

INTRODUCTION

This annual report was developed by the City of Waynesboro Stormwater Program that is a Division of the Public Works Department. The report covers the reporting cycle July 1, 2016 through June 30, 2017 – Year 4 for Permit VAR04133, which became effective July 1, 2013, and includes the status of compliance with the permit conditions, the appropriateness of the best management practices to meet the measurable goals of the program plan, and the reporting requirements of the general permit. Descriptions of the applicable Best Management Practices (BMPs) for each Minimum Control Measure (MCM) are included with a description of the BMP, Year 4 activities and projected Year 5 activities. A summary table is provided for each of the six MCMs that include the BMP tracking measures and associated reported numbers. A grey cell in these tables indicates the program element is not applicable to that permit year. No changes to the Program Plan were made.

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MS4 PROGRAM

Minimum Control Measure 1 – Public Education and Outreach

BMP – 1.1 School Presentations

Summary: Permit Year 4 proved to hold the highest success rate for school presentations. The City's long-term goal for presentations at local schools, will be to target elementary and middle school students in a single grade, and continue existing presentations for high school students. Stormwater Program Staff has developed a program for fourth graders and conducted a stream and watershed walk with a high school ecology class.

Year 4 Activities: The program developed for the fourth graders is designed to address Standards of Learning for the Earth Science curriculum. In previous Permit Years, a majority of the scheduled activities remained indoors at one City elementary school. This year, the City was able to expand the program to all fourth graders across four elementary schools. Three of the four presentations were moved outdoors on school grounds to allow for a greater hands-on approach. However, the key components of the presentations, sources of water pollution including illicit discharge, basic soil properties, local school watersheds, and aquatic species in the South River remain the same. Allowing the students to enjoy the outdoors and interact with the education piece at each station enhanced their focus and retainage of the material. The slogan 'Only Rain down the Drain' resonates well with the students and is used to drive home the presented material.

The annual field trip to Constitution Park for the Kate Collins Middle School eighth graders was put on hold this past year. City Staff and Riverfest event members plan to reach out to the middle school to resume the field day. Engineering Staff walk the students along the South River where they are exposed to several different watershed and environmental concepts, specifically involving the local watershed and how runoff changes and affected by different land uses.

Stormwater Program staff conducted a "watershed walk" for the Waynesboro High School Ecology Class, starting at the high school ending at the South River in Ridgeview Park. Stops along the way exposed the students visually and verbally to different infrastructure components, how they interrelate with and manage runoff. In the park, an overview of water quality issues within the City was presented and highlighted the function and importance of onsite bio-retention filters.

Year 5 Goals: The City will continue school presentations in Year 5 with a goal of resuming the field trip day with the middle school or conducting school yard education. Watershed concepts, illicit discharge awareness and pet waste education will be the high priority topics for this year. An overview of these topics and targeted audiences can be viewed in Appendix 1.

BMP – 1.2 Stormwater Webpage

Summary: A dedicated stormwater page is available on the City’s website to provide detailed MS4 information to the public including the MS4 Annual Reports to date.

Year 4 Activities: Additional information included on the Stormwater Administration page includes links to the Stormwater Capital Improvements Program, water quality organizations, ideas for reducing stormwater at a residential scale, along with the Virginia Stormwater Management Regulations. The City Stormwater Page had 434 Page Views and 352 Unique Views during Permit Year 4.

Year 5 Goals: The City will continue to update the website during the 5th year of the permit with a focus on basic stormwater and watershed concepts, stormwater projects /retrofits happening within the City, and on-going programmatic and water-quality related initiatives.

BMP – 1.3 Educational Brochures

Summary: The City continues to provide the educational brochures in an easy to read format, to increase basic knowledge of stormwater concepts.

Year 4 Activities: The stormwater brochure is available on the City’s Website and at the Public Works and Utilities Billing office. In addition, City Staff distributed the pamphlets to the public through the year at events such as, Fall Foliage Festival, Riverfest, Public Works Day, and Department of Forestry’s Waynesboro Tree Workshop. An educational Illicit Discharge Brochure was developed coinciding with the adoption of an Illicit Discharge Ordinance in this permit year.

Year 5 Goals: The City will continue to distribute materials to focus on ‘**Watershed Concepts**’ and ‘**Illicit Discharge**’ as well as developing and distributing information on ‘**Pet Waste**’ as a source of pollution. Appendix 1 of the report outlines the approaches for these topics.

Public Outreach and Education Summary

The City reached approximately 1,050 individuals during Permit Year 4. Although school presentations constitute a minor 12% of the total, the Riverfest, Fall Foliage and Public Works Day events allowed City Staff to present basic stormwater material to numerous children. School aged children make up 60% of our target audience and 40% general public. For Year 5, overall the City plans to keep the same dynamic, looking forward to reconnection with the City’s eighth grade students.

Minimum Control Measure 1 – Public Education and Outreach Summary

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
1.1 School Presentation	# of presentations	2	3	6	5	
	# of students	50	75	139	125	
1.2 Stormwater Webpage	# of page views		354	587	434	
	# of unique views		257	458	352	
1.3 Educational Brochures	# of brochures distributed		100	125	145	

Minimum Control Measure 2 – Public Involvement/Participation

BMP – 2.1 Tree Planting Program

Summary: The City currently has a Tree Planting Program, which entails new trees being planted, dead or diseased trees replaced, and structural pruning is performed on young, existing trees. The City also organizes and participates in an annual Arbor Day event that is open to the public.

Year 4 Activities: The Waynesboro Department of Parks and Recreation, again, hosted the Arbor Day program at Ridgeview Park on April 21, 2017 for the children from the Arc of Augusta. The topic was 'Right Tree, Right Location' as students learned general tree characteristics and benefits, and how certain species thrive in our local environment. The participants were able to assist with shoveling dirt and planting the Cherokee Princess Dogwood tree. Approximately 15 other attendees participated in the event.

Year 5 Goals: The City Stormwater Program will continue support of the Arbor Day event and raise general awareness to the public on the benefits of trees.

BMP – 2.2 DEQ/DCR Adopt-A-Stream Program

Summary: The City actively encourages participation in Adopt-A-Stream programs and maintains preparedness to offer assistance to local groups and schools in their stream cleanup events.

Year 4 Activities: Stormwater Staff have encouraged local organizations to participate in the Adopt –A-Stream Program; unfortunately the initiative has not taken hold in Waynesboro.

Year 5 Goals: The Stormwater Staff will continue to strive for community interaction by using alternative outlets, such as the Riverfest and partnership with the local Headwaters and Soil Conservation District to inform individuals of the benefits of our waterways and beneficial practices to improve the longevity of water quality.

BMP – 2.3 Stormwater Partnerships

Summary: The City Stormwater Program will meet with local and regional groups to improve staff knowledge, foster awareness of stormwater issues, to empower and encourage citizen involvement.

Year 4 Activities: The Jefferson Park Constructed Wetland project was completed this permit year creating educational and outreach opportunities. Three wetland tours were hosted by Stormwater Staff and attended by City Council, members of the Chesapeake Bay Network, several surrounding governments, and students from UVA and JMU.

City staff actively participated with a group of local MS4 and VSMP localities hosted by the Central Shenandoah PDC. Staff attended three of the quarterly roundtable sessions that focus on MS4 and VSMP related issues for the communities.

Staff also attended numerous events including the Pure Water Forum, two VAMSA meetings, 'From the Mountains to the Sea' workshop hosted by the Chesapeake Stormwater Network, and tuned-in to four MS4 General Permit Technical Advisory Committee calls.

A partnership with the local Headwater and Soil Conservation District, HSWCD was recently established. Representatives plan to become involved in school presentations and collaborate with the Stormwater Staff for community events.

Year 5 Goals: City staff will continue to meet with other CSPDC localities and look for additional opportunities such as the annual Pure Water Forum Annual Meeting and gatherings of civic groups.

BMP – 2.4 Stormwater Hot-Line and YourGov Portal

Summary: The portal provides easy citizen access to ask stormwater related questions or report concerns, such as illicit discharge. The hot-line and portal are checked daily and frequently addressed within 24 hours.

Year 4 Activities: The City established a dedicated stormwater hot-line early in the 2nd year of the permit and also activated a YourGov link on the City website as a means for citizens to contact City staff with stormwater concerns. The hot-line and YourGov link are visibly posted on the City's website. During Year 4, there were 250 calls to the hot-line and 71 requests on the website. The amount of calls for Permit Year 4 was considerably less than the previous year, as residents have adapted to the implemented Stormwater Utility fee.

Year 5 Goals: The City will continue to maintain and refine these means of access and promptly respond to messages and address citizen concerns.

BMP – 2.5 Participation in Community Events

Summary: The City Stormwater Program presented educational materials and activities at several community events during the 4th year of the permit.

Year 4 Activities: A new event Stormwater Staff participated in this permit year was the Fall Foliage Art Festival in October 2016. The stormwater booth displayed information on the MS4 and Stormwater Program along with the tasks Public Works Utility Crews and Public Works Administration perform to promote a successful program. An estimated 200 people visited the booth during the two day event.

For the 2017 Public Works Day, the Stormwater Division hosted a stormwater version of Chutes and Ladders created by staff. The game consisted of hazardous environmental actions that required the player to slide down the chute and safe actions allowing the player to climb the latter toward the finish line. The presence of heavy rain dwindled citizen participation with an estimated 50 individuals visiting the stormwater display.

At Riverfest 2017, Program staff presented basic MS4 information and targeted education on illicit discharge. Activities included decorating small biodegradable pots and ice cream cones, in which approximately 135 participants, planted tree, flower, fruit and vegetable seeds while engaging in watershed and water quality discussions with staff. The Riverfest organization estimates they reach 2,000 children and adults every year.

Year 5 Goals: The City Stormwater Program will continue to participate in events such as these in Permit Year 5 and provide interactive activities as an effective method for families to understand the connection between the urban landscape and the South River.

Minimum Control Measure 2 – Public Involvement/Participation Summary

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
2.1 Tree Planting Program	# of trees planted	85	17	47	57	
	# of trees pruned	56	29	7	18	
	Arbor day participants	70	70	104	15	
	# of seedlings	70	70	185	0	
2.2 DEQ/DCR Adopt-A-Stream	Total linear feet adopted	1,000		0	0	
2.3 Stormwater Partnerships	# of meetings		4	7	13	
2.4 Stormwater Hot-line	# of calls		50	620	250	
YourGov Portal	# of website requests		32	75	71	
2.5 Participation in Community Events	# of participants		650	700	600	

Minimum Control Measure 3 – Illicit Discharge Detection and Elimination

BMP – 3.1 Hazardous Waste Collection Day

Summary: The City regularly participates in the regional household hazardous waste collection day held at the Augusta County Government Center. The following types of waste are accepted: gasoline, kerosene, oil-based paints & stains, rechargeable batteries, pesticides, solvents, diesel fuel, #2 fuel oil, polyurethane, automobile batteries, herbicides, small electronics, antifreeze, 2 cycle fuel mix, CFL and fluorescent bulbs, motor oil, mercury devices and computers.

Year 4 Activities: The City supplied informational materials prior to the Collection Day on the website and public facilities. City staff assisted with collecting Household Hazardous Waste at the event; a total of 35 City vehicles dropped off hazardous material during the day.

Year 5 Goals: The City will continue to post the hazardous waste collection day on the website and send an informational flyer prior to the event and provide support staff for the event.

BMP – 3.2 IDDE Detection Program

Summary: Full implementation of the Illicit Discharge Detection Program started with this permit year to detect, identify and address unauthorized discharges.

Year 4 Activities: The Illicit Discharge Ordinance was in effect for the first full year to clearly define prohibited discharges, inspection and monitoring requirements, violations, enforcement and penalties related to these discharges. The focus this permit year was educating residents and businesses of the definition of an illicit discharge and the requirements of the adopted ordinance. Educational brochures were designed and distributed at outreach events and locations of illicit discharge concerns.

The City has refined the process to respond to Illicit Discharge complaints and discharges detected during monitoring activities in response to feedback received during the March 2017 DEQ Audit of the Waynesboro MS4 Program. City staff is using the mobile IDDE Application to track follow-up monitoring activities. Additionally, site specific folders with pictures and correspondence are located on the dedicated MS-4 Program server and can be accessed by all program employees. There were five identified locations of illicit discharge this year, which received the educational material and a few onsite meetings to discuss corrective action. During this year, 50 MS4 outfalls were screened using the developed application, which tracks and prioritizes screenings based on a sub-watershed map and Illicit Discharge Potential (IDP) ranking of different areas within the City.

Year 5 Goals: Screening and data input of 50 outfalls will continue this year in the Illicit Discharge Application. Educational efforts will persist with the goal of eliminating non-stormwater discharges.

BMP – 3.3 Mapping of Stormwater Network

Summary: The City is continuing to maintain an accurate storm sewer system map and information table for City-owned stormwater facilities using GIS and GPS technologies. Information collected and to be maintained includes:

- MS4 outfalls
- Name and location of receiving waters, and if it is impaired
- HUC (6th order)
- Information table containing unique outfall identifier
- Estimated MS4 acreage served
- Applicable TMDL
- Structural stormwater BMPs type and location
- Storm sewer type and size

Year 4 Activities: The City produced a system and outfall map, which was submitted with the Permit Year 3 Annual Report. Updates to the storm sewer system and structures installed with new development were inserted into the GIS system according to As-Built Plans. Storm sewer systems of two new developments were mapped this year, adding a MS4 outfall as well as six updates of the system.

Year 5 Goals: Staff will continue maintaining and updating the map as part of its outfall screening and systematic infrastructure condition assessments.

BMP – 3.4 SPCC Training

Summary: The City Public Works employees have monthly safety meetings that cover a wide range of topics including spill response. In addition, all personnel employed by the City Fire Department receive spill response training.

Year 4 Activities: Public Works Department employees were provided standardize process operating procedures for handling and working with substances in a safe manner and included information on spill-handling procedures.

Year 5 Goals: The City will continue with its goal to educate employees on standard operating procedures to minimize accidental pollutant release that could potentially contaminate stormwater runoff or waterways.

Minimum Control Measure 3 – Illicit Discharge Detection and Elimination

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
3.1 Hazardous Waste Collection Day	# of city vehicles	56	32	21	35	
3.2 IDDE Detection Program	# of ID detected			1	5	
	# of enforcement actions			0	0	
3.3 Mapping of Stormwater Network	# of Inlets		495		510	
	# of Manholes		186		189	
	# of outfalls		41		44	
	MS4 outfall designations		26	150	151	
3.4 SPCC Training	# of personnel trained	95	95	76	137	

Minimum Control Measure 4 – Construction Site Runoff Control

The City of Waynesboro operates two parallel programs to manage Construction Site Runoff Control, by serving as an Erosion and Sediment Control (ESC) and Virginia Stormwater Management Program (VSMP) Authority. The City has a dedicated Administrator, Inspector, and Plan Reviewer for these programs, assisted by additional administrative and field personnel as needed.

BMP – 4.1 Erosion and Sediment Control Program

Summary: The City has continued to administer an Erosion and Sediment Control Program to significantly reduce adverse impacts from large construction sites or single family home construction. Erosion and Sediment Control Staff includes a Certified Program Administrator, Plan Reviewer and Inspector.

Year 4 Activities: A total of 23.9 acres of land were disturbed, a vast majority of the sites were single family less than an acre and the largest being a stormwater pond retrofit at 13.6 acres. A total of 68 permits were open during the permit year generating 770 inspections. City of Waynesboro ESC Staff also issued 13 Notice to Comply documents, 7 Stop Work Orders, and 0 Letters of Enforcement.

Year 5 Goals: Operate a compliant program according to Virginia State regulation and successfully reduce or eliminate sediment-laden runoff from construction sites from reaching local water bodies. Additionally, ESC Staff will also continue to maintain proper certifications and tracking parameters.

BMP – 4.2 Require VSMP Permits

Summary: The City became a VSMP Authority on July 1, 2014 and is responsible for administration of the local VSMP Program in accordance with Commonwealth of Virginia regulations. Program staff focused on educating the construction industry, especially homebuilders in Common Plans of Development, on the updated regulations with an emphasis on compliance with Pollution Prevention Plans.

Year 4 Activities: There were 27 active VSMP Permits within the City; 7 of those were continued coverage and 3 were issued as new permits since July 1, 2016. The inspector performed several ‘spot’ inspections during routine ESC inspections to educate Operators and catch minor infractions in addition to full, periodic inspections per State regulations. This method has proved helpful for contractors with less familiarity on VSMP Regulations. The City also issued 31 Single Family permits which were part of larger Common Plans of Development.

Year 5 Goals: The City will continue to implement local VSMP Program administration and require applicable VSMP requirements be instituted throughout the permit cycle. The ordinance will be amended according to VSMP requirement modifications.

Minimum Control Measure 4 – Construction Site Runoff Control

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
4.1 Erosion and Sediment Control Program	# of new sf land disturbance activities	76	25	41	24	
	# of non-sf land disturbance activities	13	9	7	6	
	# of acres	65.66	68.29	43.3	23.9	
	# of inspections	1,501	1,254	954	770	
	# of enforcement actions	43	21	15	20	
4.2 Require VSMP Permits	# of permits	7	9	10	6	
	# of single family permits (CPOD)		27	31	45	
	# of full inspections		2	5	3	
	# of 'spot' inspections		130	122	492	
	# of CPOD inspections		54	485	492	
	# of enforcement actions		0	15	0	
	# of exemptions	0	0	15	0	

Minimum Control Measure 5 – Post-Construction Runoff Control

BMP – 5.1 Structural BMP Maintenance

Summary: The City performs ongoing maintenance of all City-owned structural BMPs according to the program plan along with inspection and enforcement of privately owned structural stormwater BMPs.

Year 4 Activities: The public and private BMP inventory is well established and is modified as new BMP's come on-line. Public Works staff continues to perform routine maintenance of City owned BMPs, bi-annually or as needed. Maintenance tasks consist of mowing and removal of excess vegetation that has the potential to impede retention and detention facilities. Bio-filter maintenance consists of weeding of invasive species, adding mulch and removal of trash and accumulated sediment.

Between July 1, 2016 and June 30, 2017 three new maintenance agreements were signed and recorded for private BMPs. Two of the agreements were for new development and one for an existing detention pond.

Year 5 Goals: The City will continue routine maintenance of storm facilities on a bi-annual basis or, as needed. Stormwater Staff will perform inspections of all public and privately owned BMPs, updating the last round of inspections in 2015. Maintenance agreements for any new privately owned structural BMP will remain a requirement of the program plan. Owners of private structural BMPs, without agreements are encouraged to acquire a Stormwater Maintenance Agreement with the incentive of becoming eligible for stormwater utility fee credits.

BMP – 5.2 Structural BMP Inspection

Summary: Inspections of structural BMPs within the City have increased with the development of the BMP inspection program plan. Existing maintenance agreements require property owners of private BMPs to inspect, maintain, and submit an annual report to the City. The program appoints the City to inspect all privately owned BMPs once every 5 years and City owned BMPs annually.

Year 4 Activities: This marked the initial year inspection reminder letters along with an inspection checklist were generated and sent to BMP owners with a maintenance agreement in place. In response, 11 out of 18 of the owners returned the completed inspection form. Staff inspected 16 publicly owned facilities in Permit Year 4, utilizing the City Operative Management Software, Cartegraph. A BMP inspection form was created in the Cartegraph system for ease of field inspections using an iPad.

Year 5 Goals: The City will continue to inspect and maintain public facilities and track inspections from privately owned BMPs within the City on an annual basis. The opportunity will remain for existing BMP owners to record a Stormwater Maintenance Agreement, holding owners accountable for condition assessment and necessary maintenance to insure the facility is functioning as designed.

BMP – 5.3 Structural BMP Database

Summary: The Structural BMP Database is an effective tool in implementing BMP 5.1 and BMP 5.2. The BMP Database includes the type of BMP, ownership, location, date brought online, HUC code, receiving waters, if the receiving waterway is impaired, if a maintenance agreement exists, number of acres treated, and the most recent inspection.

Year 4 Activities: The City successfully updated the database with the assistance of the DEQ Historical Reporting Grant during Permit Year 3. Stormwater Staff is responsible for the input of new facilities brought online into the database; this permit year produced three new entries.

Year 4 Goals: The City will continually update its BMP Database and collaborate with the Department to input data as the online database is fully developed.

Minimum Control Measure 5 – Post-Construction Site Runoff Control

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
5.1 Structural BMP Maintenance	# of new agreements	3		1	3	
5.2 Structural BMP Inspections	# of private inspection reports		1	1	16	
	# of public inspection reports		14	16	11	
	# of enforcement actions			0	0	
5.3 Structural BMP Database	BMP database development			170	173	
	# of BMPs updated			170	173	

Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping

BMP – 6.1 Street Sweeping

Summary: Street sweeping remains an important component of the City’s Pollution Prevention efforts as it can lead to significant reductions in the amount of sediment and related pollutants reaching surface waters.

Year 4 Activities: This year the City finalized the Street Sweeping Plan, purchased a Regenerative Sweeper and converted the Street Sweeper position to full time. Arterial and Collector roads were swept bi-monthly and Local roads by ward, monthly. In addition, alleys designed to carry stormwater flows were swept on an as-needed basis. Public Works Operations and the Recycling Center facilities were swept as-needed or at a minimum of once per month. In accordance with the Street Sweeping Plan, the weight of debris was used as the Year 4 tracking metric.

Month	Landfill Tonnage	Pounds,Lb Sweeper Debris	N Dry Weight*	P Dry Weight**	TSS Dry Weight
July	14.83	29,660.00	74.15	29.66	8,898.00
August	0.00	0.00	0.00	0.00	0.00
September	107.59	215,180.00	537.95	215.18	64,554.00
October	15.08	30,160.00	75.40	30.16	9,048.00
November	0.00	0.00	0.00	0.00	0.00
December	49.22	98,440.00	246.10	98.44	29,532.00
January	59.74	119,480.00	298.70	119.48	35,844.00
February	13.68	27,360.00	68.40	27.36	8,208.00
March	19.19	38,380.00	95.95	38.38	11,514.00
April	45.95	91,900.00	229.75	91.90	27,570.00
May	74.98	149,960.00	374.90	149.96	44,988.00
June	4.10	8,200.00	20.50	8.20	2,460.00
Totals		808,720.00	2,021.80	808.72	242,616.00
*TN Dry Weight Conversion = .0025 per Lb Sweeper Debris					
**TP Dry Weight Conversion = .001 per Lb Sweeper Debris					
***TSS Dry Weight Conversion = .30 per Lb Sweeper Debris					

Year 5 Goals: Continue regular street sweeping operations according to the Street Sweeping Plan and begin analyzing the weight of debris using the mass loading approach as defined by the expert panel for the Chesapeake Bay Program.

BMP – 6.2 Pollution Prevention Training

Summary: The City Public Works Department provides pollution prevention training to its employees. Monthly safety committee meetings incorporate environmental protection into the agenda as part of Public Works’ Environment & Safety Program

The dedicated Stormwater Maintenance Crew within the Streets Division is trained as a 'First Response Team'. The team is prepared to respond to emergency situations where non-stormwater substances have a high potential to reach or have reached surface waters. The crew, along with other essential personnel attends annual training in order to maintain readiness and effectiveness.

Year 4 Activities: Public Works employees were provided with information on safe handling and spill prevention procedures and discussions of hazard assessment. Training was conducted in a "tool box" method as well as formal training.

Stormwater Program staff continued education on stormwater and MS4 basics, IDDE and Good Housekeeping measures. Select Public Works staff received in-depth training on a variety of structural sediment trapping measures to allow the opportunity to provide their opinions on which practices would be the most efficient for their use.

Year 5 Goals: Continue to educate City employees on standardized process operating procedures to minimize accidental pollutant release with the potential to contaminate stormwater runoff. Continue to develop Standard Operating Procedures for pollution prevention for Public Works crews.

BMP – 6.3 Yard Debris Collection Program

Summary: The City has an on-going yard debris and leaf collection program that reduces the amount of yard waste that reaches storm sewers and surface waters.

Year 4 Activities: For Permit Year 4, Public Works employees collected 257 one-ton loads of leaves and 304 17.5-cu.yd. loads of additional yard debris, such as brush. Implemented this year, the tracking metric was converted from volume (cubic yards) to weight in tons to allow further accuracy in reporting. The City has completed its initial cycle of providing general education to the public on proper disposal techniques to adhere the adopted Illicit Discharge Ordinance.

Year 5 Goals: Continue collecting yard debris and leaves and educate the general public on proper disposal techniques. An effort will be made to promote residential yard debris composting as a good housekeeping BMP.

BMP – 6.4 Vehicle Wash Program

Summary: A vehicle washing program, minimizes the amount of pollutants from vehicle wash runoff entering the stormwater system and plays an important role in pollutant reduction.

Year 4 Activities: The Public Works Facility SWPPP was developed and identifies a designated washing bay. Signage was posted at the wash bay prohibiting trucks to dump contents into the drain. The underdrains are connected to the sanitary sewer system. Fleet is able to use the wash bay at will, therefore an estimate was derived. The City Operations fleet consists of 17 pieces of equipment, estimated to be washed five times a year arriving at 85 washes for Permit

Year 4. The Fire Department washed their vehicles a total of 11 times in a designated parking lot adjacent to their facility.

Year 5 Goals: Monitor washing facilities during routine SWPPP inspections.

BMP – 6.5 Storm Sewer Inspections and Maintenance

Summary: A storm sewer inspection and maintenance program will aid in successful routine maintenance and non-routine (repair) maintenance of stormwater facilities.

Year 4 Activities: During Permit Year 4, the City employed contracting services to clean and CCTV approximately 4,750 linear feet of storm sewer pipe identified during routine mapping and inspection activities. The City's in-house crew cleaned just over 300 inlets, 19 manholes and 54 additional storm structures.

Year 5 Goals: The City will continue to perform storm sewer structure inspections at reported and historic hotspots. Maintenance will be performed by in-house crews in accordance with manpower and available equipment along with contracted services for areas to be tracked by CCTV and cleaned.

BMP – 6.6 Develop Stormwater Pollution Prevention Plan (SWPPP) for Required City Facilities

Summary: The City will identify high priority City facilities, and develop a SWPPP for each of these facilities by the end of 4th year of the permit cycle (June 30, 2017). Implementation of the SWPPPs will begin during the 5th year of the permit cycle.

Year 4 Activities: The City has defined the Public Works Operations Yard, the Landfill and Recycler location, Parks and Recreation storage buildings and the park pool as high priority City facilities. SWPPP's have been developed and set to be implemented in Permit Year 5. Staff members have been designated to represent each facility to perform routine inspections and necessary corrective maintenance. Given the fact that all equipment and materials are covered, certain locations within the SWPPP's require only seasonal monitoring. These include the pool chemical storage area and Operation's salt storage building, however monitoring locations downslope will continue to be routinely inspected.

Year 5 Goals: The City will implement SWPPP inspections in Year 5 for high priority city facilities. As the SWPPP's are implemented continual fine-tuning of monitoring locations, necessary structural or non-structural controls and mapping will be executed.

BMP – 6.7 Develop Nutrient Management Plan (NMP) for Required City Sites

Summary: The City will need to identify sites over one (1) acre that will require a NMP. The City will identify these sites and develop the NMPs to be implemented during the 5th year of the permit cycle.

Year 4 Activities: The City identified 12 sites that will require a NMP to define the checks on the application of nutrients and soil amendments to ensure optimal management. During this permit year, the contract was awarded for the NMP development.

Year 5 Goals: The Nutrient Management Plan will be developed and implemented in Permit Year 5. A series of meetings to discuss the expectations and requirements with applicable staff members will be conducted pre and post implementation.

Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
6.1 Street Sweeping	# of Miles	3653	1474	3410		
	Tons of debris				404	
6.2 Pollution Prevention Training	# of personnel trained	95		61	83	
6.3 Yard Debris Collection Program	Cubic yards	57	57	31		
	Tons of yard debris/leaves				313	
	# of loads of yard debris	290	290	288	304	
6.4 Dedicated Vehicle Wash Facility	# of Operations vehicles washed				85	
	# of P&R vehicles washed				0	
	# of Fire vehicles washed				11	
6.5 Storm Sewer Inspection and Maintenance	# of structures inspected		80	81	377	
	Linear feet of line inspected		5000	5500	4750	
6.6 Develop SWPPP for Required City Facilities	Development of plans				3	
6.7 Develop NMP for City Sites	Development of plans				12	

Evaluation and Assessment

The City of Waynesboro is required to comply with the Annual Reporting requirements for MS-4 Communities contained in section II E.3 of the General Permit and to submit annual reports to the Department of Environmental Quality (DEQ) for the period of July 1 to June 30. A summary of those requirements is below.

- II E.3.a.3: No changes were made to departmental responsibilities.
- II E.3.a.4: The City continues to develop the storm sewer map in accordance with the DEQ approved Program Plan. One new MS4 Outfall was installed during Permit Year 4; the City now owns 151 designated MS4 outfalls.
- II E.3.b: This report analyzes the effectiveness of BMP's identified by the City for MCM's 1 through 6 to address permit requirements. These practices are considered to be appropriate for meeting program goals; however BMP 2.2 DEQ/DCR Adopt-A-Stream Program has not gained much momentum in Waynesboro.
- II E.3.c: Fifty (50) identified MS4 outfalls were monitored and data recorded utilizing the mobile application developed in Permit Year 3. The outfall inspection reports were exported in a spreadsheet format included in this report, Appendix 1.
- II E.3.e: Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping implemented several changes in Permit Year 4. Within BMP - 6.1 Street Sweeping, the Street Sweeping Plan was completed, (Appendix 2) and the tracking metric changed from lane miles to the mass loading approach. The tracking of yard debris in BMP – 6.3 Yard Debris Collection Program has become more intensive allowing further accuracy in the amount and number of loads. The tracking method for this permit year was converted to track debris and leaves by weight instead of volume.
- II E.3.f: The City does not rely on another government entity for permit compliance.
- II E.3.g: The City operates a DEQ approved ESC Program and the City's Virginia Stormwater Management Program received final approval from DEQ.

Chesapeake Bay TMDL

The City will submit a TMDL Action Plan with the registration statement for the second permit cycle (July 1, 2018 - June 30, 2023) by the end of this permit cycle (2018). The City has engaged with a consultant to determine the MS4 Service Area, Waste Load Allocation, high priority sites, and a Preliminary Probable Cost for Implementation in preparation for submittal of the final Action Plan in 2018.

The TMDL Action Plan will also include information for projects completed during this permit cycle including regulated acres treated and pollutant removal efficiencies for BMP's that were installed since 2009.

Appendix 1 – Minimum Control Standard #1 – Public Outreach and Education

Watershed Concepts

City Staff will continue watershed concept education at city public schools. The fourth grade series will focus on the definition of a watershed, how it is affected by surrounding conditions, and making the students aware of actions that are beneficial to a watershed. Presentations will begin by a brief introduction to a watershed prior to students being teamed up for eight minute presentations at several education stations. They will consist of a schoolyard watershed segment, a soil sampling and characteristic station, street sweeper presentation, a hands-on planting station with a discussion of benefits of plants to a watershed, and each team plays the 'Raindrop Game'. The game educates children of water facts, how stormwater runoff can pick up pollutants and the detrimental effects to water and living species.

The middle and high school presentations will entail the same general concepts using a different approach. The middle school 'field day' will discuss watershed characteristics, incorporating point source versus nonpoint source pollution, permeable and impermeable surfaces, and how one directly affects another. The high school walk will take on a similar discussion along with City infrastructure and how it all works together. The walk will end at the park to discuss the purpose of the installed biofilters and stream bank restoration.

The City will participate in the Fall Foliage Festival again to introduce beneficial home practices to the watershed and the homeowner. A model house will be displayed depicting a green roof, composting bin, and rain barrel. A rain barrel will be onsite for demonstration and raffled off along with composting bins distributed to individuals interested in getting started.

City Staff intends to increase the audience in Permit Year 5. The count for students reached in year 4 is 125 the plan is to increase the number to 275 students. An estimated 250 homeowners will be reached, this number is weather dependent. The target audience for watershed concepts will be just over 50% students from 4th to 10th grade with the remaining percentage being homeowners.

Illicit Discharges

Education of illicit discharges and their elimination will continue this year. Brochures will continue to be available at Riverfest and Public Works Day. The informational brochures define an illicit discharge, list examples, and display the link on the City Code to the Illicit Discharge Ordinance. The City will make an effort to post a blurb in the quarterly Parks and Recreation Newsletter and on the main page of the City website addressing the prohibited draining of chlorine pools into storm drains during the related season of the year. An estimated 600 people will receive the brochure, read the newsletter, and view the website posting representing 75% of the audience.

Middle and high school students will also be introduced to the definition of an illicit discharge and the harmful effects to receiving bodies of water. This will go along with the point source

pollution discussions with the students during 'field day'. Approximately 150 students will be present for the City presentations representing 25% of the audience.

Pet Waste

The City will develop educational materials to build on efforts to reduce pollution from pet waste in the community. The Parks and Recreation Department currently maintains Pet Waste Stations along the South River Greenway and two additional City Parks. It is estimated the Greenway receives 10,000 visitors per year with 20% taking advantage of the pet waste station. There is not a solid annual estimate of visitors to the additional parks, which house the pet waste stations.

The City will distribute 300 pet waste bag dispensers with a fact sheet on why pet waste is harmful to surface waters at outreach events including Fall Foliage Festival and Riverfest. In addition, Stormwater Staff plans to distribute the dispensers during the annual Petpawlooza event in May held at the Coyner Springs dog park. It is estimated, 75% of festival goers will be reached at the event.

Pet waste education is already included in the school education series and may be expanded for year 5. A 'Poop Toss' game is being considered to educate children of proper pet waste disposal methods. The layout of the game will mimic a backyard setting, which contains a trash can, a hole, compost bin and yard waste bin. The students are tasked with tossing the waste into the correct receptacle; explain why it was chosen and why the remaining options are not suitable.

Appendix 2 – MS4 Outfall Inspection Export

Landuse	Outfall Id	Last Inspection Date	Flow Present	Illicit Discharge	High Risk	Maintenance Required
Shopping Center	swOTLT-0107-3771	5/18/2017	No	Unlikely	False	False
Residential	swOTLT-0053-3771	11/8/2016	No	Unlikely	False	False
Residential	swOTLT-0045-3770	1/5/2017	Yes	Suspect	False	False
Non-durable Manufacturing	swOTLT-0095-3771	5/16/2017	No	Unlikely	False	False
Residential	swOTLT-0172-3760	5/3/2017	No	Unlikely	False	True
Other Industrial	swOTLT-0085-3771	9/20/2016	No	Suspect	True	False
Residential	swOTLT-0160-3760	5/31/2017	Yes	Unlikely	True	False
Other	swOTLT-0108-3771	6/1/2017	No	Unlikely	True	True
Residential	swOTLT-0101-3771	5/31/2017	Yes	Unlikely	False	True
Other	swOTLT-0102-3770	5/16/2017	No	Unlikely	True	False
Residential	swOTLT-0075-3770	5/18/2017	No	Unlikely	False	False
Residential	swOTLT-0159-3760	5/31/2017	No	Unlikely	False	False
Residential	swOTLT-0100-3761	6/27/2017	No	Unlikely	False	False
Residential	swOTLT-0099-3770	11/8/2016	No	Unlikely	False	False
Shopping Center	swOTLT-0025-3751	6/1/2017	No	Unlikely	False	False
Other Industrial	swOTLT-0010-3771	1/13/2017	No	Unlikely	True	True
Residential	swOTLT-0022-3770	2/1/2017	No	Unlikely	False	False
Shopping Center	swOTLT-0026-3770	5/9/2017	No	Unlikely	False	False
Residential	swOTLT-0106-3771	5/31/2017	No	Unlikely	False	True
Residential	swOTLT-0110-3770	5/2/2017	No	Unlikely	False	False
Residential	swOTLT-0163-3760	5/9/2017	No	Unlikely	False	True
Residential	swOTLT-0153-3760	5/18/2017	No	Unlikely	False	True
Other	swOTLT-0093-3760	4/10/2017	No	Unlikely	False	False
Residential	1000-009	5/9/2017	No	Unlikely	False	False
Residential	swOTLT-0029-3770	2/1/2017	No	Unlikely	False	True
Residential	swOTLT-0036-3771	6/22/2017	No	Unlikely	False	True
Residential	swOTLT-0140-3760	5/16/2017	Yes	Unlikely	False	False
Other Industrial	swOTLT-0038-3770	4/14/2017	Stagnant	Unlikely	True	False
Residential	swOTLT-0074-3770	5/2/2017	No	Unlikely	False	True
Shopping Center	swOTLT-0065-3770	4/14/2017	No	Unlikely	False	False
Other	swOTLT-0180-3760	3/23/2017	No	Unlikely	False	False
Residential	swOTLT-0059-3761	6/27/2017	No	Unlikely	False	False
Residential	swOTLT-0118-3770	5/2/2017	Yes	Unlikely	False	False
Residential	swOTLT-0015-3771	3/7/2017	Yes	Obvious	False	False
Residential	swOTLT-0080-3771	5/3/2017	No	Unlikely	False	True
Non-durable Manufacturing	swOTLT-0084-3771	5/16/2017	No	Unlikely	False	False
Other	swOTLT-0025-3771	3/7/2017	No	Unlikely	False	True
Other	swOTLT-0103-3770	5/16/2017	No	Unlikely	False	False
Residential	swOTLT-0088-3760	3/7/2017	No	Unlikely	False	False
Shopping Center	swOTLT-0026-3751	6/1/2017	No	Unlikely	False	True
Residential	swOTLT-0156-3760	5/18/2017	No	Unlikely	False	True
Residential	swOTLT-0119-3770	11/8/2016	No	Unlikely	False	False
Other Industrial	swOTLT-0100-3771	6/27/2017	No	Unlikely	False	False
Other Industrial	swOTLT-0007-3751	3/7/2017	No	Unlikely	False	True
Other	swOTLT-0178-3760	6/27/2017	Yes	Unlikely	False	False
Residential	swOTLT-0150-3760	5/18/2017	No	Unlikely	False	True
Shopping Center	swOTLT-0052-3770	6/28/2017	Stagnant	Unlikely	False	False
Residential	swOTLT-0100-3770	5/3/2017	No	Unlikely	False	False
Residential	swOTLT-0149-3760	5/2/2017	No	Unlikely	False	False
Open Space	swOTLT-0109-3770	6/28/2017	Yes	Unlikely	False	False

Appendix 3 – Street Sweeping Plan

The City of Waynesboro recognizes that street sweeping is an important way to keep pollution from reaching waterways as well as meet other municipal goals for aesthetics and safety. The City of Waynesboro MS-4 Service Area consists of 5,544 regulated acres located within the South River Watershed in Augusta County, Virginia. The City also owns and maintains its own street system. The City street system is a significant source of non-point source pollutants to receiving streams due to the direct connection of streets to storm sewers. A formalized street sweeping program will be a key component to meet TMDL Special Conditions for the City's MS-4 Program.

1. Means and Methods

- Sweeping- Beginning in Fiscal Year 2017, which is Permit Year 4 in the City's MS4 Program Plan, the City purchased a regenerative air sweeper and resumed full-time street sweeping operations. The City will sweep Arterial and Collector roads bi-monthly and Local roads by ward monthly. Alleys that are recognized to have been designed to carry stormwater flows will be swept on an as-needed basis. The City Public Works Operations and Recycling Center facilities will also be swept as-needed or at a minimum of once per month. The total acres swept will be approximately 170 miles per month.
- Debris Storage and Disposal- Street sweeping debris is currently dumped at the Public Works Operations facility in a contained area and transported to the landfill as needed.

2. Projected Costs

- The street sweeping program is an integral part of the City's Pollution Prevention and TMDL requirements. Consequently, these costs will need to be accounted for in annual operating budgets moving forward. The program has street maintenance and safety, aesthetic and community-wide benefits beyond just stormwater pollution reduction, so the initial capital outlay, annual staffing and operations costs will be split equally between the Stormwater and Streets funds.

PWO SWM Sweeper Budget Thru FY 2021

items	2015	2016	2017	2018	2019	2020	2021
Part Time Sweeper Wages	\$28,704	\$29,852					
Full Time Sweeper Wages (4% Increase)			\$29,000	\$29,000	\$30,160	\$31,366	\$32,621
Full Time Sweeper Fringe (37%)			\$10,730	\$10,730	\$11,159	\$11,606	\$12,070
Miscellaneous Overhead (uniforms, training, etc.)			\$675	\$702	\$730	\$759	\$790
Sweeper Cost			\$230,000				
Sweeper Fuel (4% Increase)		\$500	\$505	\$525	\$530	\$536	\$541
Sweeper Maintenance (4% Increase)		\$15,000	\$15,600	\$16,224	\$16,873	\$17,548	\$18,250
Sweeper Depreciation (10% annual)			23000	23000	23000	23000	23000
<i>Sweeper Subtotal</i>		\$45,352	\$309,510	\$80,181	\$82,453	\$84,815	\$87,271
<i>Average Annual Cost</i>			\$83,680				
<i>Wiley Wilson Estimate*</i>			\$66,000				
50% Share	N/A	\$22,676	\$154,755	\$40,091	\$41,226	\$42,407	\$43,636

* Wiley Wilson estimate based on labor hours for sweeping
40% of year

3. Estimated Pollutant Reductions

- For FY '17, the City reported the actual weight of debris rather than lane miles swept. Previously, the City has reported lane miles swept as a basic MS-4 Program milestone without accounting for pollutant removal.
- The City is prepared to follow the 'Recommendations of the Expert Panel to Define Removal Rates for Street and Storm Drain Cleaning Practices'. The estimated pollutant removals for street sweeping will be determined based on road classification and frequency of sweeping if permit holders are directed to report pollutant removal in that fashion.

Responsible Parties

The departments 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: City Manager
Name: Michael G. Hamp II
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Program Management

Engineering Division

Title: City Engineer
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Waynesboro, VA 22980
Phone: 540-942-6627
Email: publicworks@ci.waynesboro.va.us

Department of Parks & Recreation

Title: Director
Name: C. Dwayne Jones
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Waynesboro, VA 22980
Phone: 540-942-6735
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Department of Public Works

Title: Director
Name: Brian McReynolds, P.E.
Address: 941 Fir St.
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Phone: 540-942-6624
Email: publicworks @ci.waynesboro.va.us