City of Staunton, Virginia

MS4 ANNUAL REPORT

For the Virginia Stormwater Management Program General Permit Registration Statement for Small Municipal Separate Storm Sewer Systems (MS4)

General Permit No. VAR040132

Reporting Period: Permit Cycle 2, Year 4
July 1, 2021 through June 30, 2022

Certification

CERTIFICATION STATEMENT

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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Signature: _____ Date: September 30, 2022

Permit Number: VAR040132

MS4 Name: City of Staunton

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INTRODUCTION

Discharges from municipal separate storm sewer systems are regulated under the Virginia Stormwater Management Act, the Virginia Stormwater Management Program (VSMP) Permit regulations and the Clean Water Act as point source discharges. MS4 regulations were developed and implemented in two phases. Implementation of the first phase began in the early 1990s and required that operators of MS4s serving populations of greater than 100,000 people (per the 1990 decennial census) apply for and obtain a permit to discharge stormwater from their outfalls. The second phase of MS4 regulations became effective March 23, 2003, and required that operators of small MS4s in "urbanized areas" (as defined by the latest decennial census) obtain a permit to discharge stormwater from their outfalls.

In August 2013, the City of Staunton received a Notice of Designation as a regulated small MS4. Part of the City's jurisdiction had been identified as being located within an urbanized area according to the 2010 Decennial Census. As a result, the City must apply for and maintain coverage under the General Permit for the Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems. Similar to the Phase I programs, small MS4 programs must be designed and implemented to control the discharge of pollutants from their storm sewer system to the maximum extent practicable in a manner that protects the water quality in nearby streams, rivers, wetlands and bays.

On May 16, 2018, the City of Staunton submitted a Registration Statement outlining the City's MS4 Program to the Department of Environmental Quality (DEQ). On November 1, 2018, the City received notification from DEQ that the City had obtained continuing coverage under the General VPDES Permit for Small MS4s. Coverage under the Virginia General Permit for Discharges from Small Municipal Storm Sewer Systems requires each MS4 locality to submit an annual report by October 1 of each year describing the status of the Program's implementation for the previous permit year, July 1 through June 30.

Stormwater discharges from Phase II (small) MS4s are regulated under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. Small MS4s include storm sewer systems operated by cities, counties, towns, federal facilities such as military bases, Veteran's Affairs hospitals and research facilities, Department of Defense facilities and parkways, and state facilities such as VDOT, community colleges and public universities. Under the General Permit, small MS4s must develop, implement and enforce a program that includes the following "six minimum control measures":

- Public education and outreach on stormwater impacts
- Public involvement and participation
- Illicit discharge detection and elimination
- Construction site stormwater runoff control
- Post-construction stormwater management in new development and redevelopment
- Pollution prevention/good housekeeping for municipal operations

Activities within each of the control measures are termed Best Management Practices or BMPs.

This document is the City of Staunton's required Annual Report for Permit Cycle 2 - Permit Year 4. Permit Year 4 is the period starting on July 1, 2021 and ending on June 30, 2022. The annual report includes the status of the BMPs implemented as part of the City's MS4 Program Plan. The annual report lists the measurable goals and the accomplishments achieved for each BMP. The annual report also includes any changes to the City's MS4 Program Plan.

ABOUT STAUNTON

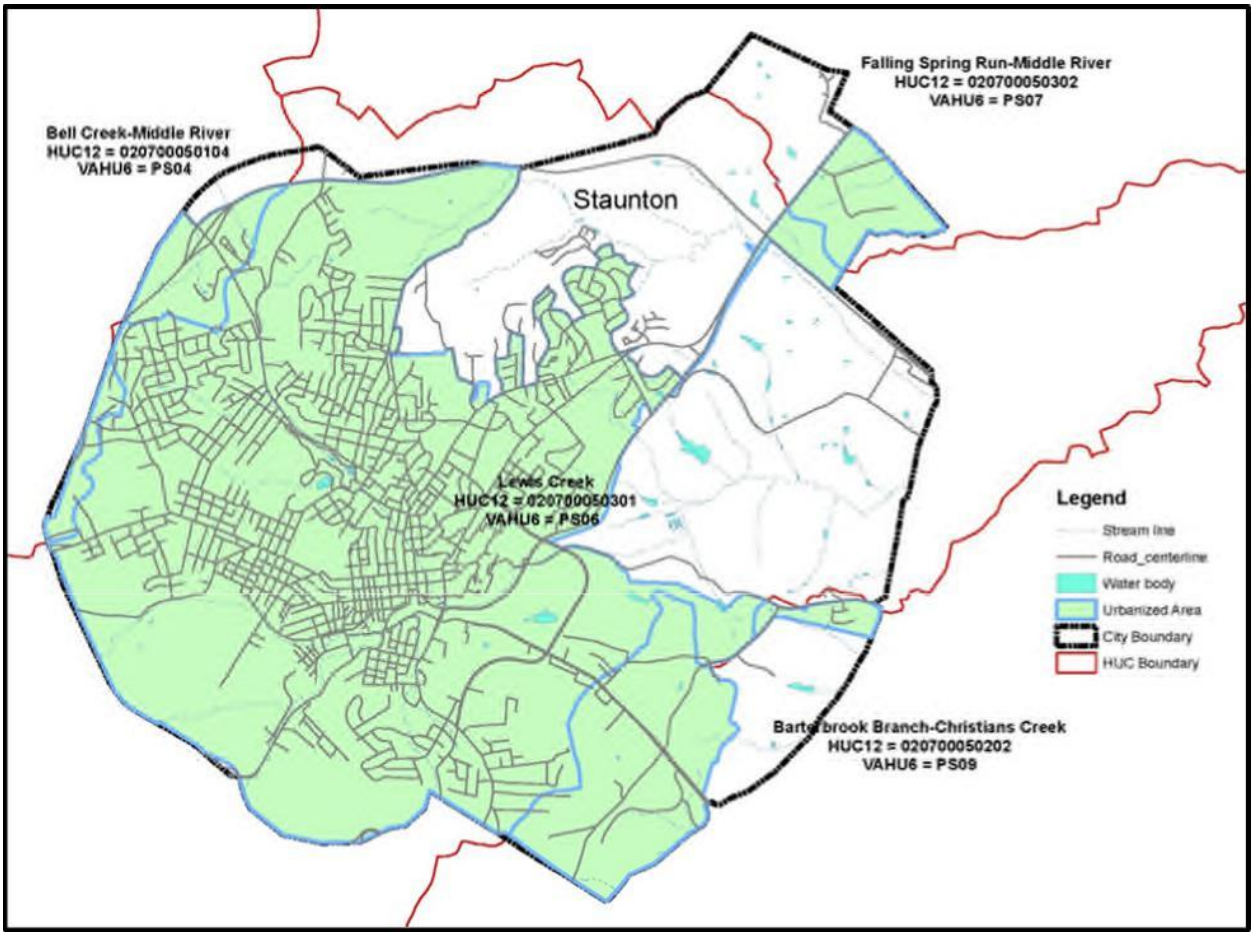
Located in the historic Shenandoah Valley, Staunton was first settled in 1732. The hamlet was named in honor of Lady Staunton, wife of Sir William Gooch who served as lieutenant-governor of Virginia from 1727 to 1749. The Virginia General Assembly established Staunton as a town in 1761.

Staunton, unique among cities for its natural beauty and architectural heritage, provides an excellent quality of life for its unified community by continuing the tradition of citizen leadership, innovation, and perseverance. The best of its history combined with the best new ideas and technology make Staunton an exceptional small city with charm, energy, ambiance, and creativity that others seek to emulate.

Today, Staunton is an independent city with a population of 25,750 as of 2020 census, located within Augusta County. Staunton is approximately 19.7 square miles in size. The urbanized area within the City of Staunton is 13.2 square miles as identified in Figure 1. This urbanized area represents a portion of the Staunton-Waynesboro Metropolitan Statistical Area, as defined by the Office of Management and Budget, which had a population of 125,433 as of the 2020 census.

The City of Staunton lies within four (4) major watersheds. The hydrologic unit codes (HUC) are the following:

Name	HUC 12	VAHU6
➢ Lewis Creek	020700050301	PS06
➢ Christians Creek/Barterbrook Branch	020700050202	PS09
➢ Middle River/Falling Spring Run	020700050302	PS07
➢ Middle River/Bell Creek	020700050104	PS04


Falling Spring Run-Middle River
HUC12 = 020700050302
VAHU6 = PS07
Bell Creek-Middle River
HUC12 = 020700050104
VAHU6 = PS04
Staunton
Lewis Creek
HUC12 = 020700050301
VAHU6 = PS06
Legend
Stream line
Road_centerline
Water body
Urbanized Area
City Boundary
HUC Boundary
Barterbrook Branch-Christians Creek
HUC12 = 020700050202
VAHU6 = PS09
Figure 1

MS4 PROGRAM

Minimum Control Measure 1 – Public Education and Outreach

The public education and outreach (PE&O) BMPs will be a critical component of City's MS4 program. The PE&O program will help the citizens of the community better understand the environmental challenges that they are facing as a community. This new knowledge will encourage the community as a whole to implement changes in their lifestyles that will reduce the negative impacts their daily choices have on the environment. Additionally, this program empowers the citizens to become part of the stormwater solution by developing an understanding of program goals and providing a variety of ways to communicate observed issues to the program administer.

The PE&O BMP will focus on the following high priority areas:

- Waste/Pollution Management was selected due to the immediate impact to the community. The City of Staunton spends significant resources every year to clean streets, maintain BMP's, and to facilitate better water quality for the community.
- Watershed Awareness brings attention to the importance of caring for and maintaining the quality of the City's watersheds because the City's watersheds are located at the headwaters of the Chesapeake Bay and so can impact downstream watersheds and ultimately the Chesapeake Bay itself.
- Chesapeake Bay and local waterway nutrient impacts was chosen to increase citizen understanding and support for the City's nutrient reduction efforts. The City will be required to dedicate significant resources on the reduction of nutrients to address TMDL's. Resource allocation will be restricted without significant community support and funding.

Modifications to MCM 1:

Date: SWM Brochure was updated February of 2021
A copy of the educational brochure, "Staunton's Solutions for Stormwater Pollution, Issue Number IV," has been included in Appendix A.

BMP – 1.1 School Presentations (Category - Speaking Engagements)

The City will continue to develop targeted presentations to school age children in grades 4 through 9. The presentations will be age appropriate with the goal to build on past presentations in future years. Presentations will include interactive tools to help better understand the effects of water pollution and strategies for prevention as they relate to the City's high priority topics.

Objective and Expected Results: By targeting grades 4 through 9, the City will be providing these children with the required information to foster stormwater awareness that will translate into long lasting positive changes toward stormwater issues.

Implementation Schedule: The City will continue to provide the presentations throughout the permit cycle. The City will target 4 to 6 presentations per year. The Environmental Programs Division will be responsible for developing and giving the presentations.

Method to Determine Effectiveness: The measure for this BMP is based on the total number of presentations per year and the total number of students. The annual report will include these numbers.

Annual Reporting: The audience for Permit Year 4 was based on the number of students in the 6th and 9th grades attending the presentations. After consulting with school officials, it was determined that 6th and 9th grades present the best opportunity to accommodate stormwater topics within the curricula for those grades.

School Presentations:

Permit Year 4	Number of Presentations Planned	Number of Presentations Conducted	Number of Students Impacted	Number Presentations Anticipated next year	Number Anticipated Students Impacted
July 1, 2021- June 30, 2022	7-9	8	187	7-9	200

Program	MCM	Presentation	Audience	Date	Number of Students
School Presentations	1.1	Stormwater, Watersheds, and Enviroscape for Shelburne 2021	Shelburne Middle School - 6th grade Science Classes - 4 different classes - Ms. Bacola	10/27/2021	89
School Presentations	1.1	Stormwater, Watersheds, and Enviroscape for Shelburne 2021	Shelburne Middle School - 6th grade Science Classes - 4 different classes - Ms. Evans (formerly Ms. Pickford)	10/28/2021	98

BMP – 1.2 Waste Awareness Brochures (Category - Written Materials)

The City will develop educational brochures to provide information in an easy to read format. The brochures will concentrate on the high priority topics. In keeping the topics open to all high priority areas, the City will have the flexibility to modify the Program from one topic to another as priorities change from one year to the next. Each brochure will include information about the topic, identify desirable changes in behavior and provide contact information for questions and reporting. The educational brochures will be made available through mass mailings and at various City offices and community events.

Objective and Expected Results: By distributing educational brochures to the citizens, the City will be raising the general awareness of stormwater issues as well as providing actions the public can take to help protect water quality and minimize impacts to stormwater runoff.

Implementation Schedule: Waste brochures will continue to be developed and distributed throughout the permit cycle. The Environmental Programs Division will be responsible for the brochure's content and distribution.

Method to Determine Effectiveness: The effectiveness of this BMP is based on the total number of brochures distributed. The annual report will include this number.

Annual Reporting: The brochures were distributed citywide with the City's water and sewer bills and by placing copies of the brochures at various locations throughout the City. A copy of the brochure has been included as Appendix A.

Waste Awareness Brochures:

Permit Year 4	Number of Brochures Distributed
July 1, 2021- June 30, 2022	12,200

BMP – 1.3 Watershed Awareness (Category - Electronic Media)

The City has developed internet social media material to provide information in an easy to share format. The material concentrates on the topic of "Watershed Awareness". This topic was chosen in order to bring awareness to the importance of caring for and maintaining the quality of the City's watersheds and how the City's watersheds, located at the headwaters, affect downstream watersheds and ultimately the Chesapeake Bay. In keeping the social media format general, it will allow the City to have the flexibility to incorporate multiple types of social media outlets, i.e., Facebook, YouTube, etc. as priorities change and opportunities arise from one year to the next. Each post will include resources and information in regards to Staunton's watersheds and their impact on a local and state environmental well-being, identify desirable changes in behavior and provide contact information for questions and reporting. The material will be made available through social media posts through a public, City-run social media format.

Web link to the City's Facebook page:
https://www.facebook.com/stauntonstormwater

Objective and Expected Results: By using social media to reach citizens, the City will be raising the general awareness of the stormwater issues concerning watersheds, both locally and at the state level. The material will also provide actions the public can take to help protect water quality and minimize impacts to stormwater runoff.

Implementation Schedule: The Watershed Awareness social media material will continue to be developed and posted throughout the permit cycle. The Environmental Programs Division will be responsible for the social media material and its distribution.

Method to Determine Effectiveness: The effectiveness of this BMP is based on the total number of website hits. The annual report will include this number.

Annual Reporting: The estimated target audience reached is calculated by using Facebook's publishing tools and using audience details such as City of Staunton and Environmentalism, and the total number of hits, likes, and reaches on the Facebook page.

Watershed Awareness Social Media:

Permit Year 4	Number hits/likes/reaches
July 1, 2021 - June 30, 2022	2,558

Breakdown	Amount
FB Reaches	2,057
New FB page likes	222
Total FB likes	403
Total FB page visits	279

75% of the Facebook page followers are women aged 35-54.
58.6% of the Facebook page followers are from Staunton, and the remaining are from surrounding areas.

Minimum Control Measure 2 – Public Involvement / Participation

The public involvement/participation (POP) BMP will promote valuable input and assistance from the community. Providing the public opportunities to play an active role in the program is instrumental in a successful program. By promoting the availability of the program to the community, public participation will increase leading to a reduction in stormwater pollutants and improved water quality.

The first Lewis Creek Technical Advisory Committee meeting (PCB study) of January 25, 2020 had 15 attendees, including representatives of various local and state agencies and concerned citizens. Meeting summary is available upon request.

The second Lewis Creek Technical Advisory Committee meeting (Lewis Creek PCB Total Maximum Daily Load (TMDL) study) of August 18, 2021 had 14 attendees, including representatives of various local and state agencies and concerned citizens. Meeting summary is available upon request.

The city is currently waiting on the site remediation plan from CSX/DEQ for review.

Modifications to MCM 2: None this permit year

BMP – 2.1 Stormwater Webpage

The City has a dedicated stormwater webpage which provides detailed stormwater information to the public. The stormwater webpage is found on the City website at the address below. Information available on the webpage includes: definitions of common stormwater elements (i.e. stormwater, watershed, Chesapeake Bay, pollution prevention, etc.), details about why stormwater is important, identification of how citizens can help, links to the City's stormwater program elements (Ordinances, erosion & sediment control, policies, design standards, general permit, annual reports, etc.), links to Federal and State stormwater program information and contact information for reporting and questions.

Objective and Expected Results: The objective of the dedicated website is to provide large amounts of detailed federal, state and local program information, accessible to a large number of citizens. The expected result is to easily be able to search for and find detailed information on stormwater in general as well as information pertaining to the City of Staunton's MS4 Program. The website also provides citizens with information on how to comment on the City's MS4 program plan, and report erosion/sediment control issues, illicit discharges, and stormwater related complaints.

Implementation Schedule: The City has implemented the website and will maintain the website by adding the annual reports and updating the site's content and links. The Environmental Programs Division will be responsible for the page's content and will advise the webmaster of all required changes.

Method to Determine Effectiveness: The effectiveness of this BMP is based on the total number of website hits that occur each year. The annual report will include this number.

Web link to the City's Stormwater Webpage:
Environmental Programs Division | City of Staunton

Annual Reporting:

Stormwater Webpage:

Permit Year 4	Number of Website Hits
July 1, 2021 - June 30, 2022	1,163

BMP – 2.2 Tree Planting Program (Restoration)

The City currently has a Tree Planting Program where new trees are planted, dead or diseased trees are replaced with new plantings and structural pruning is performed on young existing trees. The City also helps organize and participates in an Arbor Day/Earth Day event where seedlings are handed out to participants. The City will continue its tree planting program and its participation in the Arbor Day/Earth Day event. The City will hand out seedlings and educational brochures and discuss the benefits of tree planting on water quality.

Objective and Expected Results: Encourage the community to actively take part in stormwater enhancements. Raise the general awareness of stormwater issues as well as discussing actions, such as tree planting, the public can take to help protect water quality and minimize impacts to stormwater runoff.

Implementation Schedule: The City will continue its Tree Planting Program and participating in the Arbor Day/Earth Day event. Parks and Recreation will continue to be responsible for these programs

Method to Determine Effectiveness: The effectiveness of this BMP is based on the total number of trees planted, the number of trees pruned, the number of participants and the number of seedlings handed out at the Arbor Day/Earth Day event. The annual report will include these numbers.

Annual Reporting: Permit Year 4

Tree planting day- multiple tree related events & tree planting days were held:

- An Arbor Day Celebration was held at Bessie Weller Elementary School on April 29, 2022 with about 40 children from the HEART after school program participating.
- The event was hosted by Shenandoah Green, a local environmental group.
- Shenandoah Green held multiple tree planting days in the city. City staff assisted the group. Trees were planted at City schools, parks, as well as private residences and businesses.
- Shenandoah Green planted 2000 of trees on private properties within the City of Staunton

Shenandoah Green Tree Plantings for City of Staunton: 6/30/2021 – 6/30/2022

QTY	Common name	Planting location	Area type- Turf or pavement
12	Autumn Brilliance Serviceberry	Shelburne/ Ware	turf
6	Yoshino Cherry	Shelburne/ Ware	turf
6	Green Vase Zelkova	Shelburne/ Ware	turf
2	American Elm- Princeton	Shelburne/ Ware	impervious
3	Nutall Oak	Dixon	turf
6	Overcup Oak	Dixon	turf
3	Swamp White Oak	Dixon	turf
3	Green Vase Zelkova	Dixon	turf
2	Ivory Silk Lilac Trees	Bessie Weller	impervious
1	Red Maple- Brandywine	Booker T Washington play ground	turf
1	Trident Maple	Booker T Washington play ground	turf
1	Red Maple- Brandywine	GHP- dog park area	turf
1	Trident Maple	GHP- dog park area	turf
1	Kentucky Coffee Tree	GHP - duck pond	turf
2	Green Vase Zelkova	Central Ave Streetscape	impervious
5	Serviceberry	Central Ave Streetscape	impervious
3	London Plane Sycamore	Lewis Street Streetscape (next to Tiger Solar)	floodplain turf
4	Redpointe Maple	Prospect Rd Streetscape (Mary Baldwin campus)	turf
4	Green Vase Zelkova	Prospect Rd Streetscape (Mary Baldwin campus)	turf
4	Black Gum Tupelo	Prospect Rd Streetscape (Mary Baldwin campus)	turf
2	Kousa Dogwood	N. Augusta Streetscape (Mt. Zion Baptist)	turf
3	Eastern Redbud	N. Augusta Streetscape (Mt. Zion Baptist)	turf
2	Scarlet Fire Pink Dogwood	N. Augusta Streetscape (Ebeneezer Baptist)	turf
3	Eastern Redbud	Lambert Street Streetscape (USPS)	turf
6	Northern Herald Redbud	Lambert Street Streetscape (USPS)	turf

Permit Year 4	Total Number of trees planted	Total Number of trees pruned	Total Number of Arbor Day participants
July 1, 2021 - June 30, 2022	2,757	340	+/- 40

BMP – 2.3 DEQ/DCR Adopt-A-Stream Program (Restoration)

The City actively participates in the Virginia Adopt-A-Stream program. The Stormwater Webpage includes links to Virginia's program with directions on how to apply. The City will procure and house the needed material for volunteers to use during the clean-up event. Materials will include safety information, trash bags, safety vests and traffic control-warning signs. The City will also coordinate trash pick-up if needed.

Objective and Expected Results: Encourage the community to actively take part in stormwater enhancements to improve stream quality.

Implementation Schedule: The City continues to implement the Adopt-A-Stream program. The Environmental Programs Division is responsible for the website's content and for coordinating the provision of available materials to volunteers.

Method to Determine Effectiveness: The effectiveness of this BMP is based on the total linear feet of stream adopted. The annual report will include this number.

Annual Reporting: Three streams were adopted with a total of **+/- 7,760 linear feet** of cleanup in Permit Year 4. The City plans to utilize its social media accounts to continue to gain interest in this BMP.

Clean the Bay Day cleanup on Asylum Creek - Thursday, 02 June 2022

19 volunteers cleaned 3,265 linear feet of the creek, from Bessie Weller Elementary through the Villages, and pulled the following:

Trash Pulled	Weight	Total
7 bags of trash	25 lbs each	175 lbs
Large items not bagged	25 lbs	25 lbs
Total Trash cleaned from Asylum Creek		200 lbs

Clean the Bay Day cleanup on Lewis Creek - Friday, 03 June 2022

10 volunteers' cleaned 4,165 linear feet of the creek, from Columbia Gas past VSDB to New Hope Road, and pulled the following:

Trash Pulled	Weight	Total
8 bags of trash	25 lbs each	200 lbs
Large items not bagged	200 lbs	200 lbs
Total Trash cleaned from Lewis Creek		400 lbs

Clean the Bay Day cleanup on Gum Springs Branch - Saturday, 04 June 2022

14 volunteers cleaned 3,300 linear feet of the creek, throughout Gypsy Hill Park, and pulled the following:

5 bags x 25 lbs per bag = 125 lbs trash, bagged

Total of 125 lbs trash cleaned from Gum Springs Branch

Trash Pulled	**Weight**	**Total**
5 bags of trash	25 lbs each	125 lbs
Large items not bagged	0 lbs	0 lbs
Total Trash cleaned from Bum Springs Branch		125 lbs

BMP – 2.4 Adopt-A-Street Program (Restoration)

The City currently has an Adopt-A-Street Program designed to provide an opportunity for citizens and civic groups to get involved in their community. Individuals, organizations or businesses may participate. These groups agree to adopt a street and to keep the designated area cleared of litter and other debris. In exchange, the program participants are given materials to help them with the cleanup. Signs bearing the name of their organization will be posted at the beginning of their designated cleanup areas. Areas may include City streets, vacant lots, walkways and public parking lots. The Stormwater Webpage includes links to the City's program.

Objective and Expected Results: Encourage the community to actively take part in stormwater enhancements by decreasing the trash and litter that could possibly reach a waterway.

Implementation Schedule: This program will be ongoing with Public Works continuing to be responsible for its implementation.

Method to Determine Effectiveness*:* The effectiveness of this BMP will be based on the total miles of street adopted. The annual report will include this number.

Annual Reporting: One additional street was adopted **(Grubert St. at Ware Elementary)** during Permit Year 4. The City plans to utilize its social media accounts to gain more interest in this BMP.

Adopt-A-Street Program:

Permit Year 4	Total miles of street adopted
July 1, 2021 - June 30, 2022	0.1

BMP – 2.5 Stormwater Partnerships (Monitoring)

The City has established a partnership with the local environmental advocacy group, the Lewis Creek Watershed Advisory Committee. The partnership will ensure that local impaired waters and pollutants of concern are emphasized in education and outreach efforts. *With the historic flooding which occurred in Staunton (August 8 and 22, 2020), the committee plans to focus more on property owner outreach relative to implementing SWM BMPs on private properties*.

The City has procured a flood study of the watershed areas entering the City to determine the best means forward for funding and implementation of recommended flood control measures. ***Since last reporting cycle the city has installed 4 in stream flood sensors and 9 rain gauge sensors throughout the Lewis Creek watershed to be calibrated into an early flood warning system.***

Objective and Expected Results: To ensure the education, outreach efforts, and volunteer opportunities are enhanced to the maximum extent possible by a coordinated effort.

Implementation Schedule: The Environmental Programs Division will continue to send a representative to committee meetings during the upcoming permit cycle.

Method to Determine Effectiveness: The effectiveness of this BMP is based on the total number of meetings that were attended. The annual report will include this number.

Annual Reporting:

Stormwater Partnerships

Permit Year 4	Total Number of Meetings Attended
July 1, 2021 - June 30, 2022	12

BMP – 2.6 Hazardous Waste Collection Day (Disposal/Collection Event)

The City will continue to participate in the regional household hazardous waste collection day. The event is held once a year in the fall at the Augusta County Government Center. The following types of waste are accepted; solvents, oil based paints, fuels, used oil, computer equipment, lead-acid batteries, rechargeable batteries, herbicides/pesticides, small electronics, antifreeze, compact fluorescent bulbs, and fluorescent bulbs. Information about the event will be made available on the stormwater website. The City will also continue to promote this BMP by sharing informational flyers prior to the event.

Objective and Expected Results: By actively promoting the hazardous waste collection day, the City will reduce the risk of improper storage, disposal and discharges within the MS4.

Implementation Schedule: The program is ongoing. Public Works will continue to be responsible for coordinating the informational flyer.

Method to Determine Effectiveness: The City will track the total number of City vehicles dropping off hazardous waste. The annual report will include this number.

Annual Reporting:

Hazardous Waste Collection Day

Permit Year 4	Total Number of City Vehicles
July 1, 2021 - June 30, 2022	180

Minimum Control Measure 3 – Illicit Discharge Detection and Elimination

For the purposes of this permit, an illicit discharge is defined as any discharge to a municipal separate storm sewer that is not composed entirely of storm water, with exceptions for those discharges which occur pursuant to any other VSMP permit. These discharges can have immediate and long lasting impacts to the ecosystem of your local water bodies.

Modifications to MCM 3: None.

BMP – 3.1 IDDE Detection Program

The City will update and maintain the IDDE Program to detect, identify and address unauthorized discharges. The program will use maintained and updated storm sewer mapping with all outfalls identified. The mapping system will be used to screen for illicit discharges. The dry weather screening element of the program includes:

- Prioritized screening schedule
- Perform a minimum 50 field screenings per year
- Methodologies to collect general information such as the date of last rain, quantity of rain, visual observations, etc.
- Defines the time frame to conduct investigations based on priorities
- Methodologies to determine the source of all illicit discharges
- Mechanisms to eliminate illicit discharges, including procedures for legal action
- Methods for follow up
- Mechanisms to track all investigations

The City will prohibit non-stormwater discharges into the storm sewer system through modifications to the ordinance. The stormwater webpage and stormwater hotline will be used to promote and facilitate public reporting of illicit discharges. A copy of the program has been included in Appendix B.

Objective and Expected Results: The goal of this control measure is to maintain, update, and enforce a program to detect, identify and address illicit discharges into City's regulated MS4 system.

Implementation Schedule: The City will maintain and implement the IDDE program throughout the permit cycle. Environmental Programs Division is responsible for implementing the program with support from Public Works for investigations. The Environmental Programs Division is responsible for ongoing maintenance of the storm sewer mapping.

The illicit discharge ordinance, City of Staunton City Code, Title 13, Division IV, Illicit Discharge and Connections, can be found at: http://www.codepublishing.com/VA/staunton.html

Physical interconnection letters were sent to VDOT and Augusta County during Permit Cycle 1, Year 2.

Method to Determine Effectiveness: The City will track the number of illicit discharges detected and enforcement actions. The annual report will include these numbers.

Annual Reporting: None during Permit Year 4

No active illicit discharges were observed or required follow-up. Further documentation of the outfall screenings and reports of illicit discharges are available upon request. A summary of all illicit discharge reports and investigations has been included in Appendix B.

83 MS4 regulated outfalls were screened in Permit year 4 – no illicit discharges detected.

Referrals of outfalls for maintenance:	
Public Works	30
Parks and Rec	1
Owners of private BMPS	6

Mapping and Information Tables Confirmation Statement:
Mapping updates continued during Permit Year 4 to add/delete regulated outfalls as necessary, and currently there are 353 regulated outfalls. An outfall point of discharge map has been included in Appendix C. Further documentation of the outfalls and points of discharge is available upon request.

BMP – 3.2 Mapping of Stormwater Network
The City will continue to maintain an accurate storm sewer system mapping and information table for City owned stormwater facilities using GIS and GPS locating technologies. Information to be collected and maintained includes:

- Outfalls
- Natural Streams
- Structural stormwater BMPs type and location
- Storm sewer type and size

- The storm sewer map will include at least the following:
- Location of all MS4 outfalls
- A unique identifier for each outfall
- The name and location of all waters receiving discharges from MS4 outfalls and the associated HUC (6^{th} order)

- The associated information table for each outfall will include at least the following:
- A unique identifier
- The estimated MS4 acreage served
- The name of the receiving water and indication if the receiving water is impaired
- The name of any applicable TMDL(s)

Objective and Expected Results: The storm sewer mapping will be a critical element of the IDDE (BMP 3.1) and structural BMP maintenance (BMP 5.2) programs. Accurate and up-to-date mapping will be necessary for these programs to succeed.

Implementation Schedule: The City will continue to maintain the storm sewer mapping throughout the duration of the permit cycle. Environmental Programs Division will be responsible for developing and maintaining the sewer mapping using GIS/CAD.

Method to Determine Effectiveness: The City will track the number of storm structures mapped. The annual report will include these numbers.

Annual Reporting:

Mapping of Stormwater Network

Permit Year 4	Total number of storm sewer structures	Total number of storm sewer outfalls
July 1, 2021 - June 30, 2022	2,747	749

BMP – 3.3 SPCC Training

The City will continue to provide personnel with spill prevention control and countermeasure training. The plan specifies material handling procedures and storage requirements and identifies spill cleanup procedures for areas and processes in which spills may potentially occur.

Objective and Expected Results: The SPCC training attempts to standardize operating procedures and employee training toward the goal of minimizing accidental pollutant release that could contaminate storm water runoff.

Implementation Schedule: The SPCC training is a current policy that will continue to be implemented throughout the permit cycle. Each department or division, Environmental Programs Division, Public Works and Parks & Recreation will continue to be responsible for their departmental or divisional SPCC training.

Method to Determine Effectiveness: The City will track the number of personnel trained. The annual report will include this number.

Annual Reporting:

Personnel Trained

Department	Number of Employees Trained	Date
Public Works	29	8/19/20 & 5/26/22 (PY4)
Parks and Rec	13	6/2022

Minimum Control Measure 4 – Construction Site Runoff Control

Uncontrolled stormwater runoff from construction sites can significantly impact rivers, lakes and estuaries. Sediment is the main pollutant of concern leaving a construction site. However, there are also other pollutants that commonly discharge from construction sites, including fertilizer, pesticides, oil and grease, concrete truck washout and construction debris. The construction site stormwater runoff control (CSSRC) BMP will be developed to significantly reduce or eliminate construction site pollutants from entering the local water bodies.

Modifications to MCM 4: None this permit year

BMP – 4.1 Erosion and Sediment Control Program (VESCP)

The City administers an existing program that applies to large sites as well as single family home construction. The Environmental Programs Division reviews site plans and performs site inspections. Any commercial site and any disturbance over 10,000 square feet require an erosion and sediment control plan to be submitted and approved. The City issues a land-disturbance permit prior to any land-disturbance taking place. A pre-construction meeting is held to discuss VESCP controls and to review the plan. A City VESCP inspector also makes site visits and approves the initial controls installed. The program is enforceable through the City Code (Chapter 13). **The City employs one DEQ certified VESCP/VSMP Combined Administrator and one Environmental Programs Specialist, DEQ certified VESCP/VSMP Inspector. The EPS is also trained as VESCP plan reviewer and scheduled for testing.**

The legal authorities utilized by the City to ensure compliance with our VESCP and VSMP Programs include the following:

- Staunton City Code - Title 13
- City's Subdivision and Zoning Ordinance
- Virginia Erosion and Sediment Control Law and Regulations
- Virginia Stormwater Management Act and Regulations

Additional information concerning the City's Erosion and Sediment Control Program (VESCP) can be found at: https://www.ci.staunton.va.us/departments/Environmental Programs Division-division/erosion-and-sediment-control-program

Written procedures and policies for plan review, inspection and enforcement can be found at: http://www.codepublishing.com/VA/staunton.html and https://www.ci.staunton.va.us/government/permits

Objective and Expected Results: The City's VESCP is in place to prevent adverse impacts from erosion and sedimentation from all construction sites.

Implementation Schedule: The VESCP is an existing program and will continue to be implemented throughout the permit cycle. Environmental Programs Division will continue to be responsible for the VESCP.

Method to Determine Effectiveness: A number of parameters will be tracked pertaining to the VESCP including; number of land disturbing activities, acres of land disturbed, number of inspections, and enforcement actions. The annual report will include these values.

Annual Reporting:

Erosion and Sediment Control Program (VESCP)

Permit Year 4	Permits	Total	Commercial sites	Single-family sites
July 1, 2021 - June 30, 2022	Total number of regulated land-disturbing activities	47	6	41
	Total number of acres disturbed	27.0	16.26	10.74
	Total number of inspections conducted	655	143	512

Permit Year 4	Enforcement	Total	Notices to Comply	Stop Work Orders
July 1, 2021 - June 30, 2022	Total number of enforcement actions taken	228	175	53

Minimum Control Measure 5 – Post Construction Runoff Control

Post-construction stormwater impacts are increases in the type and quantity of pollutants entering the receiving streams. An increase in the quantity of runoff can cause stream bank scouring and downstream flooding. Implementing a combination of structural and non-structural BMPs can reduce the water quality effects of increased impervious areas and are crucial elements of MS4 programs. Procedures need to be developed and implemented to inspect and maintain all permanent structural BMPs for both City and privately maintained facilities.

Modifications to MCM 5: No modifications in Permit Year 4

BMP – 5.1 Require VSMP Permits

The City became a VSMP Authority on July 1, 2014, responsible for administration of our local VSMP Program in accordance with Commonwealth of Virginia regulations. The City will require a VSMP permit for land disturbances of 1 acre or greater and land disturbances less than 1 acre but part of a common plan of development 1 acre or greater. Evidence of permit coverage from DEQ will be required prior to any land-disturbance taking place. The City Environmental Programs Division is responsible for BMP 5.1. Written procedures for inspection and enforcement are located in the Environmental Programs Division offices at 116 W Beverley Street. A copy of the VSMP approval letting is in Appendix Q.

The City employs one DEQ certified VESCP/VSMP Combined Administrator and one Environmental Programs Division Specialist/DEQ certified VESCP & VSMP Inspector & trained VESCP Plan Reviewer.

See BMP 4.1 for a description of the legal authorities and written procedures utilized by the City to ensure compliance with our VESCP and VSMP Programs.

Objective and Expected Results: The City will adhere to current Commonwealth of Virginia regulations with regard to the VSMP permitting to prevent adverse impacts of urban stormwater runoff.

Implementation Schedule: The City of Staunton will implement local VSMP administration in accordance with Commonwealth of Virginia Regulations and will continue to require applicable VSMP requirements be instituted throughout the permit cycle. The City will implement changes to their local ordinances to comply with modifications to the VSMP permitting regulations. Environmental Programs Division will be responsible for verifying VSMP permit compliance.

Method to Determine Effectiveness: The total number of permits, inspections, enforcement actions, exemptions applied for and exemptions granted will be tracked. The annual report will include these values.

Annual Reporting:

Stormwater Management Program

Permit Year 4	Permits	Total	Commercial sites	Single-family sites
July 1, 2021 - June 30, 2022	Total number of regulated land-disturbing activities	23	3	20
	Total number of exemptions applied for	0	0	0
	Total number of inspections conducted	444	138	306

Permit Year 4	Enforcement	Total	Notices to Comply	Stop Work Orders
July 1, 2021- June 30, 2022	Total number of enforcement actions taken	180	136	44

BMP – 5.2 Structural BMP Maintenance

The City has a program to ensure proper maintenance of all City owned structural BMPs. The City will continue to require a maintenance agreement for any new privately owned structural BMP. The City will continue to encourage owners of private structural BMPs without agreements to acquire the maintenance agreement. The City's Environmental Programs Division maintains a database of stormwater management facilities. This database is located at the Environmental Programs Division offices at 116 W Beverley Street.

Objective and Expected Results: By continuing the BMP maintenance program the City will ensure BMPs are performing optimally and are minimizing adverse impacts to state waters.

Implementation Schedule: The BMP maintenance program will be an ongoing effort throughout the permit cycle. The development of the program will be a joint effort between Environmental Programs Division and Public Works. Public Works will be responsible for the actual maintenance of all City owned structural BMPs. Environmental Programs Division will be responsible for documenting new privately owned BMP agreements.

Maintenance Required/Performed in Permit Year 4: Routine maintenance/debris clearing as needed.

Method to Determine Effectiveness: The City will track the total number of new BMP agreements. The annual report will include this number.

Annual Reporting:

Structural BMP Maintenance

Permit Year 4	Total Number of BMP Maintenance Agreements	Number of SWM Agreements		Number of SWM Facilities	
		New BMPs	Existing BMPs	New BMPs	Existing BMPs
July 1, 2021 - June 30, 2022	8	8	0	8	0

BMP – 5.3 Structural BMP Inspection

The City operates a program to inspect structural BMPS within the City. The existing maintenance agreements require property owners of private BMPs to inspect maintain and submit a report to the City upon request. The standardized report is available on the stormwater webpage. The City will also inspect private BMPs once every five years. City owned BMPs will be inspected annually per the program described in BMP 5.2.

Objective and Expected Results: By continuing the BMP inspection program the City will attempt to ensure BMPs are performing optimally and achieving design pollutant reduction.

Implementation Schedule: The BMP inspection program will be ongoing throughout the permit cycle. Environmental Programs Division will be responsible for implementing the programs and performing the inspections.

Method to Determine Effectiveness: The City will track the total number of BMP inspections performed by private owners and completed by City personnel. The annual report will include these numbers.

Annual Reporting:

Structural BMP Inspection

Permit Year 4	Total number of inspections	
	Public BMPs	Private BMPs
July 1, 2021 - June 30, 2022	24	64

BMP – 5.4 Structural BMP Database

The maintenance of the structural BMP database will be instrumental in implementing BMP 5.2 and BMP 5.3. The BMP database includes the type of BMP, ownership, location, date brought online, HUC code, receiving waters, if receiving waterway is impaired, if maintenance agreement exists, number of acres treated and most recent inspection.

Objective and Expected Results: The database will be used to track BMP inspections and maintenance to ensure that all BMPs are functioning properly and as designed.

Implementation Schedule: The BMP database will be maintained throughout the permit cycle. Environmental Programs Division will be responsible for compiling and maintaining the database.

Method to Determine Effectiveness: The City will include the updates to the BMP database in the annual report.

Annual Reporting: The BMP database for BMPs brought online during Permit Year 4 has been included in Appendix D. *SMF information as required was provided to CGP through database for which coverage was obtained*.

BMP – 5.5 BMP Warehouse Submittal Confirmation Statement

All BMPs not reported in accordance with Part I.E.5 were reported through DEQ BMP Warehouse per Part I.E.5.g of the MS4 General Permit.

Minimum Control Measure 6 – Pollution Prevention / Good Housekeeping

The Pollution Prevention/Good Housekeeping BMPs allow the City to examine and alter its own actions in an effort to reduce the amount of pollutant that collects on streets, parking lots, and open spaces because of runoff from vehicle maintenance areas and poor stormwater maintenance.

Modifications to MCM 6: None in Permit Year 4

BMP – 6.1 Street Sweeping

The City is in the process of modifying its street sweeping program to best conform to the new TMDL guidance standards.

Objective and Expected Results: The street sweeping program will reduce the adverse effects that pollutants found on public roads have on receiving waters.

***Implementation Schedule**:* Public works will continue this ongoing program through the permit cycle.

Method to Determine Effectiveness: The City will track the number of road miles swept and relative data collected. The annual report will include these numbers.

Annual Reporting:

Street Sweeping

Permit Year 4	Total number of road miles swept	Total number of tons collected
July 1, 2021 - June 30, 2022	4,321	917

BMP – 6.2 Pollution Prevention Training

City departments, Public Works, Parks & Recreation and Fire Department, will continue its pollution prevention training to its employees. Bi-monthly safety committee meetings will incorporate environmental protection into the agenda as part of Public Works' environmental management systems program.

Objective and Expected Results: The pollution prevention training empowers employees with the knowledge and operating procedures to minimize accidental pollutant release that could contaminate storm water runoff. Through this training, employees realize environmental stewardship has many far-reaching benefits.

Implementation Schedule: The pollution prevention training is a current policy implemented throughout the permit cycle. Each department, Public Works, Parks & Recreation, Fire Department and the Police Department will continue to be responsible for their departmental pollution prevention training.

Method to Determine Effectiveness: The City will track the number of personnel trained. The annual report will include this number.

Annual Reporting:

Pollution Prevention Training

Permit Year 4	Total number of City personnel trained	Department	Training Date
July 1, 2021 - June 30, 2022	29	Public Works	8/19/21 & 5/26/22
	12	Parks & Rec	6/22/2022
	38	Fire Department	5/20&5/22/2022
	48	Police Department	6/22/2022

BMP – 6.3 Yard Debris Collection Program

The City will continue its yard debris collection program. Residents are asked to rake leaves to the curb each fall where Public Works crews vacuum them up for composting. Usually each area of the City will have two specific periods for leaf collection. Leaves may be bagged and, in limited numbers, put out with regular refuse.

Objective and Expected Results: By collecting and composting yard waste the City is reducing the amount of gross discards that would otherwise end up in streams.

Implementation Schedule: This is a program that Public Works will continue throughout the permit cycle.

Method to Determine Effectiveness: The City will track the total number of cubic yards and loads of debris collected. The annual report will include these numbers.***Annual Reporting:***

Yard Debris Collection Program

Permit Year 4	Total number of cubic yards collected	Total number of loads collected
July 1, 2021 - June 30, 2022	4,188	298

BMP – 6.4 Dedicated Vehicle Wash Facility

The City currently operates and maintains two dedicated vehicle/equipment wash facilities, one at its equipment maintenance shop and one at its parks and recreation maintenance shop.

Objective and Expected Results: This program eliminates the many pollutants that would otherwise enter into the stormwater system if a dedicated vehicle wash facility did not exist.

Implementation Schedule: This is an ongoing program that Public Works will continue throughout the permit cycle.

Method to Determine Effectiveness: The City will track the total number of vehicles washed. The annual report will include this number.

Annual Reporting:

Dedicated Vehicle Wash Facilities

Permit Year 4	Total number of vehicles washed
July 1, 2021 - June 30, 2022	1,751

BMP – 6.5 Storm Sewer Inspection and Maintenance

The City has developed a programmatic storm sewer inspection and maintenance program. The program includes expected routine maintenance and non-routine (repair) maintenance.

Objective and Expected Results: The storm sewer inspection and maintenance program will ensure the storm sewer system is in good working order.

Implementation Schedule: The ongoing program will continue throughout the permit cycle. Environmental Programs Division and Public works will be responsible for developing and implementing the program.

Method to Determine Effectiveness: The City will document the number of storm structures and linear feet of storm sewer inspected. The annual report will include these numbers.

Annual Reporting:

Storm Sewer Inspection

Permit Year 4	Total number of Storm Structures Inspected	Total Linear Feet of Storm drain Inspected
July 1, 2021 - June 30, 2022	256	3,021

BMP – 6.6 Develop/Maintain SWPPPs for Required City Facility

The City has identified four high priority City facilities that it operates. They are:

Municipal High-Priority Facilities with A High Potential for Pollutant Discharge			
Name of facility	**Facility Address**	**Operator**	**Location of SWPPP**
Public Works Operations Facility	1911 Craigmont Road	Public Works	1911 Craigmont Road
Parks and Recreation Maintenance Facilities	330 Park Boulevard	Parks and Recreation	330 Park Boulevard
Middlebrook Avenue Salt Storage Facility	866 Middlebrook Avenue	Public Works	1911 Craigmont Road
Parks and Recreation Pools	600 Churchville Avenue / 1000 Montgomery Avenue	Parks and Recreation	1000 Montgomery Avenue

The City will maintain the Stormwater Pollution Prevention Plans (SWPPPs) for each high priority facility. The SWPPS will be maintained by the facilities operators, which include Public Works and Parks and Recreation staff. Each SWPPP is located on site at the facility and is available upon request.

Objective and Expected Results: These documents will provide guidance to prevent and reduce pollutant runoff from municipal operations.

Implementation Schedule: The City will maintain the SWPPPs for each high priority facilities throughout the permit cycle.

Method to Determine Effectiveness: The annual report will include the total number of SWPPP inspections completed.

Annual Reporting:

Permit Year 4 - SWPPP Inspections Performed

Name of facility	Facility Address	Number of Inspections Performed	Number of SWPPP Evaluations	Number of weather events prompting inspection
Public Works Operations Facility	1911 Craigmont Road	39	1	3
Parks and Recreation Maintenance Facility	330 Park Boulevard	84	1	0
Middlebrook Avenue Salt Storage Facility	866 Middlebrook Avenue	33	1	4
Parks and Recreation Pools	600 Churchville Avenue & 1000 Montgomery Avenue	52	1	0

BMP – 6.7 Develop/Maintain Nutrient Management Plans for Required City Sites

The City has identified six sites, over one acre, that require a Nutrient Management Plan (NMP). Those sites are:

Municipal Facilities Requiring Nutrient Management Plans			
Name of facility	**Facility Address**	**Planner**	**Acres Covered Under NMP**
Gypsy Hill Golf Course	300 Park Boulevard	Parks and Recreation	1.90
Braves Baseball	600 Churchville Avenue	Parks and Recreation	2.5
Gypsy Hill Baseball Fields	600 Churchville Avenue	Parks and Recreation	2.5
Montgomery Hall Baseball/Softball Fields	1000 Montgomery Avenue	Parks and Recreation	5.4
Montgomery Hall Soccer Fields	1000 Montgomery Avenue	Parks and Recreation	4
Staunton Football Complex	600 Churchville Avenue	Parks and Recreation	2.25

The City maintains a Nutrient Management Plan for each of these sites. The plans are located at each of the facilities and are available for review upon request.

Objective and Expected Results: The developed NMP will define the amount, source, placement, form and timing of the application of nutrients and soil amendments to ensure optimal management.

Implementation Schedule: The City will continue to implement the NMP through this permit cycle.

Method to Determine Effectiveness: The annual report will include the total amount of nutrients applied to the acreage of each site.

Annual Reporting: *Same as Permit Year 3*

Permit Year 4 - Municipal Facilities Requiring Nutrient Management Plans			
Name of facility	**Facility Address**	**Acres Covered Under NMP**	**Total Amount of Nutrients Applied (lbs./acre)**
Gypsy Hill Golf Course	300 Park Boulevard	1.90	Nitrogen: 83.95 Phosphorus:2.61 Potassium: 63.51
Braves Baseball	600 Churchville Avenue	2.5	Nitrogen: 43.93 Potassium: 7.83
Gypsy Hill Baseball Fields	600 Churchville Avenue	2.5	Nitrogen: 43.93 Potassium: 7.83
Montgomery Hall Baseball/Softball Fields	1000 Montgomery Avenue	5.4	Nitrogen: 43.93 Potassium: 7.83
Montgomery Hall Soccer Fields	1000 Montgomery Avenue	4	Nitrogen: 43.93 Potassium: 7.83
Staunton Football Complex	600 Churchville Avenue	2.25	Nitrogen: 43.93 Potassium: 7.83

Chesapeake Bay TMDL

- In December of 2010, the United States Environmental Protection Agency established a total maximum daily load (TMDL), or "Pollution Diet", to limit the amount of phosphorus, nitrogen, and sediments that can be released into the streams, creeks, and rivers that feed the Chesapeake Bay. These measures were established as an effort to improve the water quality of the Bay and to return it to a swimmable and fishable state. The Bay TMDL limits were divided into smaller TMDLs that were assigned to drainage basins across six (6) states including Virginia. To respond to the TMDL the Commonwealth of Virginia committed to a phased approach to implementation for MS4 programs. The phased approach for MS4 communities includes a requirement to meet a reduction goal of 40% during the 2018 - 2023 MS4 Permit Cycle. The City of Staunton has developed a draft TMDL action plan based on the 2013 – 2018 permit cycle guidance document. *The City is working with consultants to update for the phase II TMDL action plans based on the new guidance. This will include both street sweeping and tree canopy based on the new guidance. The City is aware of the new requirements and is in the process of evaluating the City tracking and reporting methodologies to determine what new measures will be implemented in future plan adjustments. Once the action plan is finalized, the City of Staunton will then employ appropriate actions to meet the planning document during the 2018 – 2023 period, to the maximum extent practicable.*

Objective and Expected Results: *The development of a Chesapeake Bay TMDL Action Plan based on new guidance of November 12, 2020 that will provide implementation guidelines and a program of management practices that will facilitate compliance with the condition of future permits.*

Implementation Schedule: The City submitted the TMDL Action Plan for the second permit cycle (July 1, 2018- June 30, 2023) on April 29, 2020.

1) Part II.A.13a – BMPs not Reported to the BMP Warehouse - *No BMPs installed*
2) Part II.A.13.b – Credits - *No Credits purchased*
3) Part II.A.13.c - *No BMPs installed*
4) Part II.A.13.d – BMPs planned for the Next Reporting Period – *Gypsy Hill Park Stream Restoration*

Local TMDL

The City of Staunton is located within the South River and Middle River watersheds in Augusta County Va. This waterway was listed as high priority on the impairment list for fecal coliform and general benthic in 1996. As a result, a TMDL was developed and approved in April of 2004. The City was not specifically allocated a waste load as part of the TMDL planning process. The final TMDL instead provided allocations to the major sub-watersheds including Lewis Creek.

Modification: Per discussion between the City of Staunton and Virginia DEQ it was identified that the City is not required to develop a TMDL Action Plan for the Lewis Creek watershed per email dated April 8, 2020 from Nesha Mcrae.

Objective and Expected Results: Not applicable.

Implementation Schedule: Not applicable.

Responsible Parties

The departments and divisions of responsibility for implementation of MS4 program elements are included in BMP descriptions above. Contact information for each responsible party is located below:

Executive Officer
Title: Interim City Manager
Name: Leslie M. Beauregard
Administrator
Address: P.O. Box 58
Staunton, VA 24402
Phone: 540-332-3812
Email: Rosenbergsl@ci.staunton.va.us

Program Management
Environmental Programs Division
Title: Environmental Programs Division

Name: Peter K. Kesecker
Address: P.O. Box 58
Staunton, VA 24402
Phone : 540-332-3858
Email: keseckerpk@ci.staunton.va.us

Department of Public Works
Title: Director
Name: Jeffrey M. Johnston
Address: P.O. 58
Staunton, VA 24402
Phone: 540-332-3892
Email: johnstonjm@ci.staunton.va.us

Department of Parks and Recreation
Title: Director
Name: Christopher Tuttle
Address: P.O. Box 58
Staunton, VA 24402
Phone: 540-332-3945
Email: tuttlecj@ci.staunton.va.us

Staunton Fire Department
Title: Fire Chief
Name: R. Scott Garber
Address: P.O. Box 58
Staunton, VA 24402
Phone: 540-332-3884
Email: garberrs@ci.staunton.va.us

APPENDICES

APPENDIX A

STAUNTON'S SOLUTION FOR STORMWATER POLLUTION, ISSUE NUMBER IV

Total Maximum Daily Load

What does TMDL stand for? It means Total Maximum Daily Load. TMDL is a calculation that determines the maximum quantity of pollutants that can be discharged into a body of water. This can be done by both point source and non-point source discharges. So, what is a point source? A point source discharge typically consists of permitted discharges from pipes into waterways.

How is TMDL determined? The Total Maximum Daily Load is determined by the U.S. Environmental Protection Agency (EPA) Clean Water Act Section 303(d) for Impaired Streams.

Why should the City and its citizens care about TMDL requirements? Waterways that flow from the City ultimately reaches the Chesapeake Bay, and we are required to adhere to the Bay's TMDL requirements. These requirements have been put in place to reduce the quantities of phosphorus, total suspended solids, and nitrogen that is being discharged into local waters that directly impact the Bay.

How is a TMDL process determined?
TMDL is determined by a four-step process.

1. Monitor
2. Assess
3. Develop a Plan
4. Implement the Plan using Best Management Practices (BMP's)

Staunton's Solutions for Stormwater Pollution

This brochure is the sixth of an annual publication designed to inspire the citizens of Staunton to be more proactive to help prevent the stormwater runoff pollution of our local streams and watersheds.

To report stormwater pollution or if you have a question concerning stormwater, please call the City's Stormwater Hotline at **540-213-6517** or send an email to **StauntonStormwater@ci.staunton.va.us.**

For more information on the City's ongoing efforts to reduce stormwater pollution, please find us on Facebook at: **facebook.com/stauntonstormwater**

GET INVOLVED!

There are many opportunities in Staunton offering public participation:

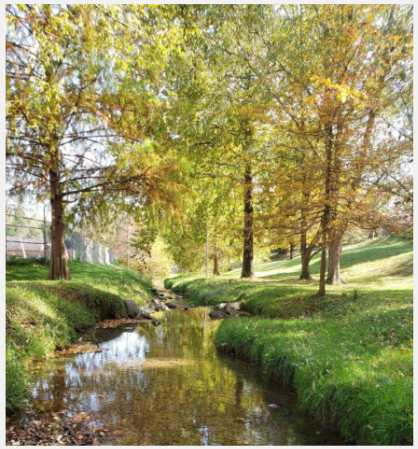
- Adopt-a-Street Program
- Adopt-a-Stream Program
- Regional Household Hazardous

Community Development Department
Environmental Division
116 West Beverley Street
3rd Floor
Staunton, VA 24401
Phone: (540) 332-3858
www.staunton.va.us

Find us on Facebook
"City of Staunton – Watershed Awareness"

Staunton's Solutions for Stormwater Pollution

Issue Number VI



STAUNTON VIRGINIA

February 2021

Pocket BMP's

What is a pocket BMP (Best Management Practice)?

- A small scale structure designed with layered material for filtration purposes to provide nutrient credits for the Chesapeake Bay TMDL requirements.

Do pocket BMP's exist in the City?

- Yes! Pocket BMP's exist throughout the City. Many are located on properties that have developed commerically.

Does the City have any plans to add more pocket BMP's?

- Yes. Plans are to identify and evaluate potential location s throughout the City to implement additional BMP's.

Why install pocket BMPs?

- Pocket BMP's are installed to achieve complinace with regulatory requirements. As a bonus, it can also increase the natural beauty with in our City.

Other Types of BMPs

- ***Permeable Pavers*** are an easy way to spot a BMP. These are pavers that are set on a filtration system comprised of gravel, sand, and other materials that filter the stormwater before releasing into the waterways.
- You can observe permeable pavers in the Wharf Parking Lot.

- ***Filtration boxes*** are another BMP observed in Staunton. The stormwater will flow around the base of the tree and slowly filter down through the material.
- An example of a filtration box can be found at Fire Station No.1 on North Augusta Street.

Image above is of a downpout discharging in to a plater box.

Other Types of BMPs Continued…

- One of the most common BMP's are **bio-retention**. A bio-retention is a pond-like structure that collects stormwater (typically from a large impervious area) and the water slowly filters through the media before discharging.

Image above was taken at the Grubert Ave. Fire Station.

How can YOU make a Difference?

- If you live in a neighborhood with private BMP's, coordinate with neighbors to conduct annual/semi-annual maintenance.
- Maintenance is the key to proper operation of the BMP. All private and public BMP's are inspected at least once every 5 years by the City. To ensure your private BMP is in compliance, conduct the inspections.

APPENDIX B

ILLICIT DISCHARGE DETECTION & ELIMINATION PROGRAM DATABASE

Illicit Discharge Detection and Elimination (IDDE) Database - FY22 — July 1, 2021 through June 30, 2022

Number	Notification Type	Date Potential Illicit Discharge Observed	Date Potential Illicit Discharge Reported	Did Discharge Reach Local Waterway	Was Discharge to Impaired Waters	Photos	Reports	Description of the Investigation (Including Follow Ups)	Resolution of the Investigation	Date Closed
1	Inspection report emailed to VADEQ. VDH has been notified	7/13/2021	7/14/2021	No	N/A	N/A		Corrective Action Taken: On Tuesday, July 13, 2021 at about 11:30AM, Public Works received a call about sewage overflowing from a manhole at 301 Greenville Avenue. A crew was immediately dispatched to the site. Upon arrival, the crew confirmed the discharge from manhole SMX2408. The crew jetted the line from the downstream manhole and pulled back a significant amount of grease and a mop head, presumably from an upstream restaurant.	After about 30 minutes the blockage was removed, line cleaned, and flow restored to normal. The discharge ran into the lawn surrounding the manhole and permeated into the ground. The discharge did not reach State Waters. The crew cleaned the ground around the manhole and applied lime to affected area.	7/13/2021
2	Inspection report emailed to VADEQ. VDH has been notified	8/26/2021	8/27/2021	Yes	Yes (Lewis Creek)	N/A		Corrective Action Taken: On Thursday, August 26, 2021 at about 2:45PM, Public Works received a call about sewage overflowing from a sewer main behind 906 Maple Street adjacent to Lewis Creek. A crew was immediately dispatched to the site. Upon arrival, the crew confirmed the discharge from a sewer cleanout behind the home. The crew jetted the sewer main and lateral and cleared/removed significant amounts of roots from the main.	After about 2 hours, the blockages were removed and flow was restored to normal. The discharged sewage ran into the ground surrounding the cleanout and into Lewis Creek. The crew cleaned the ground around the cleanout and applied lime to affected area. No fish kills or significant impacts to the stream were observed.	8/26/2022
5	Inspection report emailed to VADEQ. VDH has been notified	9/21/2022	9/22/2021	No	N/A	N/A		Corrective Action Taken: On Tuesday, September 21, 2021 at about 8:00AM, Public Works received a call about a backed-up sewer at 1808 First Street. A crew was sent to the site and upon arrival at about 10:00AM, they found a small amount of sewage seeping out of the cleanout.	The crew jetted the lateral and cleared the blockage restoring normal flow to the home. Roots were the suspected cause of the blockage. While jetting the lateral, an estimated 5 gallons of sewage discharged onto the ground around the cleanout. The crew cleaned the spilled sewage and applied lime to affected area.	9/21/2022
6	Inspection report emailed to VADEQ. VDH has been notified	11/12/2021	11/15/2021	Yes	Yes (Lewis Creek)	N/A		Corrective Action Taken: On Friday, November 12, 2021 at about 4:30PM, Public Works received a call about an overflowing manhole in front of 101 E Frederick Strret. A crew was dispatched to the site and upon arrival, they found a small amount of sewage seeping out of the manhole.	The crew jetted the downstream sewer main and cleared the blockage restoring normal flow to the system. Wipes were the suspected cause of the blockage and a notable volume of wipes were removed from the system. An estimated 50 gallons of sewage had discharged from the manhole and ran along the curb and gutter into a nearby drop inlet. From there, the sewage, now diluted with cleaning water, ran through storm pipes to Lewis Creek. A minimal amount of sewage reached the creek, but no impacts or fish kills were observed.	11/12/2021
5	Inspection report emailed to VADEQ. VDH has been notified	9/21/2022	9/22/2021	No	N/A	N/A		Corrective Action Taken: On Tuesday, September 21, 2021 at about 8:00AM, Public Works received a call about a backed-up sewer at 1808 First Street. A crew was sent to the site and upon arrival at about 10:00AM, they found a small amount of sewage seeping out of the cleanout.	The crew jetted the lateral and cleared the blockage restoring normal flow to the home. Roots were the suspected cause of the blockage. While jetting the lateral, an estimated 5 gallons of sewage discharged onto the ground around the cleanout. The crew cleaned the spilled sewage and applied lime to affected area.	9/21/2022
6	Inspection report emailed to VADEQ. VDH has been notified	11/12/2021	11/15/2021	Yes	Yes (Lewis Creek)	N/A		Corrective Action Taken: On Friday, November 12, 2021 at about 4:30PM, Public Works received a call about an overflowing manhole in front of 101 E Frederick Strret. A crew was dispatched to the site and upon arrival, they found a small amount of sewage seeping out of the manhole.	The crew jetted the downstream sewer main and cleared the blockage restoring normal flow to the system. Wipes were the suspected cause of the blockage and a notable volume of wipes were removed from the system. An estimated 50 gallons of sewage had discharged from the manhole and ran along the curb and gutter into a nearby drop inlet. From there, the sewage, now diluted with cleaning water, ran through storm pipes to Lewis Creek. A minimal amount of sewage reached the creek, but no impacts or fish kills were observed.	11/12/2021

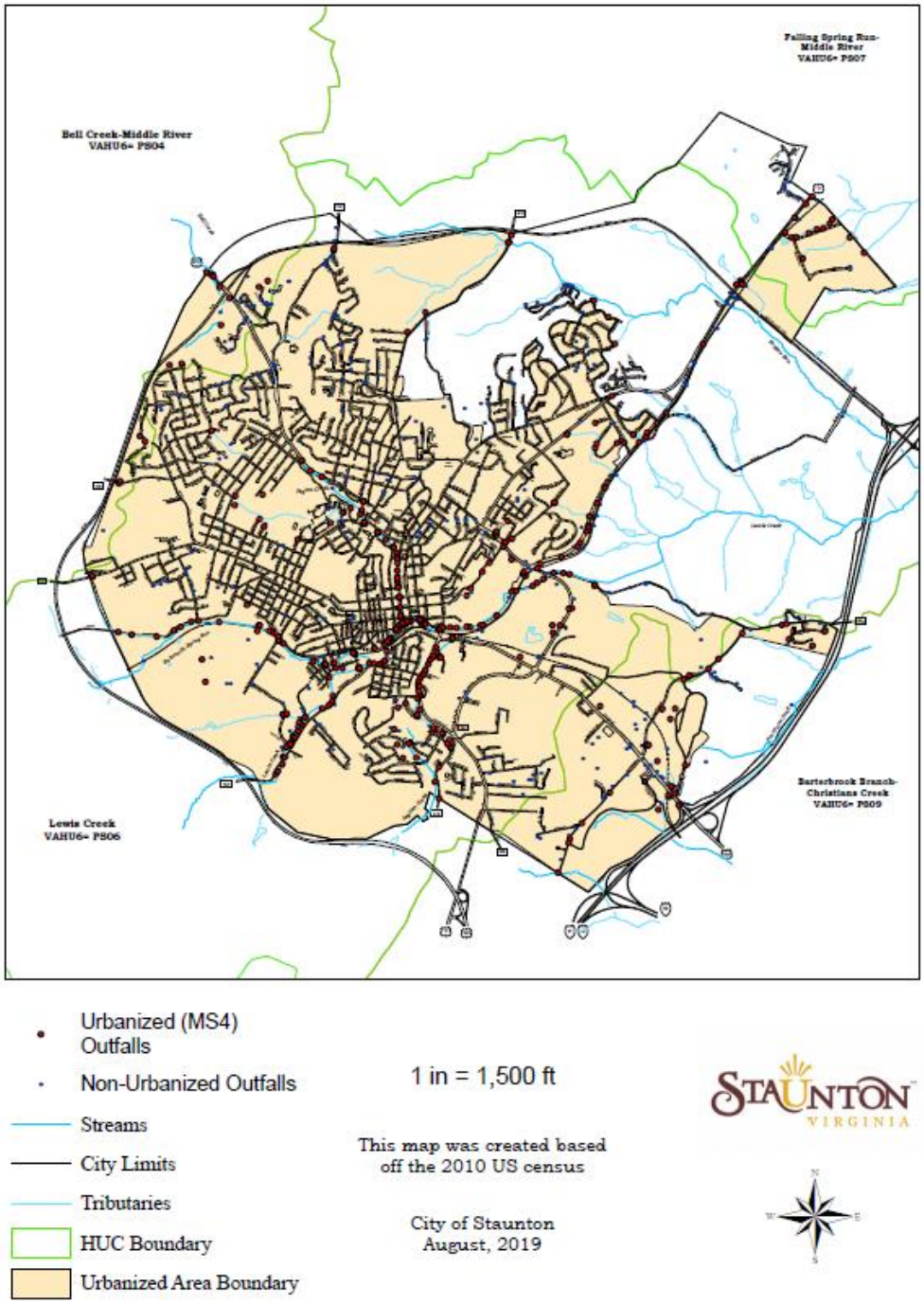
7	Inspection report emailed to VADEQ. VDH has been notified	1/5/2022	1/5/2022	Yes, unamed tributary to Peytons Creek	No	N/A		Corrective Action Taken: On Tuesday, January 5, 2022, at about 8:15PM, Public Works received a call about an overflowing manhole at 23 Peyton Street. A crew was sent to the site where they found an estimated 30GPM sewage discharge from the manhole. The sewage was running down the street, into a storm inlet, and into a yard.	The crew jetted the downstream sewer main multiple times, and after about 5 hours, cleared the blockage restoring flow to the system. An estimated 9,000 gallons of sewage discharged from the manhole, ran into a nearby storm sewer inlet, and then ran through storm pipes to an unnamed tributary to Peyton Creek. No stream impacts or fish kills were observed. Lime was applied to the affected area. The cause of the main blockage and subsequent overflow is unknown. A crew will return to investigate.	1/5/2022
8	Inspection report emailed to VADEQ. VDH has been notified	1/5/2022	1/24/2022	Yes	Unamed Tributary to Lewis Creek	N/A		Corrective Action Taken: On Saturday, January 5, 2022, at about 4:00PM, Public Works received a call about an overflowing manhole at 1005 E Beverley Street. A crew was dispatched and found the overflowing manhole (SMX3188).	The crew jetted the downstream main and after some time, finally cleared the blockage restoring flow to the system. The crew collected and removed about 3,000 gallons of sewage from the site. The remainder of the sewage (about 3,000 gallons) discharged into an un-named tributary (wet weather stream) to Lewis Creek, where it appeared that most of the sewage permeated into the ground. Several roots were pulled from the main and were the suspected cause of the blockage/overflow. The crew returned to the site the following morning to complete the cleanup and apply lime to the affected area.	1/5/2022
9	Inspection report emailed to VADEQ. VDH has been notified	1/22/2022	1/25/2022	Yes, Buttermilk Spring Run		N/A		Corrective Action Taken: On Saturday, 1/22/22, at about 1:30PM, Public Works received a call about a sewage overflow on Stuart Street. A crew was sent to the site of the reported overflow, but did not find anything overflowing. On Monday, 1/24/22, at about 8:00AM, Public Works received another call about an overflowing manhole at the same location. A crew was dispatched and found the SSO at manhole SMX1156. Crew attempted to clear the main from that manhole without success.	Crew eventually found and uncovered the downstream manhole next to railroad tracks and jetted the upstream main. They cleared the apparent blockage (grease and debris) and restored flow. Since the overflow likely happened for an estimated 48 hours, some 20,000 gallons of sewage was estimated to have overflowed into drainage to the creek. The crew cleaned/removed as much sewage as possible and applied lime to the affected area.	1/22/2022
10	Inspection report emailed to VADEQ. VDH has been notified	2/2/2022	2/3/2022	No	N/A	N/A		Corrective Action Taken: On Wednesday, 2/2/22, at about 10:00AM, Public Works received a call about a sewage overflowing from a manhole just off the street at the intersection of Hickory Street and F Street. A crew was sent to investigate and the crew found sewage seeping out of a manhole (SMX1451) and permeating into the surrounding ground.	The crew jetted the downstream main and were able to clear the apparent blockage. The blockage appeared to be the result of coagulated grease in the line. The crew completed cleaning the main and applied lime to the affected area. The discharge did not reach State Waters and no impacts were observed.	2/2/2022
11	Inspection report emailed to VADEQ. VDH has been notified	2/3/2022	2/4/2022	No	N/A	N/A		Corrective Action Taken: On Thursday, 2/3/22, at about 11:00AM, a Public Works employee was driving down East Frederick Street and noticed a small amount of sewage seeping out of a manhole (SMX3563) at the referenced address. The employee called the utility crew who arrived at the scene in about 10 minutes.	The crew jetted the downstream sewer main and cleared the apparent blockage (believed to be wipes) restoring flow to the system. A small amount of sewage (estimated 10 gallons) escaped the manhole while jetting the line and accumulated on the street. Once the blockage was cleared, the crew cleaned the street and washed the sewage back into the manhole. Sewage did not reach State Waters.	2/3/2022
12	Inspection report emailed to VADEQ. VDH has been notified	2/8/2022	2/9/2022	No	N/A	N/A		Corrective Action Taken: On Tuesday, 2/8/22, at about 11:30AM, Public Works received a call about a water main break near 884 Preston Drive. A crew was immediately dispatched to the site, and, upon arrival, noticed a small amount of sewage seeping out of a manhole (SMX1348).	The crew jetted the downstream sewer main and cleared the apparent blockage restoring flow to the system. A small amount of sewage (estimated 5 gallons) escaped the manhole while jetting the line and accumulated on the street. Once the blockage was cleared, the crew cleaned the street and washed the sewage back into the manhole. Sewage did not reach State Waters. However, while jetting the line, the crew pulled back pieces of broken pipe. The crew TV inspected the main and found the location of broken pipe. A repair is scheduled for today.	2/9/2022
13	Inspection report emailed to VADEQ. VDH has been notified	2/8/2022	2/9/2022	No	N/A	N/A		Corrective Action Taken: On Tuesday, 2/8/22, at about 8:00AM, Public Works received a call about sewage discharging from a cleanout at 721 Parkview Avenue. A crew was sent to the address and confirmed the report.	The crew jetted the downstream sewer lateral and cleared the apparent blockage restoring flow to the home. A small amount of sewage (estimated 1 gallon) had discharged from the cleanout during the incident and permeated into the surrounding ground. Sewage did not reach State Waters. Lime was applied to the affected area. The exact cause of the blockage/overflow is not known. A crew will return to the site to television inspect the lateral.	2/9/2022
14	Inspection report emailed to VADEQ. VDH has been notified	3/18/2022	3/21/2022	No	N/A	N/A		Corrective Action Taken: On Friday, 3/18/22, at about 1:00PM, Public Works received a call about a sewer backup at the referenced address. A crew was sent to the site and when the cleanout was opened, a minor amount of sewage (estimated 10 gallons) spilled out of it.	The crew jetted the downstream sewer lateral, but could not clear the apparent blockage. Subsequently, the crew excavated the lateral and found a significant amount of wipes clogged at a prior pipe repair. The crew removed the wipes and repaired the lateral. The discharged sewage was cleaned from the street. Sewage did not reach State Waters.	3/18/2022

15	Inspection report emailed to VADEQ. VDH has been notified	4/7/2022	4/8/2022	No	N/A	N/A		Corrective Action Taken: On Thursday, 4/7/22, at about 7:30PM, Public Works received a call about a sewer backup at the referenced address. A crew was sent to the site and found a minor amount of sewage (estimated 5 gallons) seeping out of the cleanout.	The crew removed the cleanout cap and jetted the downstream sewer lateral, clearing the apparent blockage. Roots are the suspected cause of the blockage and subsequent overflow. The sewage discharged onto the surrounding lawn and permeated into the ground. Sewage did not reach State Waters. Lime was applied to the affected area.	4/7/2022
16	Inspection report emailed to VADEQ. VDH has been notified	4/25/2022	4/26/2022	No	N/A	N/A		Corrective Action Taken: On Monday, April 25, 2022, at about 2:30PM, Public Works received a call about an overflowing manhole at the referenced address. A crew was dispatched and found the overflowing manhole (SMX2345).	The crew jetted the downstream main and after some time, finally cleared the blockage restoring flow to the system. An estimated 200 gallons of sewage had discharged from the manhole and permeated into the surrounding ground. The specific cause of the blockage and subsequent overflow was not determined. Lime was applied to the affected area. The crew will return to the site to television inspect the sewer main.	4/25/2022

APPENDIX C

OUTFALL AND POINTS OF DISCHARGE MAP

City of Staunton Outfall Map



APPENDIX D

BMP DATABASE ADDITIONS

BMP DATABASE
PRIVATELY OWNED BMPs BROUGHT ONLINE
FROM July 1, 2021 thru June 30, 2022

BMP NO.	SITE NAME	SITE ADDRESS	OWNER	SITE LOCATION		FACILITY TYPE	ACRES TREATED			ONLINE DATE		VA HU6	RECEIVING WATERS	IMPAIRED WATERS	SWM AGREEMENT
				LATITUDE	LONGITUDE		TOTAL	PERVIOUS	IMPERVIOUS	MONTH	YEAR				
	Lot 4 / Chipolte / Wendy's	102 Crossing Way	Staunton Crossing Patners, LLC.	38.131	-79.038	Underground Facility	1.43	0.41	1.02	Mar	2022	PS09	Christians Creek (N)	No	SW As-built dated 4/18/22
	O'Reilly's Auto Parts	715 Richmond Ave	O'Reilly Automotic Stores, Inc	38.143	-79.054	Underground Facility	0.78	0.06	0.72	Feb	2022	PS06	Lewis Creek	Yes	4/22/2021
	Take Five	1135 Richmond Avenue	Gandhi Umesh & Pritu U	38.135	-79.043	Underground Facility	1.2	0.3	0.9	May	2022	PS09	Christians Creek (N)	No	
	Green Hills	101 Industry Way	Green Hills Investments, LLC	38.182	-79.021	Basin	8.4	1.4	7	Nov	2021	PS07	g Spring Run / Middle	No	
	Statle Blvd Storage	740 Statler Blvd.	Four Hoursemen, L.L.C.	38.144	-79.061	Basin	1.52	0.56	0.96	June	2022	PS06	Lewis Creek	Yes	10/26/2021

APPENDIX E

Assessment of the Appropriateness of Identified BMPs

The City of Staunton has determined that the best management practices included in the MS4 Program Plan that the City already had in place during Permit Year 3 represent an appropriate selection and implementation of a stormwater management program as defined by the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems.

No deficiencies have been found within the existing BMPs or within the new BMPs currently being developed for the Program.