

TOWN OF VINTON, VIRGINIA
Virginia Stormwater Management Program (VSMP)
General Permit for Discharges of Stormwater from Small
Municipal Separate Storm Sewer System (MS4)
Annual Report
Permit Year Two

October 1, 2015

REPORTING PERIOD OF
JULY 1, 2014 – JUNE 30, 2015

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Submitted To:
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Pursuant to General Permit Number VAR040026



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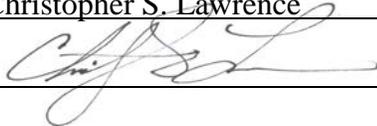
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County of Roanoke
City of Roanoke
Roanoke Valley Resource Authority (RVRA)
Roanoke Valley Television Station (RVTV)
Virginia Saves Our Streams Foundation
Western Virginia Water Authority (WVWA)

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."

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VAR040026 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 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. This program is also designed to meet the appropriate water quality requirements of the Clean Water Act (CWA), Virginia Stormwater Management Act, and associated regulations.

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. 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.

Since 2003, the Town 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: Public education and outreach on stormwater impacts; Public participation and involvement; Illicit discharge detection and elimination; Construction site stormwater runoff control; Post-construction stormwater management in new development and redevelopment; and Pollution prevention and good housekeeping for municipal operations.

Numerous best management practices (BMPs) within each of the MCM have been modified and updated by the Town to address the new program requirements as of June 30, 2015 concerning: MCM 4 Construction Site Stormwater Runoff Control Stormwater Management Progressive Compliance and Enforcement and MCM 6 Pollution Prevention/Good Housekeeping for Municipal Operations in regards to Stormwater Pollution Prevention Plan (SWPPP) for Town facilities and a Nutrient Management Plan (NMP) for Vinton War Memorial property, which entails three (3) acres of managed open space. This report entails MCMs and associated BMPs for reporting period of July 1, 2014 through June 30, 2015, the second annual report for the Town's reissued MS4 permit, having an effective date of July 1, 2013 and an expiration date of June 30, 2018.

This document represents the Town of Vinton's MS4 Year Two Annual Report – July 1, 2014 through June 30, 2015 to meet the requirements of 4VAC50-60 "General Virginia Stormwater Management Program (VSMP) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)". 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 will expire on June 30, 2018. While the basic framework has not changed, several permit modifications require changes to the Town's stormwater management program. This plan demonstrates how the Town will meet the new requirements through 2018.

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. This program is also designed to meet the appropriate water quality requirements of the Clean Water Act (CWA), Virginia Stormwater Management Act, and associated regulations.

Since 2003, the Town has 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:

1. Public Education and Outreach
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination;
4. Construction Site Stormwater Runoff Control;
5. Post-Construction Stormwater Management in New Development and Development on Prior Developed Lands; and
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

In addressing these six minimum control measures, 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.

The Town has engaged in an extensive review and assessment of the existing stormwater management operations; ordinances, protocols, and programming against the VSMP permit compliance requirements. Based on that review and assessment, the Town has developed appropriate and cost effective best management practices (BMPs) with the goal of controlling pollution to the maximum extent practicable.

Community Profile

The Town has a population of 8,098 based on 2010 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 the County of Roanoke in the stormwater management program. The County of Roanoke continues to provide services to the Town through already in place agreements such as erosion and sediment control administration; schools, parks, recreation and tourism services and administration; building review, inspections, and approval services and administration, and memoranda of understanding to provide stormwater management plan review services and stormwater management best management program (BMP) facilities inspections.

The Town intends to continue its participation in regional efforts to educate the general public and developers. These efforts are in cooperation with Roanoke County and City of Roanoke, 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. The Department of Planning and Zoning is responsible for overall coordination of Virginia Stormwater Management Program (VSMP) and MS4 compliance.

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 a population of 8,098; contains 3.2 square miles in area; 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.

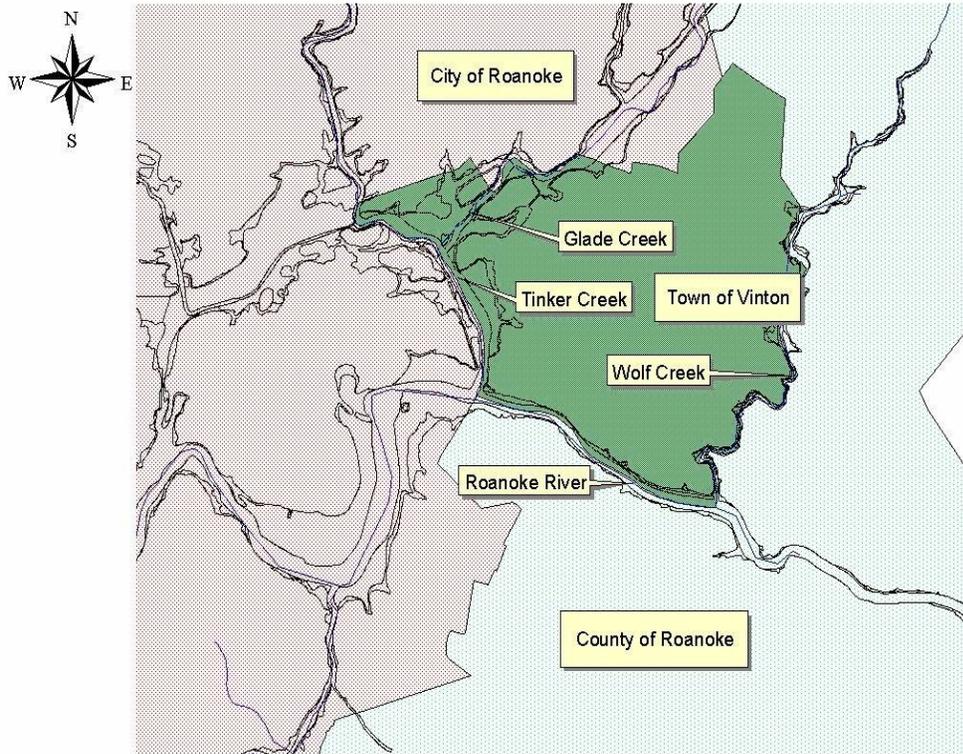


Figure 1. Receiving Waters for the Town of Vinton

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 thirteen wells drawing ground water from the Falling Creek Aquifer.

All other regulated small MS4's that the Town is physically interconnected MS4 including Virginia Department of Transportation (VDOT) were informed of the Town's MS4 Program Plan Update in a correspondence dated, December 23, 2008.

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 City of Roanoke, 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 6th 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

Special Requirements for Impaired Waters and Strategies to Ensure Program Consistency with TMDL Assumptions

While the focus of the Town's VSMP permit is on pollution prevention, the permit requires special measures to address water bodies that are already identified as impaired on the DEQ's 303(d) list. In addition, the permit provides for specific action when a Total Maximum Daily Load (TMDL) Waste Load Allocation (WLA) has been assigned for a specific pollutant of concern. A TMDL establishes the maximum amount of a pollutant that can enter a water body without violating water quality standards.

The Town has several local creeks that have a TMDL completed at the time when the MS4 permit was issued. The creeks, associated pollutants, and waste load allocations are listed below.

TMDL Waterways and Tributaries*	Year Completed	Parameter	WLA
<i>Tinker Creek Watershed</i>	2004	E. coli (EC)	
Glade Creek			8.78E+10 cfu/year
Tinker Creek			3.42E+11 cfu/year
<i>Roanoke River Watershed</i>	2006	E. coli (EC)	
Roanoke River			3.32E+10 cfu/year
<i>Roanoke River Watershed</i>	2006	Sediment (SED)	
Roanoke River			119.3 tons/year

Table 2. Wasteload Allocations for the Town of Vinton Watershed with Completed TMDLs

***This information is based upon DEQ list of approved and draft TMDL's at <http://www.deq.state.va.us/tmdl/develop.html> for streams located within the urbanized Town of Vinton as defined by the 2010 Census**

Stormwater Volume and Pollutant Load Estimation for Year Two of Reissued Permit (2013 – 2018) with Waste Load Allocation (WLA) Identified

As part of the Town of Vinton Permit Year One Annual Report – July 1, 2014 through June 30, 2015, this information is being submitted to report the estimate volume of stormwater discharged and the quantity of pollutants identified in the Town's Waste Load Allocations (WLAs) that is discharged by the regulated small MS4 for each pollutant identified in the local creeks that have a TMDL completed in 2004 and 2006.

In this section, the methods and results of the calculations for the following items will be described:

1. Estimated Percent Impervious for the Town of Vinton MS4
2. Annual Precipitation for the Reporting Period
3. Estimation of Volume of Stormwater Discharged
4. Estimation of Colony Forming Units of E. Coli
5. Estimation of Total Suspended Solids Discharged Annually

Percent Impervious for Town of Vinton MS4

The Percent Impervious for the Town of Vinton was derived from the Town of Vinton Urban Tree Canopy (UTC) Report carried out by the Virginia Department of Forestry in collaboration with the Town and Roanoke Valley Alleghany Regional Commission. The data analysis utilized high resolution (1 meter) aerial imagery acquired in the summer of 2008 and incorporated parcel specific zoning and land use data provided by the Town of Vinton. The UTC report provided the town with an estimate of total impervious cover of **29.4%**.

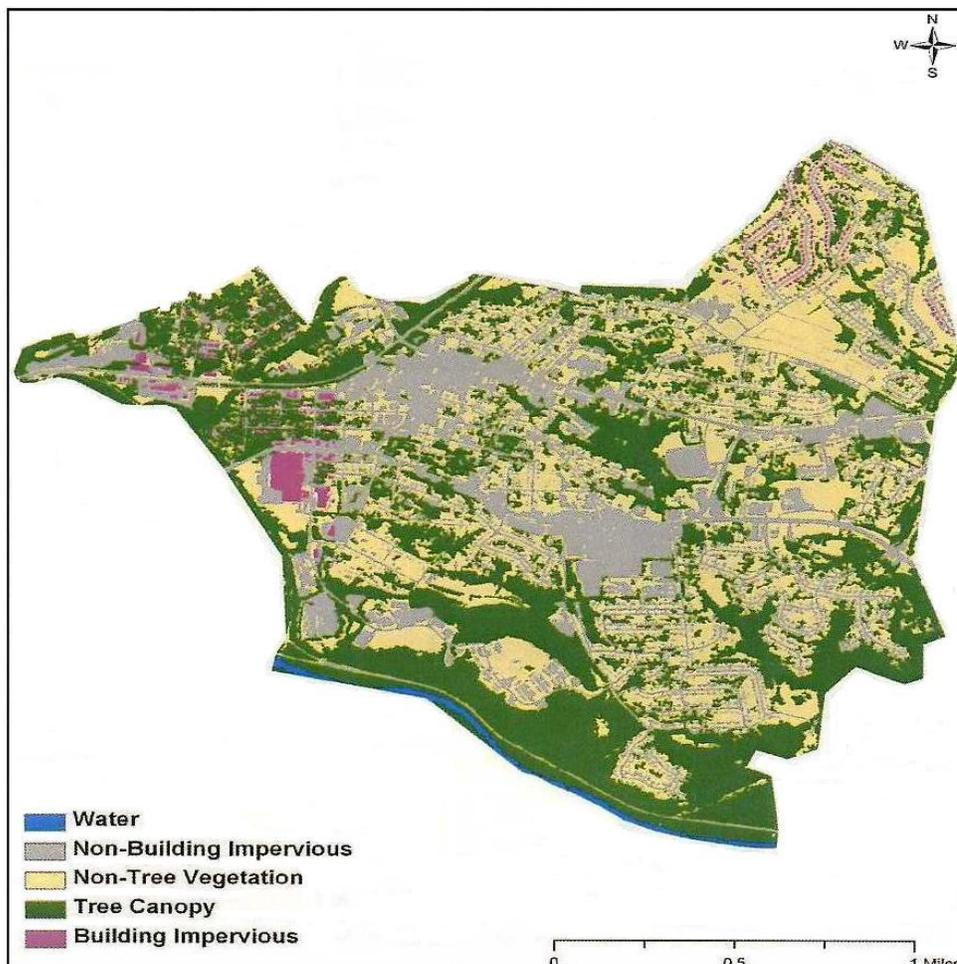


Figure 2. 2008 Land Cover For the Town of Vinton, Urban Tree Canopy (UTC) Report

Annual Precipitation for the Reporting Period

The Town of Vinton gathers its annual precipitation from the Local Climatological Data from NOAA’s National Climatic Data Center (NCDC). The Town of Vinton used the data from the Roanoke Regional/Woodrum Field Airport (KROA) due to its close proximity to the Town. This data was collected on a monthly basis from July 1, 2014 through June 30, 2015, and compiled for this report. The total precipitation for the July 1, 2014, through June 30, 2015, period was 44.85 inches.

Estimation of Volume of Stormwater Discharged

Using the Town of Vinton’s impervious percentage estimate and annual precipitation, the Town of Vinton has used the formula below to derive the volume, in cubic feet, of runoff from the regulated MS4 for each of the watersheds with an identified wasteload allocation. The results are shown below:

$$R_{cufit} = 36.3021 * X * Y * Z$$

$$36.3021 = \left(\frac{1}{100\%}\right) \left(\frac{1ft}{12in}\right) \left(\frac{0.0015625mi^2}{1acre}\right) \left(\frac{27,880,000ft^2}{1mi^2}\right)$$

- Where:
- R = Runoff Volume Estimate, cubic feet
 - X = 29.4%, Estimated percentage of impervious for Town of Vinton MS4
 - Y = 44.85 inches, Annual precipitation in inches of reporting period July 1, 2014 – June 30, 2015: Data from NOAA, Roanoke Regional Airport Station
 - Z = Area of MS4 (in acres)

Watershed with WLA	Drainage Area of MS4 (ac)	Volume (cubic feet)
Roanoke River	148	7.08E+06
Tinker Creek	489	2.34E+07
Glade Creek	711	3.40E+07

Table 3. Stormwater Runoff Volume Estimation

Estimation of Colony Forming Units of E. Coli

Town of Vinton has utilized the Simple Method (Schueler, 1987) to calculate urban stormwater loading for bacteria. This method is originally derived to calculate bacteria in the form of Fecal Coliform using the National Median Concentration for Chemical Constituents in stormwater factor for fecal coliform. To convert to the E. Coli standard for bacteria to make this calculation consistent with the WLA, Town of Vinton has converted Fecal Coliform to E. Coli using the regression model developed by the Virginia Department of Environmental Quality (DEQ). These methods and results are detailed below.

The Simple Method:

$$L \text{ (cfu/year)} = 103 * R * C_b * A \text{ (Fecal Coliform)}$$

Where: L = Annual load (cfu/year)
 $R_{in} = 44.85$ inches, Annual Runoff Estimate
 = X * Y
 C_b = Bacteria Concentration (1000/mL)
 = 15,000/mL (factor for fecal coliform)
 A = Area (acres)
 Note: 103 is the conversion Factor for Bacteria

The Virginia Department of Environmental Quality Conversion from Fecal Coliform to E. Coli

$$E \text{ coli} = 2^{[-0.0172+0.91905*\log_2(\text{fecal coliform})]}$$

Watershed with WLA	Drainage Area of MS4 (acres)	Calculated Fecal Coliform (L) (cfu/year) (2014-2015)	Calculated E. Coli (cfu/year) (2014-2015)
Roanoke River	148	3.02E+09	5.09E+08
Tinker Creek	489	9.96E+09	1.53E+09
Glade Creek	711	1.45E+10	2.15E+09

Table 4. Colony Forming Units of E. Coli Estimation

Estimation of Total Suspended Solids (TSS) Discharged Annually

Town of Vinton has utilized the simple method (Schueler, 1987) to calculate urban stormwater loading for total suspended solids. This method identified to the method used for Fecal Coliform with different values for potential concentration and conversion factors. The method and results are detailed below.

The Simple Method:

$$L = 0.226 * R_{in} * C_p * A$$

Where: L = Annual Load (lbs/year)
 $R_{in} = 44.85$ inches, Annual Runoff Estimate
 = X * Y
 C_p = Pollutant Concentration (mg/L)
 = 54.51 mg/L (factor for TSS)
 A = Area (acres)
 Note: 0.226 is the Conversion Factor for TSS

$$L \text{ annual load (tons)} = \frac{L \text{ lbs (annual load)}}{2000 \text{ lbs}}$$

Watershed with WLA	Drainage Area of MS4 (ac)	Calculated Total Suspended Solids (tons/year) (2014-2015)
Roanoke River	148	12.0 tons/year

Table 5. Total Suspended Solids (TSS) Discharged Annually Estimation

Through its reissued MS4 Permit, effective July 1, 2013, the Town of Vinton has developed TMDL Action Plans for sediment and E. coli as of July 1, 2015. These Action Plans include the steps that the Town intends to take to meet its wasteload allocations. Therefore, a clear understanding of the TMDL studies that developed the wasteload allocations and the Town’s current yearly pollutant discharges are critical to ensure that the Town develops effective Action Plans that meet the regulatory requirements and are cost-effective for its citizens.

The calculated E. Coli and Sediment discharges are based solely on land use and precipitation values. Impacts from existing BMPs are not reflected in these calculations. As the County’s GIS system is improved to include the Town’s BMP data, to better locate and quantify the beneficial effects of BMPs, such BMPs will be integrated into future water quality calculations.

The Town’s TMDL Action Plan for Sediment Reduction in the Roanoke River and the TMDL Action Plan for E. Coli Reduction in the Roanoke River, Tinker Creek, and Glade Creek are included as separate documents.

MCM 1: PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

The Town of Vinton, Roanoke County, and City of Roanoke entered into a contract agreement with Clean Valley Council (CVC), Inc., since August 2006 to help fulfill most of the Best Management Practices (BMPs) within the MCM 1 and MCM 2. 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.

The **three selected high-priority water quality issues are bacteria, sediments, and nutrients.** The rationale for these selected water quality issues is because the Town has been assigned a total maximum daily load (TMDL) for these impairments, which means the Town has been put on a “Pollution Diet” to limit these pollutants from entering its waterways. Nutrients (phosphorus and nitrogen, in particular) were selected as the third water quality issue on which to focus, because they have such negative impacts on receiving waters when in large quantities. Excess nutrients wash off from lawns, other managed turf areas, and gardens and are transported via stormwater runoff to the area’s local creeks, streams, and the Roanoke River. In these water bodies, they cause algae 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, thus making it an important topic on which to focus education efforts.

The education and outreach on these three water quality issues will be designed to target a minimum of 20% of the Town’s population each year. The Town will use various means to conduct public education, including spots on the local cable channel (RVTV-3), posting of educational material on the Town’s website and Facebook pages, outreach activities with other organizations, the publication of newsletters and brochures, and the Town’s annual calendar distributed to every household in early December. The Town will also continue to collaborate with the Clean Valley Council on education initiatives within the schools, and it will collaborate with neighboring localities such as the County of Roanoke and City of Roanoke, to conduct some education initiatives on a more regional scale.

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. A list of programs or BMPs to meet these educational, and outreach measures is:

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

Update and distribute a comprehensive review of existing stormwater educational programs available to Town of Vinton and the Roanoke Valley area. Revised to coordinate with BMP 1-5.

BMP 1-2. Development and Distribution of Stormwater Educational Materials

Develop and distribute a Roanoke County Stormwater Informational Mailer to Town of Vinton Residents and Businesses. Revised to coordinate with BMP 1-5.

BMP 1-3. Stream School Seminars – Stream Monitoring and Education

On behalf of Town of Vinton, Clean Valley Council will provide stream monitoring and informational stream seminars for Town of Vinton residents.

BMP 1-4. Stormwater Educational Programs and Activities

Develop and implement a stormwater educational program for Town of Vinton/Roanoke County school age children. Different programs will target appropriate grade levels. Revised to coordinate with BMP 1-5.

BMP 1-5. Stormwater Public Awareness Programs

Develop and implement a Stormwater Public Awareness Program that includes the distribution of stormwater merchandise, public service announcements, and other high visibility educational media.

This program has been revised by identifying at least three (3) high-priority water quality issues: **sediment, bacteria, and nutrients**; and their respective Target Audiences; and development of appropriate messages and media to target these issues and audiences.

BMP 1-6. Town of Vinton Stormwater Webpage where Citizens Can Obtain Information Concerning the Town’s Stormwater Management Program, Ordinances, Design Guidelines, Contact Information, Educational Programs, and Links to Other Organizations and Web Sites

Maintain and expand the Town’s Stormwater webpage that informs the public about water quality, community-based outreach and local projects. Revised to coordinate with BMP 1-5.

Included in this document is a detailed description of the objective and measurable goal of each BMP; the strategies to ensure consistency with the identified local TMDLs; the responsible parties, the applicable supporting documents that include contract agreements, policies, ordinances, inspection forms, written procedures; 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 goals of the stormwater program. The TMDL compliance is broken down by the identified impairment type: E. coli, fecal coliform (EC/FC) and sediment (SED).

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

Goal: To continue to update and distribute a list of current publications, educational programs, websites, videos, maps, and training opportunities that directly address stormwater issues such as stormwater management, stormwater quality, impaired water bodies, floodplain management, pollution prevention, conservation practices, and riparian habitat protection. The target audiences and messages shall be coordinated with BMP 1-5.

Measurable Goal: The Town of Vinton has created and maintained this education programs review in the form of a stormwater programs database. The database documents educational

programs, brochures, pamphlets, videos, maps, and training opportunities related to stormwater quality, stormwater management, pollution prevention, conservation practices and riparian habitat. The database is accessible through Town’s website and includes instructions on accessing the variety of educational materials located on the site. The Town along with Roanoke County is planning to form target groups based on website usage to distribute specific program lists to libraries, schools and/or public organizations.

Table 6 lists the stormwater education resources that can be accessed through the Town’s website and/or through links. Table 7 is the stormwater page report that tracked how many times these sites were accessed from July 1, 2014 through June 30, 2015. Additionally, CVC maintains and updates 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.

Title of Resources	Date Added/ Updated	Comment
Video: The Poop Fairy	2015	Tips for Managing Pet Waste
Handout: How to Manage Stormwater: Rain Barrels (www.cleanriverspdx.org , Portland, OR)	2015	How to Manual: How to build a rain barrel
Brochure: It’s Just Dirt (Roanoke County Community Development Department/Town of Vinton Planning and Zoning Department)	2015	Construction Site Erosion Control and Permitting.
Brochure: Clean and Green (DCR & VCE)	2015	Handout on Garden and Backyard Practices for Reducing Stormwater Runoff Pollution
Map: Roanoke Valley Pet Waste Stations	2014	Map of All Pet Waste Stations in the Roanoke Valley
Brochure: Roanoke Stormwater Idea Book – City of Roanoke	2014	A Stormwater Guide for Homeowners
Brochure: Stormwater Utility Fee Credit Manual – City of Roanoke	2014	Stormwater BMPs , Fees, and Credits
http://www.cleanvalley.org/storm-water	2014	Web Resources Targeted at Residents: Includes General BMPs, Rain Gardens, Rain Barrels
http://www.cleanvalley.org/stormwaterbusinesses	2014	Web Resources Targeted at Businesses: Subsections on Carwash, Restaurant, Auto Shops
Handout: Cigarette Butts and the Environment (CVC)	2014	Handout on Impacts of Cigarette Butts in the Environment
Postcard: Only Rain Down the Drain – Car Wash (CVC)	2014	5 Keys for Protecting Stormwater when Washing a Car
Postcard: Only Rain Down the Drain – Restaurant (CVC)	2014	5 Keys for Protecting Stormwater at Restaurants
Brochure: Native Plants for Conservation, Restoration and Landscaping (DCR publication)	2014	Gardening Information for reducing stormwater impacts and improving water quality
Brochure: “Pick it Up....It's your "Doodie" (Town of Vinton and County of Roanoke)	2013	Pet Waste solutions for stormwater BMP's and water quality

Table 6. Stormwater Educational Resources, Publications, and Programs

TMDL Consistency: The sources available on the Town’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 website provides links to the Roanoke County, CVC, and state erosion and sediment control regulations for developers that are interested in ways to stabilize a construction site.

Evaluation and Modification: The Town was able to get the number of times that the database was viewed. Please see Table 7. The number of visits illustrates that while the website is an effective format to distribute the information concerning educational programs, the usage has been minimal. Modifications to this BMP may include new locations where this database is accessible to increase the amount and variety of information distributed.

Webpage Name	Unique Pageviews	Pageviews
Vinton, VA - Official Website - Stormwater Quality Information	33	50
Vinton, VA - Official Website - Publication & Resources	12	17
Vinton, VA - Official Website - Pubic Outreach and Education	15	21
Vinton, VA - Official Website - Quick Facts	18	26
Vinton, VA - Official Website - VSMP Permit	21	32
Vinton, VA - Official Website - Stormwater Public Education Videos	8	40
Vinton, VA - Official Website - Rain Barrels	5	15
TOTALS FOR YEAR--July 2014 through June 2015	112	201

Table 7. Stormwater Webpages Report, July 1, 2014 through June 30, 2015

BMP 1-2. Development and Distribution of Stormwater Educational Materials

Stormwater educational materials were given out to students and adults through school outreach programs and Earth Summit for high school students and teachers; and community special events such as Roanoke Valley Home Show, Roanoke Valley Fall Waterways Clean-up After Event Picnic, Vinton Fall Festival, Earth Day Celebration, Energy Expo, and select locations including the Vinton Municipal Building and Roanoke County Vinton Branch Library.

The Town provides its citizens an annual calendar in early December of each year. The 2015 calendar, which was distributed in December 2014 to every household in the Town’s limits, provides 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.

Goal: The Town along with Roanoke County will continue to develop stormwater educational mailer for general public and for specific commercial businesses. The material will contain the stormwater program, general stormwater quality education, updates of local impaired water bodies, and TMDL’s. It will be based on the unique issues and concerns for the Roanoke River Watershed. Specific businesses will be targeted in an effort to increase business owners’

awareness of the impacts of illicit discharges into the Town's storm sewer systems. The messages for the mailer 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 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.

Measurable Goal: For year two report, Town's calendar which contains stormwater information was distributed to **3,040** households. Other stormwater educational materials for year two reporting period were:

1. On October 10, 2014; "Pick It Up...Its' Your "Doodie"! Don't Let Your Pet's Waste Pollute" brochure was mailed to four business owners in the Town. Additionally, this brochure is also given out by the Treasurer/Finance Department to pet owners that come in to obtain and/or renew their dog/cat tag – EC/FC.
2. On June 9, 2015, a "Green & Clean – Town of Vinton Stormwater Management Lawn Care Tips" brochure was developed and made available at the Planning and Zoning Department counter, the Town Information Center and during environmental event. The brochure was also mailed to ten lawn and garden related businesses – Nutrients.
3. On June 9, 2015, "It's just Dirt..."What more do I need to know?" brochure was developed. The brochure is made available at the Vinton Planning and Zoning Department and Roanoke County Community Development counters; given out to Responsible Land Disturber; property owner and/or developer at all pre-construction meeting – SED.
4. On June 9, and June 12, 2015, "No, I am NOT the Poop Fairy" poster was developed. This poster along with the "pick It Up...Its' Your Doodie" brochure were mailed to one veterinary hospital, one dog trainer/dog day care, and two pet groomer businesses located in the Town Limits. Additionally, the brochure and the poster were also given out to pet owners when they came in to obtain their dog/cat tags – EC/FC.
5. On June 9, and June 12, 2015, "Stormwater Best Management Practices for Restaurants – A Guide for Roanoke County/Town of Vinton Restaurant and Eateries" brochure was developed and mailed to 22 restaurants located in the Town Limits – EC/FC, SED.
6. On June 12, 2015, a "Reduce, Reuse, Recycle and Properly Dispose of Hazardous Wastes in and around Your Home – A Guide for Town of Vinton Residents" brochure was developed and made available at the Planning and Zoning Department counter, the Town Information Center and during environmental events.
7. On June 22, and June 26, 2015, "A Stormwater Guide for Homeowners" mailer was mailed to 3,730 Vinton's residential parcels. The mailer cover the following topics: What is Stormwater?; What are the Main Pollutants in Stormwater?; How Can You Reduce Stormwater Pollution?; Stormwater Rules and Regulations in Virginia; No, She is NOT The Poop Fairy; Yard Management 101: Protecting Stormwater; Reduce, Reuse, Recycle for a Clean Environment; Proper Disposal of Hazardous Household Wastes; How to Identify and Illicit Discharge – EC/FC, SED, Nutrient.
8. On June 30, 2015, the car wash postcard point was revised from: # 5. Do not discharge any car wash water to storm drains, ditches, or stream to ***Do not discharge any car wash water to storm drains, ditches, or streams, as it is polluted with sediment, oil, and heavy metals.*** This postcard was mailed to 45 car wash operators/automotive businesses – SED.

TMDL Consistency: The calendar; stormwater related articles, educational flyers, brochure, pamphlet, and mailer provided information on pet waste/bacteria (EC/FC), sediment (SED), nutrients, hazardous waste, and other applicable stormwater outreach programs. The car wash postcard targets local businesses that may have uncontrolled discharges from vehicle washing operations, which could increase sediment and bacteria discharges into local receiving waters. Therefore, this postcard would address the TMDL for sediment (SED) and bacteria (EC/FC). Similarly, the restaurant brochure addresses rinsing of kitchen equipment and accessories and washing down the parking areas, which may contribute bacteria to receiving waters. Thus, the restaurant brochure helps address the Town’s TMDL for bacteria (EC/FC).

Evaluation and Modification: The Town in cooperation with Roanoke County has and continues to develop the brochures, postcards, flyers, and pamphlets with stormwater messages. The Town finds this BMP to be effective and intends to continue to publicize the stormwater message through a variety of media sources to continue to meet the goals of the Town’s permit. No modifications are planned for this BMP due to the large number of citizens reached through these distributions of calendar, brochures and postcard. The Town will continue to educate its residents and businesses on its stormwater program through these educational mailers. Additionally, these educational mailers are posted on the website for additional outreach.

Year	Type Educational Material	Target Group	Number Reached
2013 – 2014 (Year One)	- Car Wash Postcard	- Car Wash Operators & Automotive Businesses	45
	- Restaurant Postcard	- Restaurants	22
	- A Guide for County of Roanoke/Town of Vinton Businesses Brochure	- Every Business Owner in the Town of Vinton and County of Roanoke	1,208
2014 – 2015 (Year Two)	- Town’s Annual Calendar	- Residential Households	3,040
	- Pet Waste Brochure & Poop Fairy Poster	- Pet Related Businesses/Pet Owners	>30
	- Green & Clean – SWM Lawn Care Tips	- Residents and Lawn Care Businesses	>100
	- It’s Just Dirt	- Contractors/Homeowners/RLD	>100
	- Restaurant BMPs	- Restaurants, Grocery Stores	22
	- Reduce, Reuse, Recycle and Proper Disposal of HHW	- General Public	>300
	- A Stormwater Guide for Homeowners	- Residential Households	3,730
- Revised Car Wash Postcard	- Car Wash/Automotive Businesses	45	
2015 – 2016 (Year Three)			
2016 – 2017 (Year Four)			
2017 – 2018 (Year Five)			

Table 8. Stormwater Educational Materials – Postcards, Brochures, Poster, and Pamphlets

BMP 1-3. Stream School Seminars – 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.

Goal: The goal of this BMP is to educate students, teachers, and citizens on the field procedures that have been established to determine water quality, in addition to motivating citizens to monitor waterways in their neighborhood and enhance grassroots cooperation to promote the importance of stream monitoring within the Town and East Roanoke County. These seminars and monitoring sessions will 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.

Measurable Goal: For Year Two reporting period, July 1, 2014 to June 30, 2015, Clean Valley Council provided 47 stream school seminars/programs at 22 locations with 806 in attendance in Roanoke Valley. Out of these 47 seminars, two stream schools were done for 50 youths and 2 adults. Additionally, seven stream schools valley-wide (private schools and local parks) were provided that reached 70 youths and 13 adults.

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 East 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.

Year	Number of Stream School Seminars	Attendance
2013 – 2014 (Year One)	7 (85 Valley-wide)	492 (1,941 Valley-wide)
2014 – 2015 (Year Two)	2 (7 Valley-wide, 47 Total)	52 (806 Valley-wide)
2015 – 2016 (Year Three)		
2016 – 2017 (Year Four)		
2017 – 2018 (Year Five)		

Table 9. Stream School Seminars

BMP 1-4. Stormwater Educational Programs and Activities

Clean Valley Council (CVC) educators under the direction of the Town, County of Roanoke, and City of Roanoke, have been and 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 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, in which select seniors and juniors from area high schools attend environmental workshops and lectures. 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 will continue to work with CVC in developing and providing programs addressing stormwater and related water quality issues. Different programs will target appropriate grade levels and will be SOL correlated.

Measurable Goal: For year two, CVC has continued to provide stormwater education program to public/private school age children and the general public at environmental events. 314 education programs were held in Valley-wide, Roanoke City, and Roanoke County/Vinton schools and **6,541** students between Kindergarten and Grade 12, and **688** adults/teachers were reached. 28 programs were given in Roanoke County Vinton District School and 701 students and 17 adults were reached. Additionally, Western Virginia Water Authority (WRVA) provided education outreach programs to 300 3rd and 4th grade students at W.E. Cundiff Elementary School and 125 Environmental Science students at William Byrd High Schools during the 2014 – 2015 School Year.

TMDL Consistency: The educational programs that are presented target sources of bacteria such as “Indoor and Outdoor Stream Schools”, “Soil Who Need It”, “The Water Game”, “Travelin’ Trash”, “Drains to Rivers”, “Reelin’ Runoff”, “Who Polluted the River”, and “Oceans of Trash” (EC/FC, Nutrients). Educational programs that target potential sources of sediments are “Watershed to Oceans”, “Watershed Connections”, “Stormwater and Watershed Health”, “Watersheds/Oceans of Trash”, “Indoor and Outdoor Stream School Seminars”, “Watershed Day”, and “After the Storm” (SED).

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 to provide the funding to 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.

Year	Number of Stormwater Educational Programs	Students/Teachers Reached
2013 – 2014 (Year One)	135 (379)	3,410 (9,650)
2014 – 2015 (Year Two)	28 (314)	701 (7,229)
2015 – 2016 (Year Three)		
2016 – 2017 (Year Four)		
2017 – 2018 (Year Five)		

Table 10. Number of Stormwater Educational Programs

BMP 1-5. Stormwater Public Awareness Programs

The Town of Vinton, City of Roanoke, and Roanoke County have partnered with Roanoke Valley Television (RVTV) Channel 3 and Clean Valley Council (CVC) in the development of a Stormwater Public Awareness Program including the distribution of stormwater merchandise, public service announcements, and other high visibility educational media to utilize social mass marketing methods to bring stormwater quality issues to the attention of the Town’s and Roanoke Valley’s citizens.

The Town has combined the promotional merchandise BMP with the public service announcement BMP to create a Public Awareness Program that will incorporate the distribution of stormwater merchandise, the creation of public service announcements, and working with local TV news networks to cover stormwater issues in the news media, as well as other high-visibility educational media to bring stormwater quality issues to the attention of Town citizens.

Goal: The Town, in conjunction with Roanoke County, City of Roanoke, and CVC, will develop a stormwater public awareness program that includes stormwater public service announcements (PSAs); distribution of stormwater merchandise, flyers, fact sheets, and other educational media to promote the importance of stormwater quality to the citizens.

Measurable Goal: The Town and CVC distributed book bag tags, bookmarks, lanyards, litter bags, pencils, and highlighters, all promoting the importance of water quality of our local waterways. Additionally, CVC completed three segments on local news stations, two articles in the local papers, and an interview on local radio regarding stormwater runoff and associated pollutants on behalf of the Town and the surrounding localities.

For the 2014 Fall Waterways Clean-up Event that was held on Saturday, October 4, 2014, throughout the Roanoke Valley, public service announcement regarding the event was publicized in the WDBJ Channel 7 TV Station. The event was also advertised in The Roanoke Times, Roanoke Natural Food Coop newsletter, Cox TV, WDBJ Channel 7 TV Station, Roanoke Star Sentinel, Community Calendars, and Bella Magazine. The clean-up was from 8:30 a.m. to 11:30 a.m. and followed by a free lunch, music, and environmental exhibitions from 11:30 a.m. to 1:30 p.m. Other public awareness/marketing outreach programs were:

1. September 23, 2014 – Recycling, Composting and Rain Barrel program was given at Habitat for Humanity to 15 adults. Stormwater chip clips were given out.

2. November 11, 2014 – Stormwater and Rain Barrel programs were given to 22 Roanoke Valley Garden Club members and 15 stormwater chip clips were given away EC/FC, SED, Nutrients.
3. January 2015 – Rain Barrel PSA was produced. The PSA was promoted by RVTV Channel 3 and Town’s Facebook.
4. February 2015 – Lawn Care PSA was produced. The PSA was promoted by RVTV Station and Town’s Facebook – Nutrients.
5. February 7, 2015 – Tons of Fun event at Tanglewood Mall: Traveling Trash, Macroinvertebrates ID, Recycling Programs, and Rigsby programs were performed for about 500 attendees and 1, 356 stormwater giveaways were handed out – EC/FC, SED, Nutrients.
6. April 19, 2015 – Stormwater Program and 35 stormwater give-away was given to 35 members of the Master Naturalist of Roanoke Valley – EC/FC, SED, Nutrients.
7. April 25, 2015 – Earth Day at Wasena Park: 25 stormwater programs of Enviroscope, Macroinvertebrates ID, Watersheds to Oceans, and Indoor Stream School Programs were given and 350 stormwater giveaways were given out to about 300 attendees – EC/FC, SED, Nutrients.
8. May 30, 2015 – Roanoke River Duck Race: 10 stormwater programs of Who Polluted the River?, Stream School and Trash to Treasure (Recycled Boats) were given and 15 stormwater giveaways were given out to five participants – EC/FC, SED, Nutrients.
9. June 2015 – Restaurants & Homeowners and Car Washing PSAs were produced. The PSAs were promoted by RVTV Channel 3 Station, RVTV and Town Facebooks.
10. June 13, 2015 – Blue Ridge Land Conservancy Fun Run at Green Hill Park: 2 Stream School were done for 10 participants with 34 stormwater giveaways were given out.
11. June 2015 – Stormwater Videos in English and Spanish: Illicit Discharge, Detection, and Elimination, A Grate Concern series: 30 seconds, for local public media/PSA; 60 seconds, for broad community audiences; 2 minutes, for short presentations booths, fairs, public events; 5½ min, for short speaker presentations or young audiences; 10½ min, in-depth for full understanding of illicit discharge and what can be done.

To supplement this effort, the Town’s website has posted 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 in stormwater. The five videos of varying run times, as shown below, which are designed to be used in specific medium/media or to reach a specific audience were posted by June 2015. These videos can also be viewed in Spanish. The Town will continue to track the size of audience exposed to various videos and evaluate the response it receives from the public.

TMDL Consistency: The thousand pieces of stormwater promotional merchandise that were given out at special events and public buildings have reminder slogan on them to be conscious of day to day activities such as picking up after their pets (EC/FC) and filling bare spots or leaving riparian buffer on the stream banks to prevent erosion (SED). The Stormwater Public Service Announcements (PSAs) that were developed and posted, and the posted stormwater video programs incorporate the applicable TMDLs (EC/FC and SED) and the three high-priority water quality issues, the excess of sediment, bacteria, and nutrients.

Evaluation and Modification: The Town in cooperation with Roanoke County, RVTV, and CVC distributed a variety of media bringing stormwater quality issues to the attention of the public through merchandise and informational sessions. The Town finds this BMP to be effective and intends to continue to publicize the stormwater message through a variety of media sources to continue to meet the goals of the Town’s permit.

Additionally, to better align with the MS4 permit requirements, this BMP has focus on three high-priority water quality issues that contribute to the discharge and degradation of stormwater. The three selected water quality issues are excess bacteria, sediments, and nutrients. Relevant messages and outreach materials that target these issues and the audiences likely to have the most impact on minimizing them have been and continued to be developed. The BMP focuses on (1) ways to increase the target audience’s knowledge about ways to prevent these pollutants from getting into stormwater runoff and (2) the hazards and legal implications of illegal discharges and improper disposal of wastes.

The developed materials include public service announcements, printed brochures and newsletters, signage at select locations, radio advertisements, television advertisements, and use of websites and social media. The Town will track the number and types of materials that are distributed and posted on websites/social media and the size of audiences exposed to such materials, as appropriate.

Year	Media/Merchandise Distributed	Type/Sources of Media/Merchandise
2013 – 2014 (Year One)	4,719 (Valley-wide)	Students & general public merchandise; interviews/segments on radio and TV stations; and newspaper articles.
2014 – 2015 (Year Two)	- 1,473 (Valley-wide) - PSAs & Stormwater Videos	- SW chip clips, pamphlets, bookmarks, magnets, funnel, rain gauge; rain barrel pamphlets. - Car Washing, Restaurant/Homeowners, Lawn Care, and Rain Barrel PSAs; SW
2015 – 2016 (Year Three)		
2016 – 2017 (Year Four)		
2017 – 2018 (Year Five)		

Table 11. Stormwater Public Awareness Programs

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 (<http://www.vintonva.gov/index.aspx?NID=209>), 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.

Measurable Goal: The Town was able to maintain and monitor the Town’s stormwater webpage beginning November 2010, in addition of having the capability of receiving citizens’ requests and/or complaints on stormwater issues. The stormwater website is continued to be updated to meet current needs of the stormwater program.

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 illicit discharge reporting form that can accessed from the Town’s stormwater webpage and/or the request tracker that can be accessed from the Town’s website are capable of receiving citizens’ requests and/or complaints on stormwater issues.

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.

Year	Webpage Views
2013 – 2014 (Year One)	154
2014 – 2015 (Year Two)	201
2015 – 2016 (Year Three)	
2016 – 2017 (Year Four)	
2017 – 2018 (Year Five)	

Table 12. Town of Vinton Stormwater Website and Webpage Viewing Data

MCM 2: PUBLIC PARTICIPATION AND INVOLVEMENT

The Town of Vinton in conjunction with Roanoke County, City of Roanoke, Clean Valley Council (CVC), Inc., Roanoke Valley Resource Authority (RVRA), 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 through the annual Spring Clean Valley Day and Fall Waterways Clean-up.

This control measure is intended to implement programs that help inform and educate Town citizens about the components of the stormwater management program. Support from citizens is crucial for the success of the stormwater management plan. To get the citizens' support, the Town has 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 listed:

BMP 2-1. A Storm Drain Marking Program

Coordinate a storm drain marking program with area schools, organizations, and businesses to engage group involvement and educate people about the consequences of dumping waste into the storm drain system.

BMP 2-2. Cleanup and Environmental Events to Bring Attention to Current Stormwater Issues

Conduct public events to bring attention to current stormwater issues and allow feedback from citizens on the condition of the Town's Stormwater Management Program, from a citizen's point of view. The 2013 General Permit increased this requirement from 1 event per year to 4 events per year.

BMP 2-3. Staff and Citizens Representatives in Regional Environmental Organizations

Staff and/or Town citizens serve on the regional organizations such as Roanoke Valley Alleghany Regional Commission (RVARC), Clean Valley Council (CVC), Inc., Roanoke Valley Greenway Commission, Roanoke Valley Urban Forestry Council (RVUFC), Roanoke Valley Resource Authority (RVRA), and Western Virginia Water Authority (WVWA).

*Note - Old BMP 2-3 Stormwater Management Citizens Advisory Committee has been discontinued effective July 1, 2014 due to its ineffectiveness and replace with Staff and Citizens Representatives in Regional Environmental Organizations.

BMP 2-4. Post Town's VSMP MS4s General Permit Registration Statement and Annual Report on the Town's website for Citizen Access

Posting of the Town's VSMP Municipal Separate Storm Sewer Systems (MS4s) General Permit and Annual Report on the Town's website which citizens may view and comment upon.

Included in this document is a detailed description of the objective and Measurable Goal of each BMP, the strategies to ensure consistency with identified TMDL's and the three

identified high-priority water quality issues, 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 goals of the stormwater program. The TMDL compliance is broken down by the identified impairment type: E. coli, fecal coliform (EC/FC) and sediment (SED).

BMP 2-1. A Storm Drain Marking Program

Goal: The Town, in conjunction with CVC, will coordinate a storm drain marking program with local schools, neighborhoods, businesses, and other organizations, to stencil messages on storm drains that educate people about the consequences of dumping waste into the storm drain system.

Measurable Goal: Four volunteers stenciled 37 storm drains located along Mountain View Road in the vicinity of Herman L. Horn Elementary School on June 29, 2015.

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. The Town proposes to continue with this BMP and will continue to coordinate this program. The Town will continue to document the marking of the storm drains as an effort to enhance the education and outreach of its stormwater management program.

Year	Storm Drains Stenciled	Number of Participants
2013 – 2014 (Year One)	58	3
2014 – 2015 (Year Two)	37	4
2015 – 2016 (Year Three)		
2016 – 2017 (Year Four)		
2017 – 2018 (Year Five)		

Table 13. Storm Drain Marking Program

BMP 2-2. Clean-up and Environmental Events

Town Staff continues to be involved in the coordination of regional clean-up and environmental events such as the annual Spring Clean Valley Day and Fall Waterways Cleanup Events; Electronic Recycling/Collection Event; Prescription Drug Take-back Program; Earth Day; Earth Summit; and public forums on environmental issues related to water quality and impaired water bodies.

The Town coordinated with CVC, Roanoke County, and City of Roanoke to conduct public forums in conjunction of the Fall Waterways Cleanup Event, describing what the three localities

(Town, City, and County) were doing concerning stormwater management issues. The forums allowed for input and concerns to be received on stormwater issues. After evaluating the success, these three Valley governments believe that combining the forum with a stormwater and/or other environmental events would improve the effectiveness of the BMP by increasing public attendance.

The Town will continue to publicize its curbside recycling program and fund the recycling collection center at the Lake Drive Plaza Shopping Center in its efforts to increase awareness about the importance of recycling. The Town will continue its participation in the Annual Spring Clean Valley Day, Annual Fall Waterways Clean-up, and Drug Take-back events, and Earth Day. Town staff and Town-appointed citizens are also board members of the CVC, RVTV, RVRA, Roanoke Valley Greenway Commission, WVWA, and Roanoke Valley Alleghany Regional Commission (RVARC), which enables special environmental events and projects to be done regionally to reduce costs and reach a wider audience.

Goal: The Town to continue to participate in the clean-up and environmental events to address stormwater issues including impairment to the water bodies. The Town will continue to have Town residents and/or personnel to serve as board members on regional organizations.

Measurable Goal:

On Saturday, September 13, 2014, a regional ECO Electronics Clean-out Collection Day was held at Roanoke Natural Food Coop which attracted 300 attendees, in addition to stormwater related materials being distributed.

On Saturday, September 27, 2014, the National Prescription Drug Take-Back Program was held at several locations in the Cities of Roanoke and Salem, Counties of Roanoke, Botetourt, and Craig, and Vinton at Hardy Road Kroger. Medication was safely collected and then destroyed by local law enforcement and DEA agents. The drug-take back event instead of leaving medications unsecured in the home or flushing them down the commode will help prevent drug abuse and protect the Roanoke Valley's waterways. The Vinton Hardy Road Kroger drug take-back event collected 283 pounds of drugs; 2,168 pounds of unwanted and unused prescription drugs were collected.

On Saturday, October 4, 2014, Town of Vinton along with other jurisdictions in Roanoke Valley and area businesses sponsored the Fall Waterways Cleanup Event in addition to CVC, City of Roanoke, Roanoke County and Town of Vinton maintained a booth at the event. 45 teams comprised of 900 volunteers participated in the event and they collected 24.3 tons of trash and 6.8 tons of tires, with WDBJ Channel 7 provided media support for two weeks prior to the event.

On Saturday, February 7, 2015, CVC set-up a booth to present several stormwater programs and to hand out stormwater related giveaways, at the annual Tons of Fun event held at Tanglewood Mall located in Roanoke County. There were about 2,000 attendees at the event.

On Saturday, April 11, 2015, the Town participated in the Annual Spring Clean Valley Day. The Spring Clean Valley Day was featured by WDBJ Channel 7: 1,100 volunteers representing 70

teams participated in the 2015 Spring Clean Valley Day Event, collected 100 tons of trash and 300 tires.

The Town’s 2015 Arbor Day Celebration and Tree Planting Event were held on Thursday, April 2, 2015, at the W.E. Cundiff Elementary School. The Arbor Day event was well received by the elementary students, school staff, parents and attended by Vinton elected officials and personnel. The highlights of the program were the planting of the ceremonial tree by Smokey Bear and the children, and presentation by Virginia State Forester to the students, parents, and other attendees, on the importance of taking care of the environment and the planting of and importance of trees.

Other environmental events for public involvement and participations were:

1. Radical Reels – Outdoor Activity and Living Expo, September 16, 2014: 900+ attendees.
2. Roanoke Regional Homebuilders Show at Salem Civic Center, Home Show, September 27, 2014: 2,500+ attendees.
3. Roanoke River Currents Conference, October 10, 2014: 100+ attendees.
4. 2015 Industry & Public Works Expo – April 22 at Salem Civic Center: 200+ attendees. Each Roanoke Valley government set-up a booth and presented stormwater BMPs including stormwater videos.
5. Earth Day Celebration, April 25, 2015: 1,000 attendees.
6. 2nd Annual Roanoke River Duck Race and Watershed Awareness Day, May 30, 2015: 700 attendees.

TMDL Consistency: At least four times a year, the Town is involved in one or more public events to promote the Town and celebrate Roanoke Valley’s citizens’ commitment to regional water quality. In addition to litter, debris, and hazardous waste; excess of pet waste (EC/FC), erosion (SED) of stream banks, and nutrients are common themes at each of these events since these are regional three high-priority water quality issues (EC/FC, SED, and Nutrients).

Evaluation and Modification: The Town finds this BMP to be an effective method in involving citizens in addressing to address stormwater issues based on the citizens’ involvement and attendance in these events.

Year	Environmental/Clean-up Events	Participants/Attendees
2013 – 2014 (Year One)	15 Local Events	25,000
2014 – 2015 (Year Two)	12 Local Events	20,000
2015 – 2016 (Year Three)		
2016 – 2017 (Year Four)		
2017 – 2018 (Year Five)		

Table 14. Regional Environmental and Clean-up Events

BMP 2-3. Staff/Citizens Representatives in Environmental Organization

The Town continues to have staff and/or Town citizens serve on the regional organizations such as Roanoke Valley Alleghany Regional Commission (RVARC), Clean Valley Council (CVC), Inc., Roanoke Valley Greenway Commission, Roanoke Valley Urban Forestry Council (RVUFC), Roanoke Valley Resource Authority (RVRA), and Western Virginia Water Authority (WVWA).

Goal: To continue to have staff and/or citizen representatives on environmental focused regional organizations to enable Town's participation in regional events and projects, and to increase wider involvement in environmental and stormwater quality issues.

Measurable Goal: The Town continues to participate and promote regional environmental events as listed under BMP 2-2. These events lead to increase involvement of Town residents in environmental events and increase citizens' awareness in environmental and stormwater quality issues. The Town will continue to document the public involvement and participation in these regional environmental events of annual Fall Waterways Clean-up and Spring Clean Valley Day Events, E-Waste Recycling Event, Earth Day, Annual Greenway Festival by the River, and other environmental related events.

TMDL Consistency: The Town staff and/or citizen involvement on these regional organizations and the environmental events makes citizens aware on the importance of taking care of the environment. The continued construction of greenways and trails in the Valley and annual event at the Roanoke River Greenway have made the residents of the Valley appreciate the trails along the local waterways for them to recreate and to keep these waterways clean from pet waste, litter, and/or excess sediment and eroded streambanks. Additionally, these environmental events inform and educate the citizens on the high-priority water quality issues in Roanoke Valley (EC/FC, SED and Nutrients).

Evaluation and Modification: Based on media coverage and well attended by general public of these events, the Town finds this BMP to be an effective method by having Town's representatives serve on these regional committees. The Town will continue to have staff and appointed citizens to serve on these regional environmental committees.

BMP 2-4. Post MS4s General Permit and Report on 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 continue to post the MS4 permit application and each subsequent annual report submitted to Department of Environmental and Quality (DEQ). Each annual report will be

posted on the Town's website to keep citizens current on annual evaluations of program effectiveness.

Measurable Goal: The Town will continue to post on the stormwater website the Town of Vinton 2013-2018 VSMP General Registration Permit Statement, Town of Vinton MS4 Program Plan, March 28, 2013, and the MS4 annual reports. Additionally, the hard copies of these documents are also made available in the office of the Department of Planning and Zoning for review. No comments were received from the citizens regarding the Program Plan or the annual reports posted.

TMDL Consistency: Access to the MS4 Program Plan and Annual Reports gives Town of Vinton citizens a good education about all of the local streams and rivers, their impairments, and any approved TMDLs. In addition, the program plan and annual report detail the Town's and regional efforts to address these issues locally and regionally. This BMP helps to inform citizens on ways to get involved with current water quality issues, the three identified high-priority water quality issues, and on available outreach programs, with the goal of helping them to minimize any impacts that they may have on local water quality. (EC/FC, SED)

Evaluation and Modification: No modifications are planned for this BMP. The Town of Vinton believes that the Town's website and the stormwater webpage allow the Town citizens to be informed and stay current on the Town's VSMP and MS4 general permit program-related documents. The Town has and will continue to post the MS4 permit application and each subsequent annual report submitted to Department of Environmental Quality (DEQ). The permit information will be posted no more than 30 days after the Town receives permit approval and coverage from DEQ. Each annual report will be posted to the website no more than 30 days after annual renewal date. Any appropriate correspondence between the Town and DEQ will also be posted on the website for the public to view.

MCM 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

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 the illicit connection and discharge elimination plan is to inspect known stormwater outfalls to Tinker, Glade, and Wolf Creeks and the Roanoke River as identified through review of existing storm sewer maps; eliminate illicit discharges as they are identified through visual monitoring of known stormwater outfalls; and field observations to identify and verify additional stormwater outfalls that may not have been identified through review of existing storm sewer maps. The programs that have been put in place to complete this measure are:

BMP 3-1. A Town-wide Storm Sewer System Map

A town-wide storm sewer system map in the GIS Database has been completed for all known locations of municipal storm sewer systems. The Town storm sewer database will be maintained through Roanoke County GIS Division, so that a map of all the public storm sewers in the Town will be available to the public.

BMP 3-2. The Town's Illicit Discharge Ordinance

The adoption of an ordinance to prohibit illicit discharges and enforcement authority by the Vinton Town Council. Additionally, policy, procedures, reporting, and enforcement measures have been developed to minimize non stormwater discharges into the storm drainage system.

BMP 3-3*. MS4 Outfall Inspections

The Town will design and implement a program to inspect a minimum of 20 storm drain outfalls, within its MS4 area, annually.

BMP 3-4*. Illicit Discharge Detection and Elimination Program

The Town will prepare and implement written procedures to detect, identify, and address non-stormwater discharges to the MS4 system.

***Note – BMPs noted with * are new BMPs effective July 1, 2014 that replaces the previous BMP 3-3: Illicit Discharge Program.**

Included in this document is a detailed description of the objectives and Measurable Goal of each BMP, the strategies to ensure consistency with identified TMDLs, implementation schedules, responsible parties, and supporting documents that include policies, ordinances, schedules, inspection forms, written procedures, and other documents necessary for the implementation of the BMPs. The TMDL compliance is broken down by the identified impairment type: E. coli, fecal coliform (EC/FC) and sediment (SED).

BMP 3-1: Town of Vinton Storm Sewer System Map

Roanoke County Department of Communication/Information Technology GIS Division has been responsible for Town's mapping services and needs. Since 2003, under the direction of Town Planning and Zoning Department, the County has developed and continued to update the Town's storm drain map.

Goal: To continue working with Roanoke County GIS Division in developing and updating the storm drain map which identifies all of the municipal separate storm sewers within the Town which discharge to natural drainage ways.

Measurable Goal: The Town will continue this program by expanding and updating the storm sewer map of the Town with Roanoke County assistance. In addition to locating any new storm sewer outfalls, the stormwater map has been updated to show the current outfalls and their associated Hydrologic Unit Code (HUC) of the waters that are being discharged to, and the names and locations of all the impaired surface waters that receive discharges from these systems.

TMDL Consistency: An updated and accurate storm drain map which identifies all of the municipal separate storm sewer systems will help the Town with the discovery of illicit discharge connections (EC/FC) and the locations where sediment may be entering the regulated MS4 (SED).

Evaluation and Modification: An updated and accurate storm sewer system map which identifies all of the Town's separate storm sewer system has greatly assisted the Town in the discovery of illicit connections and the locations where sediment may be entering the regulated MS4. No modifications are planned for this BMP. Town believes that the process of mapping the storm drain is an appropriate method to aid in the enforcement, detection, and elimination of illicit discharges to the storm sewer system.

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: To detect and eliminate illicit discharges into the MS4 by developing and adopting regulations and an enforcement program to prevent illegal discharges into the storm drain system.

Measurable Goal: Suitable measures for effective enforcement are included in the Illicit Discharge Ordinance. The ordinance has allowed for notice of violation being sent to property owners from complaints/requests that were received by Town personnel.

TMDL Consistency: The illicit discharge ordinance has greatly assists in the enforcement of the illicit discharges to the MS4 system. This legal method has helped the Town in discontinuing existing connections and discouraging future illicit discharges to the system (EC/FC and SED). Evaluation and Modification: No modifications are planned for this BMP. The Town believes that the adoption of this ordinance is an effective tool in the enforcement, detection, and elimination of illicit discharges to the Town’s storm sewer system.

BMP 3-3*. MS4 Outfall Inspections

As of 2008, the Town with assistance from County of Roanoke personnel completed the outfall field reconnaissance, with no illicit discharges identified. The Town has a total of 71 with 35 outfalls discharging to TMDL streams of Roanoke River, Tinker and Glade Creeks. The remaining 36 outfalls were determined as not true outfalls. Currently, formal dry weather screenings are done by Roanoke County’s personnel, which are based on their scheduling cycle. Additionally, these outfalls are also inspected by the Town Public Works personnel during the regular maintenance of these outfalls.

Goal: To detect dry weather illicit discharges so that actions may be taken to eliminate illegal connection and/or discharges.

Measurable Goal: For Year Two Reporting, all the known outfalls were inspected, with no illicit discharges identified.

TMDL Consistency: Outfall inspections can detect an illicit discharge will greatly assist in the enforcement of the illicit discharges to the MS4 system. This inspection can help the Town in discontinuing existing illegal connections and discouraging future illicit discharges to the system (EC/FC, SED, and Nutrients).

Evaluation and Modification: The Town proposes to continue with its MS4 outfall inspection program to detect dry weather illicit discharges that enter its municipal separate storm sewer systems.

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

Goal: To detect, identify, and address non-stormwater discharges into the Town’s regulated storm sewer system. The Illicit Discharge Detection and Elimination Program will have written procedures for the following components:

1. A prioritized schedule of field screening activities,
2. Minimum number of field screening activities to be performed annually,
3. Methodologies to collect general information,
4. A time frame upon which to conduct an investigation to identify and locate the source of any observed continuous or intermittent non-stormwater discharge.
5. Methodologies to determine the source of all illicit discharges.
6. Mechanisms to eliminate identified sources of illicit discharges.
7. Methods for conducting a follow-up investigation to verify that the discharge has been eliminated.

8. A mechanism to track all investigations to document the date(s) that the illicit discharge was observed and reported, results of investigation, any follow-up to the investigation, resolution of the investigation, and the date that the investigation was closed.

Measurable Goal: The Town has developed procedures to detect, address, and report illicit discharges that enter the Town’s separate storm sewer system. The illicit discharge ordinance (BMP 3-2) includes procedures to address illicit discharges through enforcement process.

Submitter	Date	Description of Request and/or Complaint	Assigned To:	Status of Request and/or Complaint
Property Owner, 1118 Jeannette Avenue	7/7/14 Walk-in	Drainage runoff from retaining wall and exposed areas at 1116 Jeannette Avenue.	TOV PZ & ROCO ESC and SW Inspector	TOV and ROCO letters, 7/8, 7/11, & 9/16/14, advising the issue sent to property owners of 1116. Case closed on 7/31/15.
John Nagel, 1778 Melissa Circle	8/22/14 Online Request Tracker	Sewage discharge on Washington Avenue between Mtn View Road and Bypass Road.	TOV PZ & PW	PW aware of the issue & remediated the issue. Sewer line replacement completed by 1/30/15.
Property Owner on North Blair	10/29/14 Call-in	Sewage was running out of a pipe on the property, 210 N. Blair St.	TOV PZ & PW	Property was inspected on 10/29 by PW and determined it was from dehumidifier. Case closed on 11/12/14.
Property Owner, 1525 S. Pacific Drive	4/13/15 Call-in	Black pipe in the yard of 1531 S. Pacific Drive that drains on 1525 property.	TOV PZ	Site visit conducted on 4/28 and met with PO. Problem was fixed by 7/16/15
Citizen call-in to PW	6/3/15 Call-in	Sink and bathtub drain into a pipe that drains into the backyard. Only the toilet is hooked to sewer line.	TOV PW & PZ	Owner of property was notified of the violation by phone on 6/3/15. Sewer permit obtained work completed 7/8/15
Property Owner, Jeannette Avenue	6/12/15 Call-in	Neighbor on 1026 Jeannette Avenue sprays pesticides on his yard & has killed the caller plants. The yard is sprayed 3 – 4 times a year.	TOV PZ	The caller was advised to call DEQ. Caller said someone from the Dept. of Agriculture informed her that round-up was used which is okay but the owner will seed and sod the property

TOV= Town of Vinton; ROCO = Roanoke County; PZ = Planning and Zoning; PW = Public Works; PO= Property Owner; ESC = Erosion and Sediment Control; SW = Stormwater

Table 15. Illicit Discharge Complaints/Request Received and Addressed

As stated in Table 15, the Town responded to seven illicit discharge complaints received from citizens. All were resolved and/or found to not be valid complaints.

TMDL Consistency: An illicit discharge program will assist in locating illicit discharges to the MS4 system. This will give staff the methodology needed to screen, target and monitor the storm drain system in an effort to discover existing illegal connections to the Town's storm drain system (EC/FC, SED).

Evaluation and Modification: No modifications are planned for this BMP. The Town believes that the illicit discharge program is a critical component in the detection and elimination of illicit discharges to the Town's storm sewer system.

Complaints about illicit discharges can be called in to Vinton Public Works and Planning and Zoning Departments during normal business hours. Additionally, complaints/concerns can also be reported online by clicking on "Report a Concern" on the Town's homepage or by completing the "Illicit Discharge Reporting Form" that can be accessed from the Town's stormwater page. The Town Planning and Zoning Department keeps a record of complaints, inspections and correspondence concerning needed corrective actions to be taken concerning alleged illicit connections and discharges.

MCM 4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

* The implementation of this MCM and its associated BMPs will be the responsibility of Roanoke County Department of Community Development in conjunction with Vinton Planning and Zoning Department.

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 May 20, 2014, the Vinton Town Council adopted Ordinance No.952 to amend the Vinton Town Code by the adoption of Chapter 79 known as the Stormwater Management which includes Article I. Stormwater Management Ordinance, Article II. Erosion and Sediment Control, and Article III. Illicit Discharge Ordinance.

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 goal of this MCM is to implement and enforce a program that will reduce pollutants in stormwater runoff to the regulated municipal separate storm sewer system from construction sites and activities. The programs that have been established by the County and supported by the Town to meet this MCM measure are listed below:

BMP 4-1. Erosion and Sediment Control Ordinance

Establish and maintain an Erosion and Sediment Control Ordinance to require erosion and sediment controls during construction activities, as well as sanctions, to ensure compliance, under local law, for all land disturbances of 2,500 square feet or more

BMP 4-2. Erosion and Sediment Control Certification

Identify County employees that require DEQ Erosion and Sediment Control training and track employees' certifications to ensure they remain current.

BMP 4-3*. Erosion and Sediment Control Plan Review

Develop and maintain written procedures for site plan review which addresses construction site stormwater runoff.

BMP 4-4*. Erosion and Sediment Control Inspection

Develop and maintain written procedures for site inspections to confirm that construction complies with approved plans and that construction site stormwater runoff is properly addressed.

BMP 4-5*. Erosion and Sediment Control Compliance and Enforcement

Develop and maintain written procedures for compliance and enforcement when necessary to compel compliance with construction site stormwater runoff requirements.

***Note – BMPs noted with * are new BMPs effective July 1, 2014 that replaces the previous BMP 4-3. Land Development Procedures Review and Evaluation.**

Town Staff continues to work cooperatively with Roanoke County in the implementation of this measure including: the review and adoption of the County's ESC ordinance; notification of any land disturbance without any permit; site and subdivision plans review process; and in the issuance of any land disturbance permit in the Town Limits. 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 Planning and Zoning Department and be distributed to appropriate Town and County departments/personnel for comments and review.

The Planning and Zoning Director, who is also serves as the Town's Development Review Coordinator and Stormwater Program Manager, is responsible for the review coordination, including providing written comments pertaining site plans received from applicable departments and state agencies.

The property owner/developer is also notified by the Development Review Coordinator in writing that the DEQ requires that any land disturbance of one (1) acre or greater obtain a Virginia Stormwater Management Program (VSMP) permit. In August 2014, the Town and Roanoke County renew the established two Memorandum of Understanding (MOUs) agreements for the County to provide stormwater management plan review for development plans and to provide inspection services for stormwater management facilities to the Town.

Included in this document is a detailed description of the objective and Measurable Goal of each BMP, the strategies to ensure consistency with identified TMDL's, 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 goals of the stormwater program. The TMDL compliance is broken down by the identified impairment type: E. coli, fecal coliform (EC/FC) and sediment (SED).

BMP 4-1. Erosion and Sediment Control (ESC) Plan Ordinance

Goal: To ensure that the procedures for site plan review incorporate considerations for water quality impacts by addressing the most current ESC and SWM regulations which are outlined in the Roanoke County/Town of Vinton ESC and SWM ordinances. These regulations, included in the ESC ordinance require erosion and sediment controls as well as sanctions to ensure compliance under Roanoke County/Town of Vinton law. The ESC ordinance requires E & S controls for all 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 E & S Plan will require construction site operators to implement appropriate ESC best management practices specific to the site. Site inspection and enforcement actions are also incorporated in the ESC Ordinance.

Measurable Goal: The Town along with the County has evaluated the ESC ordinance to keep it in compliance with any changes to regulations being made at the state level. Roanoke County's current Erosion and Sediment Control Ordinance is in compliance with the regulations previously set forth and enforced by the Virginia Department of Conservation and Recreation (DCR). However, with the adoption of the new state stormwater regulations, the Virginia Department of Environmental Quality (DEQ) has issued a guidance document to assist localities in updating their Erosion and Sediment Control Ordinances. The County ESC ordinance has been updated and presented to the Roanoke Homebuilders Association for their review and input.

It is proposed that these changes be forwarded to Roanoke County Board of Supervisors (BOS) for their review. It is anticipated that the amended ESC ordinance be adopted by the County BOS by December 2015. Once the County BOS adopted the ordinances and design manual, the Vinton Town Council will adopt the same since the County is the Town ESC administrator.

Year	Action	Changes and Modifications
2013-2014 (YEAR ONE)	Amended the ESC Ordinance/Land Development Procedures	Updated to Coordinate with State Regulations
2014-2015 (YEAR TWO)	To Amend the ESC Ordinance/Land Development Procedures	ESC Ordinance to be Amended per State Guidance

Table 16. Erosion and Sediment Control Ordinance Evaluation and Updates

TMDL Consistency: This ordinance targets reducing sediment (SED) and any associated wastes (EC/FC) in stormwater runoff from construction sites. These regulations require ESC BMPs on the site as well as sanctions to ensure compliance, under the County/Town ESC law.

Evaluation and Modifications: No modifications are planned for this BMP. The Town believes that the ESC ordinance is critical component in reducing pollutants in stormwater runoff to the regulated small MS4 storm sewer system from construction activities. It is critical for the County/Town ordinance to remain in compliance with the VA ESC regulations.

The Town and County propose to annually evaluate this ordinance to ensure its compliance with Virginia’s Erosion and Sediment Control regulations. The Town and County will track the total number of regulated land-disturbing activities and the total acreage disturbed.

BMP 4-2. Erosion and Sediment Control (ESC) Certification

Goal: The goal of this Roanoke County BMP is to identify County employees that require DEQ training and certification as Erosion and Sediment Control Administrators, Plan Reviewers, and/or Inspectors; and track certifications to ensure that they are kept current.

Measurable Goal: Roanoke County Community Development Department currently has three professional engineers, one ESC Plan Reviewer, five ESC Combined Administrators, two SWM Combined Administrators; one ESC Program Administrator; and nine ESC Inspectors.

TMDL Consistency: This program identified County employees that need ESC training and tracks their certifications to determine if they have lapsed in their required training and certifications. This program minimizes the locality’s site erosion potential by educating the employees on correct E & S procedures and policy (SED).

Evaluation and Modification: No modifications are planned for this BMP. The Town is concurrent with the County that the certification of certain positions that could significantly

impact erosion through land disturbance is a critical component in reducing pollutants in stormwater runoff.

ESC & STORMWATER MANAGEMENT CERTIFICATIONS				
NAME		CERTIFICATION	CERTIFICATE #	EXPIRATION DATE
Atkinson	Bob	Professional Engineer	0402 041822	01/31/17
Gwynn	Angie	Professional Engineer	0402 041477	10/31/15
Henderson	David	Professional Engineer	0402 022296	05/31/17
Yates	Morgan	ESC Plan Reviewer	458	05/31/17
Cooper	Matt	ESC Combined Administrator	934	05/31/16
Linkenhoker	Cindy	ESC Combined Administrator	363	11/30/18
Henderson	David	ESC Combined Administrator	6239	11/30/16
Thompson	Philip	ESC Combined Administrator	698	12/09/16
Wood	Tammi	ESC Combined Administrator	6036	11/30/16
Henderson	David	SWM Combined Administrator	SWCA0122	10/17/17
Cooper	Matt	SWM Combined Administrator	SWCA0198	06/05/18
Sowder	Denise	ESC Program Administrator	313	05/31/16
Bowles	Jimmy	ESC Inspector	2089	11/30/16
Carper	Steve	ESC Inspector	1965	11/30/16
Carroll	Curtis	ESC Inspector	1966	11/30/16
Fowler	Bill	ESC Inspector	3740	11/30/16
Fuller	RG	ESC Inspector	3848	11/30/16
Holland	Dale	ESC Inspector	1945	05/31/16
Peters	Bruce	ESC Inspector	3469	05/31/18
Waldron	Larry	ESC Inspector	3930	05/31/17
Yates	Morgan	ESC Inspector	1929	05/31/16

Table 17. Roanoke County Personnel ESC and SWM Certifications

BMP 4-3*. Erosion and Sediment Control (ESC) Plan Review

Goal: The goal of this BMP is to ensure that the procedures for site plan review incorporate considerations for water quality impacts by addressing the most current local stormwater management regulations which are outlined in the Town of Vinton/Roanoke County ESC Ordinance.

Measurable Goal: The Town along with Roanoke County has revised its Land Development Procedures to ensure compliance with the new adopted Stormwater Management Ordinance and Roanoke County Design Manual and the new Virginia Stormwater Management Regulations.

TMDL Consistency: The land development procedures list the steps needed for a site plan to meet the state and local ESC and permanent stormwater management facility requirements. Keeping these procedures in compliance with any changes at the state level guarantees that site plans are reviewed by the Town and County with the most current regulations available. This program minimizes erosion and flooding potential due to the benefit of an educated engineering design team and construction crew on the public and private land development sites. This BMP minimizes erosion and flooding potential through its education of the County’s engineering design team and construction crew for all public and private land development sites that require a site plan (SED, EC/FC).

Evaluation and Modification: The Land Development Procedures document gives detailed instructions as to the required information needed to be incorporated in the development plan for review and approval. The Town and the County will continue to update the Land Development Procedures to ensure that the site plan review requirements and process are consistent with the most recent stormwater management regulations. As state stormwater management regulations change, the local ordinance must also be changed, and keeping the Land Development Procedures up to date makes the procedures a useful tool to utilize when developing a site.

Permit Number	Date Issued	Project Name	Address of Property	Disturbed Acreage
14-0005	4/3/14	Downtown Vinton Branch Library	300 S. Pollard Street	0.98
B-1401332	9/3/14	Mtn Brook SF Residence	330 Franklin Avenue	0.09
B-1402876	4/17/15	D.H. Griffin Commercial Building	819 3 rd Street	0.23
B-1500585	4/28/15	Mtn Brook SF Residence	334 Franklin Avenue	0.09
B-1500904	5/1/15	Mtn Brook SF Residence	319 Franklin Avenue	0.08
B-1501023	5/6/15	Four S Asso. SF Residence	332 E. Augusta Avenue	0.06
B-1501233	6/9/15	Greenway SF Residence	101 Raleigh Avenue	0.05
			Total Disturbed Area	1.80

Table 18: Town of Vinton Regulated Land-Disturbing Activities for Year Two

Roanoke County including the Town of Vinton ESC review for Year 2 report:

Number of Erosion and Sediment Control Plans Reviewed - 196

Number of Regulated land-disturbing activities - 189

Total Disturbed Area rbed - 66.307 acres

BMP 4-4*. Erosion and Sediment Control Inspection

Goal: To develop and maintain written procedures for inspections to confirm that construction complies with approved plans and that construction site stormwater runoff is properly addressed.

Measurable Goal: The County has developed an Erosion Control Inspection Report and the Virginia Stormwater Management Program (VSMP) Combined Inspection Report to be used by the County's personnel when they are inspecting the site. Both of the VSMP Combined Inspection Report and Erosion Control Inspection Report with checklists are provided as supporting documents.

Number of Land-Disturbing Activity Inspections in Roanoke County and Town of Vinton:
Single-Family Residence and Commercial Projects - 14,131

TMDL Consistency: The routine inspection of the site and the VSMP and ESC measures as identified will ensure that the VSMP and ESC requirements and measures are in place, therefore any construction activity will minimize erosion and flooding potential (SED, EC/FC).

Evaluation and Modification: Written procedures along with checklists have been developed for site inspections. No modifications are planned to this BMP.

BMP 4-5*. Erosion and Sediment Control Compliance and Enforcement

Develop and maintain written procedures for compliance and enforcement when necessary to compel compliance with construction site stormwater runoff requirements.

Goal: The goal of this County/Town BMP is to develop and maintain written procedures for compliance and enforcement, in order to ensure program consistency.

Measurable Goals:

Success for this BMP will be measured by the annual evaluation of the written plan review procedures by Roanoke County. A summary of the enforcement actions taken, if any including the total number and type of enforcement actions is provided by Roanoke County Department of Community Development. According to Roanoke County, for Permit Year 2 report, there was no enforcement action taken in the Town of Vinton.

TMDL Consistency:

Written procedures that allow for the enforcement of the erosion and sediment control program help to ensure that the required erosion controls, as shown on the approved plan, are implemented and properly maintained in the field; such controls reduce sediment in stormwater runoff from construction sites. (SED)

Evaluation and Modification:

No modifications are planned for this BMP. Town of Vinton and Roanoke County believe that implementing enforcement actions based on written procedures is critical to help reduce pollutants in stormwater runoff during land-disturbing activities.

Summary of enforcement actions: Type of Actions - 19 Notice to Comply (NTC), None in the Town of Vinton

MCM 5: POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

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 programs that continue to be established to complete this measure are listed below:

BMP 5-1. Stormwater Management Ordinance and Manual

The Town of Vinton has adopted a Stormwater Management Ordinance and Design Manual, which complies with the July 1, 2014 state requirements.

BMP 5-2*. Stormwater Management Plan Review

Develop and maintain written procedures for site plan review which addresses post-construction stormwater.

BMP 5-3*. Stormwater Management Facility Construction Inspection

Develop and maintain written procedures for site construction inspections to confirm that construction complies with approved plans.

BMP 5-4*. Stormwater Management Facility Post-Construction Inspection

Develop and maintain written procedures for post-construction inspections of privately owned and Town-owned stormwater management facilities.

BMP 5-5*. Stormwater Management Facility Tracking

Develop and maintain a GIS based system to track Stormwater Management Facilities to ensure that proper post-construction inspection and maintenance is occurring.

BMP 5-6*. Strategies to Encourage Long-Term Maintenance of Single-Family Residential Structure Stormwater Control Measures

Develop and implement strategies to promote the long-term maintenance of stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot. These strategies would be used to replace recorded maintenance agreements and required Town/County post-construction inspections.

***Note – BMPs noted with * are new BMPs effective July 1, 2014. Previous BMP 5-2 Stormwater Management Facility Inspection Program has been discontinued and replaced by new BMPs 5-2, 5-3, 5-4, and 5-5). Old BMP 5-3 Low-Impact Development Utilization has been discontinued due to lack of relevance with the new stormwater management requirements that became effective on July 1, 2014.**

BMP 5-1. Stormwater Management Ordinance and Manual

During this first year of the reissued permit, the Town amended its Stormwater Management Ordinance and adopted a new stormwater management ordinance on May 20, 2014.

Additionally, on July 1, 2014, the Town adopted the Virginia Stormwater Management program Fee Schedule and Roanoke County revised Stormwater Design Manual by reference, to reflect the changes in the state stormwater regulations, which became effective on July 1, 2014.

Goal: The goal of this BMP is to adopt and enforce an ordinance and design manual that requires stormwater runoff to be addressed. These documents ensure that controls are in place that would prevent or minimize water quality and quantity impacts due to new development and redevelopment projects.

Measurable Goal: The Town started enforcing the stormwater ordinance and manual after adopting by reference Roanoke County Stormwater Management Ordinance and Manual on January 1, 2008. The stormwater management design manual details structural and non-structural best management practices (BMPs) that are appropriate for Roanoke Valley region. The ordinance requires the designation of a responsible party who is legally bound to inspect and maintain the best management practices for the life of the BMP.

Beginning July 2015, Roanoke County/Town of Vinton stormwater ordinances and design manual have been updated and presented to the Roanoke Homebuilders Association for their review and input. It is proposed that these changes be forwarded to Roanoke County Board of Supervisors (BOS) for their review and adoption in December 2015. Once the County BOS adopted the ordinances and design manual, the Vinton Town Council will adopt the same since the County has agreed to become the Town’s VSMP administrator once the stormwater ordinance is adopted.

TMDL Consistency: The stormwater management ordinance and stormwater design manual goal is to reduce the quantity of stormwater runoff and improving the quality of stormwater runoff from new development, redevelopment, and existing developed areas. This manual and ordinance protects against erosion from stream banks, construction sites, developed areas, and redeveloped area (SED, EC/FC).

Evaluation and Modification: The materials associated with this BMP are to be revised to align with the new Virginia Stormwater Management Law and Regulations DEQ General Guidance. . Proposed adoption December 2015.

Year	Action	Changes and Modifications
2013 - 2014 (YEAR ONE)	New Stormwater Ordinance and Manual Adopted	New Documents, effective July 1, 2014
2014 – 2015 (YEAR TWO)	New Guidance from the State due to VSMP Changes	Draft ESC, SWM Ordinances, Manual Design under Review

Table 19. Stormwater Management Ordinance and Manual

BMP 5-2. Stormwater Management Plan Review

As of August 2014, the two Memoranda of Understanding (MOUs) between the County and the Town for the County to provide SWM plan review services and SWM facilities during and after construction services were renewed.

Goal: To develop and maintain written procedures for site plan review which addresses post-construction stormwater runoff to ensure consistency of reviews.

Measurable Goal: The Town personnel along with Roanoke County personnel reviewed the existing County/Town Land Development Plan Policy and Procedures and the needed changes to meet the new requirements of the VSMP and ESC requirements have been incorporated. The Land Development Procedures can be accessed from Roanoke County website and/or Town's website, where a link to Roanoke County website is provided.

TMDL Consistency: The plan review will ensure the site will have in place measures to protect against erosion and illicit discharges from the construction sites, developed areas, and/or redeveloped area (SED, EC/FC, and Nutrients).

Evaluation and Modification: Land Development Plan Policy and Procedures are in place. No modifications are planned for this BMP.

BMP 5-3. Stormwater Management Facility Construction Inspection

As of August 2014, the two Memoranda of Understanding (MOUs) between the County and the Town for the County to provide SWM plan review services and SWM facilities during and after construction services were renewed.

Goal: To develop and maintain written procedures for construction inspections to confirm that construction complies with approved plans.

Measurable Goal: In cooperation with Roanoke County personnel written procedures for construction inspections have been developed and used by the County personnel – VSMP Combined Inspection Report.

TMDL Consistency: The stormwater management facility construction inspection will ensure that the SWM facility is constructed according to the submitted plan to minimize pollution leaving the site (EC/FC, SED).

Evaluation and Modification: No modifications are being planned for this BMP.

BMP 5-4. Stormwater Management Facility Post-Construction Inspection Program

Goal: The goal of this BMP is to enforce procedures for the stormwater management best management practice (BMP) facility inspection program.

Measurable Goal: In this second year of the reissued permit, through the MOU with Roanoke County, 1 permanent privately-owned stormwater management facilities and 2 town-owned facilities were inspected. The privately-owned SWM facility maintenance deficiencies were corrected as June 19, 2015. The two town-owned SWM facilities; the Vinton War Memorial facility are found to be in compliance.

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

Evaluation and Modification: Based on the permit requirement to annually inspect all Town-owned stormwater management facilities and to inspect other stormwater management facilities at least once every 5 years, this BMP was modified to reflect the required inspection frequency.

Year	Stormwater Facilities Inspected	Total Number of Stormwater Facilities	BMP Maintenance Guides Given Out
2013 - 2014 (YEAR ONE)	2 – Public 2 - Private	4- Public 51 - Private	3
2014 – 2015 (YEAR TWO)	2- Public 1- Private	4 –Public 51- Private	1

Table 20. Stormwater BMP Facilities Inspection

BMP 5-5. Stormwater Management Facility Tracking

Goal: To develop and maintain a GIS based system to track stormwater management facilities to ensure that proper inspection and maintenance is occurring.

Measurable Goal: The GIS information that include the, unique identifier, facility type, address or latitude and longitude, acres treated including total acres as well as the breakdown of pervious and impervious acres, the date the facility was brought online (MM/YYYY) (if the date is not known use June 30, 20005), 6th order HUC, name of any impaired stream sections within the HUC, whether the facility is Town or privately owned, whether or not a maintenance agreement exists if the facility is private, date of the most recent post-construction inspection, has been completed.

TMDL Consistency: Proper maintenance of permanent stormwater management facilities is vital for the long term success of the facilities and the prevention of sediment and other pollutants from leaving the site and being transported into the local streams and river (SED, EC/FC).

Evaluation and Modification: The Town will continue to expand and update the GIS system as needed with the assistance of Roanoke County Department of Communications and Information Technology.

BMP 5-6. Strategies to Encourage Long-Term Maintenance of Single Family Residential Structure Stormwater Control Measures

Develop and implement strategies to promote the long-term maintenance of stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot. These strategies would be used to replace recorded maintenance agreements and required Town/County post-construction inspections.

Goal: The goal of this BMP is to implement strategies to promote the long-term maintenance of stormwater control measures that are designed to treat stormwater runoff solely from the individual residential lot. These strategies will be used to replace recorded maintenance agreements and the required Town/County post-construction inspections.

Measurable Goals: Success for this BMP will be measured by tracking the number of new single-family residential lots each year that are covered by the strategies, annually reaching 100% of the total number of single-family residential lots covered under the strategies with homeowner outreach and education materials using direct mail, maintaining maintenance information for the stormwater practices on the Town's website, and evaluating the effectiveness of the strategies in promoting the long-term maintenance of stormwater control measures.

TMDL Consistency: Stormwater management techniques target reducing sediment in stormwater runoff from developed sites and are designed to reduce volume and velocity of peak runoff rates during and after development. 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 believes this is an effective BMP to address the maintenance of relatively simple stormwater management practices used on individual single-family residences (SFRs). However, as the Town and Roanoke County have more experience with it, revisions may be made in the future.

Permit Year 2 was the first year to not require maintenance agreements for individual residential lots. There are 17 residential lots used individual stormwater control measures (underground facility) without maintenance agreements. 100% of the total individual SFRs were reached with homeowner education and outreach materials using direct mail by Roanoke County. (For this Permit Year 2, the newsletter entitled *A Stormwater Guide for Homeowners* was used to satisfy this mailing requirement.) A more targeted brochure may be used for future permit years.

The Town's website provide a link to Roanoke County's website on the maintenance information for stormwater practices under "Stormwater Public Education Documents" at: <http://www.roanokecountyva.gov/index.aspx?NID=1648>

MCM 6: POLLUTION PREVENTION/GOOD HOUSEKEEPING

The main goal of the pollution prevention and good housekeeping program is to reduce stormwater runoff pollution from the Town's day-to-day operations. The Town needs to continue to evaluate its facilities and also provide education and training programs that will educate Town employees about pollution prevention and hazardous waste. The programs that continue to be established to meet this measure are listed below.

BMP 6-1. Spill Prevention Control and Countermeasures Plans

The Town will develop a Spill Prevention Control and Countermeasure Plan (SPCC) for each of the appropriate Town's facilities.

BMP 6-2. Storm Sewer Systems Maintenance Program

The Town will continue to provide storm sewer system maintenance.

BMP 6-3. Public Street Sweeping and Leaf Collection Programs

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

BMP 6-4*. Training Program for Town Employees

The Town will develop and implement 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) greenway/recreational facilities; (3) spill response by emergency response employees; (4) herbicide application training when applicable; and (5) contractor oversight for environmental compliance.

BMP 6-5*. Household Hazardous Waste Event

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

BMP 6-6*. Standard Operating Procedures

The Town has developed and will implement the 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. SOPs will be used in training activities.

BMP 6-7*. Stormwater Pollution Prevention Plans (SWPPPs) for Municipal Facilities

The Town will identify all high-priority facilities that have 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 6-8*. Nutrient Management Plan

The Town 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. Nutrient Management Plans will be implemented and maintained.

BMP 6-9* Responsible Land Disturber

Employees that oversee the performance of regulated land disturbance activities by County employees shall be recognized as a Responsible Land Disturber by DEQ.

***Note – BMPs noted with * are new BMPs effective July 1, 2014. Previous BMP 6-4 Pollution Prevention and Hazardous Waste Training has been discontinued and replaced by the new BMP 6-4.**

Included in this document is a detailed description of the objective and Measurable Goal of each BMP, the strategies to ensure consistency with identified TMDL's, 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 goals of the stormwater program. The TMDL compliance is broken down by the identified impairment type: E. coli, fecal coliform (EC/FC) and sediment (SED). Additionally, the Town's day-to-day operations are to recognize and minimize the impact of the three identified high-priority quality issues; E. coli/bacteria, sediment, and nutrients to the waterways.

BMP 6-1*. Spill Prevention, Control, and Countermeasures Plan

The Town will inspect and develop Spill Prevention, Control, and Countermeasure Plans for all of its municipal facilities that require a plan, if needed. Existing plans will be updated and annual training will be completed.

Goal: The goal of this BMP is to develop and update Spill Prevention, Control, and Countermeasures (SPCC) Plans for all of the Town's appropriate municipal facilities. These plans will be updated and an annual training will be completed. Each facility will be inspected and evaluated for the potential of illicit discharges from storage yards, outdoor storage areas, waste transfer station, fleet or maintenance shops and other municipal facilities. The disposal method for waste materials will be evaluated. Soluble or erodible materials will be analyzed and protected from exposure to precipitation. The application of fertilizers and pesticides will be examined to meet manufacturer's recommendations. Any operation that has potential to discharge material into the separate storm sewer system will be examined for potential unwanted discharge.

Measurable Goal: To meet this goal, the Town will inspect all Town-owned properties. The plans for an accidental spill at any of these sites would include a normal response by the Vinton Fire Department for containment. Then it will be turned over to a private hazardous waste material contractor, either LCM or WEL, for clean-up. Notification will be sent to VDEM and VDEQ. Based on the inspections and records, none of the Town-owned facilities require for SPCC to be developed.

TMDL Consistency: This program minimizes the potential for pollution spills to enter the Town's storm drain system. This program also expands to evaluate any new Town's ties, so that all working municipal facilities are protected (EC/FC, SED).

Evaluation and Modification: Since none of the town-owned facilities need for a SPCC to be developed this BMP will be deleted.

Town Facility Illicit Discharge Inspection Schedule	Schedule	Inspected	Pollutant?
Vinton Municipal Building, 311 S. Pollard Street	2013-14	YES	NO
Vinton EMS and Fire Station Buildings, 110 and 120 W. Jackson Avenue	2013-14	YES	NO
Vinton/County Health Dept., 227 S. Pollard Street	2013-14	YES	NO
Vinton Farmers' Market, 204 W. Lee Avenue	2013-14	YES	NO
Vinton Stage, 209 W. Lee Avenue	2013-14	YES	NO
Vinton Historical Society Museum, 210 E. Jackson Avenue	2013-14	YES	NO
Vinton War Memorial Building, 814 Washington Avenue	2013-14	YES	NO
Charles R. Hill Senior Center, 820 Washington Avenue	2013-14	YES	NO
Municipal Swimming Pool, 330 Meadow St.	2013-14	YES	NO
Vinton Public Works Building/Garage, 804 3 rd Street	2013-14	YES	NO
Town Facility Illicit Discharge Inspection Schedule	Schedule	Inspected	Pollutant?
Niagara Road Pump Station, 1300 Niagara Road	2014-15	YES	NO
Third Street Pump Station, 804 3 rd Street	2014-15	YES	NO
Hardy Road Pump Station, 1359 Hardy Road	2014-15	YES	NO

Table 21. Evaluation and Inspection Schedule of All Town Properties for Potential Sources of Pollutant of Concern

BMP 6-2. Storm Sewer Systems Maintenance Program

Goal: The goal of this BMP is for the Town Public Works Department to continue to actively maintain the Town's storm sewer system. Keeping the storm sewer system properly maintained is very important for the Town because it keeps the regulated storm sewer working as designed, minimizing the potential for flows to surcharge or surpass the capacity of the regulated storm sewer system. The maintenance crews also have the potential of discovering illicit connections and additional areas where hazardous waste may be entering the regulated storm sewer system.

Measurable Goal: The success of this BMP will be measured by the continuation of this program and the increase in total value of improvements that have been completed to maintain the storm sewer system. The following table summarizes the Public Works Department's total expenditures for labor, materials, and equipment to maintain the stormwater system to correct deficiencies. Repairs are performed within available funds budgeted for this purpose. For year two reporting period, a total of 2,553 labor hours were spent on the storm sewer systems maintenance and repair. The value of these improvements was estimated to be \$126,333.01.

Reporting Period	Work Hours	Total Labor	Materials	Total Equipment	Total Expenditures
2013 - 2014 (Year One)	1,870	\$52,968.51	\$12,214.45	\$21,988.53	\$87,717.49
2014 - 2015 (Year Two)	2,553	\$74,369.27	\$21,785.81	\$30,177.93	\$143,506.56
2015- 2016 (Year Three)					
2016 - 2017 (Year Four)					
2017 - 2018 (Year Five)					

Table 22. Storm Sewer Systems Maintenance Program

TMDL Consistency: This program is responsible for maintaining the regulated storm sewer system. This program involves cleaning up storm inlets, fixing eroded areas around storm drains and inlets to minimize sediment being eroded and washed into channels and streams (SED). This program also increases the potential for discovering illicit connections to the storm drain system (EC/FC).

Evaluation and Modification: No changes are planned for this BMP, the Town will continue to maintain this program of maintaining and repairing its storm sewer system to keep the system functioning properly. By being in the field, increases the opportunity to discover potential illicit discharge connections to the storm drain system.

BMP 6-3. Public Street Sweeping and Leaf Collection Programs

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

Measurable Goals: 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. This continues to optimize both the use and effectiveness of the Town single street sweeper and achieves desired results.

The 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. Sweeping frequency is impacted by inclement weather and equipment downtime. Beginning, July 1, 2010, the street sweeper was configured for vacuuming debris from drainage inlet. For year two reporting period, the total expenses on wages, and equipment cost of street sweeping program was \$162,915.46 and the total expense of the leaf collection program was \$17,173.55. Additionally, beginning this Year Two report, information on the amount of debris collected by the street sweeping program has also been tracked, which was 131.30 cubic yards.

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).

Reporting Period	Street Sweeping Program	Fall Leaf Collection Program
2013 – 2014 (Year One)	\$152,693.91	\$23,666.17
2014 - 2015 (Year Two)	\$162,915.46	\$17,173.55
2015 -2016 (Year Three)		
2016 - 2017 (Year Four)		
2017 - 2018 (Year Five)		

Table 23. Public Street Sweeping and Leaf Collection Programs

Evaluation and Modification: No changes are planned for this BMP; the Town will continue to maintain the street sweeping and vacuuming 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.

BMP. 6-4.* Training Programs for Town Employees

Goal: The goal of this BMP is to develop and maintain pollution prevention and hazardous waste training for Town employees and grounds maintenance workers.

Measurable Goals: The Town currently maintains basic hazardous waste training for employees in Fire and Rescue. The Human Resources Manager and Public Works Administrative Assistant will be responsible to ensure the Town employees receive environmental awareness and management training. For year two reporting, Planning and Zoning Department and Emergency Management Services personnel completed the stormwater pollution prevention training by having to watch the stormwater educational videos posted on the Roanoke County Intranet. Public Works eight employees attended the Regional Water Association Conference held at Hotel Roanoke, which consisted of stormwater related products and stormwater related services. Additionally, twelve employees attended the 2015 Industry & Public Works Expo on April 22, 2015 at the Salem Civic Center where they were presented with several stormwater BMPs.

TMDL Consistency: This program makes sure that all Fire and Rescue personnel maintains basic hazardous waste training to prevent mishandling of hazardous materials in ways that could be detrimental to the environment. The program is also responsible for education Town employees on environmental awareness and management training. This effort targets every employee, whether they are in a high risk field or not about some good housekeeping practices. This program will train every employee to be the eyes and ears of pollution prevention. This will increase the likelihood that any potentially hazardous situation will be brought to the attention of a supervisor and adequately addressed (EC/FC, SED).

Evaluation and Modification: The Town considers this BMP to be successful and proposes to continue with this program. The Town will continue the pollution prevention and environmental awareness training for all Town employees. The total number of new employees to receive training will be documented in addition to the total number of employees trained to date.

BMP 6-5. Household Hazardous Waste Collection Event

Goal: The goal of this BMP is to encourage and identify strategies and events to help citizens dispose of household materials and waste that could be hazardous to dispose of in bulk landfills.

Measurable Goal: A permanent household hazardous waste facility is continued to be made available at the Roanoke Valley Resource Authority (RVRA). The facility is open on the third Saturday of each month, giving citizens in the Roanoke Valley opportunities to dispose of their hazardous materials year-round rather than during three regional collection events offered in the past. For FY 2014-2015, RVRA collected 887 gallons of oil, 1 batteries, and 4,853 gallons of latex paint from 618 residential households from Roanoke County, City of Roanoke, and Town of Vinton.

On Saturday, September 27, 2014, the National Prescription Drug Take-Back Program was held at several locations in the Cities of Roanoke and Salem, Counties of Roanoke, Botetourt, and Craig, and Vinton at Hardy Road Kroger. Medication was safely collected and then destroyed by local law enforcement and DEA agents. The drug-take back event instead of leaving medications unsecured in the home or flushing them down the commode will help prevent drug abuse and protect the Roanoke Valley's waterways. The Vinton Hardy Road Kroger drug take-back event collected 283 pounds of drugs; 2,168 pounds of unwanted and unused prescription drugs were collected.

TMDL Consistency: Currently there is no known benefit that this BMP will have on any TMDL wasteload allocations. However, this BMP have a beneficial effect on stream water quality.

Evaluation and Modification: The Town considers this BMP to be successful and proposes to 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 Town will continue to advertise this monthly hazardous waste collection and drug take back events on its website to increase participation to keep hazardous wastes from being disposed inappropriately into the Roanoke Valley streams and river.

BMP 6-6.* Standard Operating Procedures (SOPs)

Goal: To develop and implement 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. SOPs will be used in training activities.

SOPs are designed to prevent pollutant discharge from (1) daily operations such as road, street, and parking lot maintenance, (2) equipment maintenance, and (3) the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers.

The SOPs shall be designed to (1) prevent illicit discharges, (2) ensure the proper disposal of waste materials, including landscape wastes, (3) prevent discharge of municipal vehicle wash water into the MS4, (4) prevent discharge of wastewater into the MS4, (5) require use of BMPs when discharging water pumped from utility construction and maintenance activities, (6)

minimize pollutants in stormwater runoff from bulk storage areas; (7) prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and (8) ensure that the application of materials, including fertilizers and pesticides is conducted in accordance with the manufacturer's recommendations.

Measurable Goal: As of April 2014, the Standard Operating Procedures have been developed. Town's employees will be informed of the SOP that has been developed in April 2014. The Town SOP can be accessed by all employees on the T:drive in a shared folder. Additionally, a paper copy the SOP will be kept at needed facilities and maintained by the Town's appropriate personnel.

TMDL Consistency: This program will train every employee to be diligent on their daily operation to minimize pollutions being discharged from their daily operations (EC/FC, SED).

Evaluation and Modification: The SOPs will be implemented by next reporting annual report. The SOPs evaluated and revised as needed.

BMP 6-7. Stormwater Pollution Prevention Plans (SWPPPs) for Municipal Facilities

Goal: To identify municipal facilities which have a high potential to discharge pollutants and provide SWPPPs for them. Town of Vinton will identify all high-priority facilities that have 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 as a part of the SOP training, where appropriate.

Measurable Goal: All town high-priority facilities have been identified and a time-line to prepare each SWPPP has been established. A SWPPP has been developed for one of the Town Public Works Facility which includes its Fueling Center, Parking Areas of Town vehicles, Secondary Containment Area, Vehicles Maintenance Bay, and the Workshop Area. The SWPPP for this facility is submitted as a separate document.

TMDL Consistency: SWWP will prevent the discharge of pollutants from town facilities into the waterways.

Evaluation and Modification: All necessary SWPPPs shall be completed by the end of permit year 4. The SWPPPs shall be maintained thereafter.

BMP 6-8. Nutrient Management Plan (NMP)

Goal: To ensure that excessive nutrients are not being applied to Town-owned lands. The Town 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 for these lands. Nutrient Management Plans will be implemented and maintained.

Measurable Goal: All Town-owned lands where nutrients are applied to a contiguous area of 1 acre or more have been identified. Based on the analysis, only the Vinton War Memorial Facility

that will require for a NMP to be prepared, which was prepared by a Certified Nutrient Management Planner, Robert Habel, CNMP, in June 2015, and approved by VA Department of Conservation and Recreation (DCR) on June 22, 2015. The NMP will be submitted as a separate document.

TMDL Consistency: NMP aims to limit the amount of nutrient rich runoff reaching the waterways by following a site-specific, agronomically and environmentally sound NMP prepared by a Certified Nutrient Management Planner (EC/FC, SED, and Nutrient).

Evaluation and Modification: The private landscaping company that maintains the Vinton War Memorial Facility has been given a copy of the NMP. Additionally, they are to keep track with the “Application Worksheets” and “Records/References” which are provided with the NMP. Nutrient Application Worksheet and

BMP 6-9. Responsible Land Disturber (RLD)

Goal: To ensure that employees that have responsibility to oversee the performance of regulated land disturbance activities by Town employees shall have the qualifications to properly implement erosion and sediment control measures. Responsible employees shall be certified as a Responsible Land Disturber by DEQ.

Measurable Goal: The County/Town ESC ordinance requires that regulated land disturbance activities to be performed by RLD.

TMDL Consistency: This program will train the applicable employee to be diligent when they have to oversee land disturbance activities to minimize pollutions being discharged from their daily operations (EC/FC, SED).

Evaluation and Modification: This BMP has been implemented effective July 1, 2014.