%	69.5%	239.3	
U/RG	9.7	4573.3	0.2%	69.5%	23.7	
ISE	2956.4	4573.3	64.6%	69.5%	7210.2	
<b>Total</b>	<b>4573.3</b>				<b>10766</b>	
<b>Vinton Existing</b>	<b>Vinton WLA</b>	<b>% WLA Non-ISE</b>	<b>Runoff WLA, T</b>	<b>ISE WLA, T</b>	<b>Existing Runoff</b>	<b>Existing ISE</b>
391.15	119.3	0.25	30.2	89.1	97.8	293.4
Street Sweeping, Mass Load	CY 86	lbs/CY 865	Total Lbs 74,390.00	W to D 52,073.00	Particle Size 15,621.90	Tonnage 7.81
	(Enter CY here)			(Multiplies Lbs by 0.7)	(Multiplies W to D by 0.3)	
<b>Vinton Existing</b>	<b>Vinton WLA</b>	<b>Required Reduction</b>	<b>Street Sweeping, T</b>	<b>Remaining Reduction, T</b>		
391.15	119.3	271.85	7.81	264.04		
	ISE	203.9		203.9		
	SW Runoff	68	7.81	60.19		

**TMDL Consistency:** The street sweeping program offers the greatest benefit to capture roadway contaminants, debris, and sediment (SED) before entering the Town's storm sewer collection system. The leaf collection program minimizes leaf and yard debris that contaminated with pet waste from entering storm sewer system (EC/FC).

**Evaluation and Modification:** The leaf collection program minimizes leaf and yard debris that contaminated with pet waste from entering storm sewer system (EC/FC). No changes are planned for this BMP at this time.

## **BMP S-7. Visual Stream Assessment and BMP Planning**

**Goal:** The goal of this BMP is to perform field and office investigations of streams within the MS4 area to document existing conditions and identify opportunities for implementation of cost-effective BMPs.

**Responsible Party:** The Planning and Zoning Department.

**Schedule:** In Permit Year 4 (2016 - 2017) of the previous permit, the Town hired a consultant to perform this task. The consultant completed a digital assessment (Phase 1) of approximately 10 miles of streams in the four (4) watersheds located in the Town's MS4 Area in January 2017. The Phase II //Visual Assessment of Tinker Creek and Glade Creek was completed and documented in a report dated April 24, 2017. The report was summarized in the Town's Benthic/Sediment TMDL Action Plan Dated April 26, 2021 and submitted to VA DEQ Blue Ridge District.

**Measurable Goal:** The digital assessment was designed to identify stream reaches with eroding streambanks as well as other potential sediment and bacterial sources. Data collected as part of the digital assessment was entered directly into Roanoke County's Spatial Database Engine (SDE) for use in future pollutant reduction activities (Roanoke County operates the SDE for the overall County including the Town).

**TMDL Consistency:** This initial stream assessment identified locations where Town efforts should be concentrated, at this time, to lower bacteria and sediment discharges. (EC & SED)

**Evaluation and Modification:** This initial stream assessment is valuable in understanding existing stream conditions and in prioritizing the Town's efforts in minimizing sediment being deposited in the streams. No modifications are planned for this BMP.

## **SECTION III. SUPPORTING DOCUMENTS**

- 1. BMP 1-7. Targeted Education Program:**
  - a. Table 1.7 List of Businesses, etc.**
  - b. List of Properties with Septic System in the Town of Vinton**
- 2. BMP 3-1. The Town of Vinton Municipal Separate Storm Sewer System (MS4) Map**
- 3. BMP 5-3. Stormwater Management Facility Tracking**
  - a. Vinton MS4 Outfalls Table**
  - b. Vinton Stormwater Management Facilities that Discharge to MS4 Table**
- 4. BMP 6-5. Nutrient Management Plan of Vinton War Memorial**
- 5. BMP B-1 and BMP S-7 – Visual Stream Assessment and BMP Planning:**
  - a. Town of Vinton Stream Assessment – Final Report, January 2017; GKY & Associates, Inc.**
  - b. Town of Vinton TMDL Stream Assessments Phase 2 – May 31, 2017: GKY & Associates, Inc.**
- 6. BMP S-2. Town of Vinton MS4 BMP Capital Improvement Program**
  - a. Town of Vinton Stream Benefits Analysis – Preliminary Result, June 7, 2021, WSSI, Inc.**
  - b. Woodland Place Stream Benefit Analysis Report – July 27, 2021, WSSI, Inc.**