



THE CITY OF BRUNSWICK MARYLAND

1 WEST POTOMAC STREET · BRUNSWICK, MARYLAND 21716 · (301) 834-7500

October 30, 2019

Maryland Department of the Environment
Water and Science Administration
Sediment, Stormwater, and Dam Safety Program
1800 Washington Boulevard, Suite 440
Baltimore, Maryland 21230-1708

Re: City of Brunswick Year 1 MS4 Progress Report

Dear Reviewer,

The City of Brunswick is pleased to submit the Year 1 MS4 Progress Report to uphold compliance with the conditions of NPDES General Permit Number 13-IM-5500 (General NPDES Number MDR055500). The new permit terms provide the City of Brunswick an opportunity to reestablish our commitment to the NPDES program, streamline our data inventory, and to re-strategize our overall approach to navigating the NPDES process. The City coordinated with our engineer of record, Clark|Azar and Associates (CAA), to conduct the Impervious Area Assessment as well as prepare the Restoration Activity Schedule for these elements of our Watershed Implementation Plan (Draft WIP section included in this submission). Note that a second draft is underway to address City comments. We expect the second draft to more closely align with numbers shown in Appendix D and the BMP Database as submitted. (Submitted attachments incorporate updates identified during the WIP comment process).

Over the past year, personnel have worked towards reconciling the City's stormwater data inventory, and gaining a better understanding of permit terms as they pertain to our role in the NPDES process. City personnel have attended training courses to obtain NPDES Certified Stormwater Inspector (CSI) as well as Responsible Personnel ("Green Card") certifications. Data reconciliation efforts conducted in fulfillment of Year 1 requirements revealed stormwater inventory data gaps which we will continue to coordinate with Frederick County and our engineer to rectify over the next year. A major component of this data reconciliation effort was creation of a BMP Master Inventory that includes MDE-required fields as well as other internal tracking information. This inventory incorporates information from existing records as well as CAA's assessment and was used to populate the required tables and fields in the MDE-provided databases. Further refinement of this database is expected over the next year.

Please do not hesitate to contact me if you have any questions or comments on this submission.

Respectfully,

A handwritten signature in blue ink, appearing to read "Abby Ingram".

Abby Ingram
City of Brunswick Project Coordinator, CSI
aingram@brunswickmd.gov
301-834-7500 Ext. 303

Inclusions:

- BMP Database (Digital-CD & Hardcopy)
- Work Plan (Digital-CD & Hardcopy)
- Restoration Schedule (Digital-CD & Hardcopy)
- Progress Report, Appendix D: Section I (Digital-CD & Hardcopy)
- DRAFT Baseline Impervious Area Assessment and Restoration Plan by CAA (Digital-CD Only)



**MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATER AND SCIENCE ADMINISTRATION**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
GENERAL PERMIT FOR DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS**

**GENERAL DISCHARGE PERMIT NO. 13-IM-5500
GENERAL NPDES NO. MDR055500**

Final Determination: April 27, 2018
Effective Date: October 31, 2018
Expiration Date: October 30, 2023

This National Pollutant Discharge Elimination System (NPDES) general permit covers small municipal separate storm sewer systems (MS4s) in certain portions of the State of Maryland. MS4 owners and operators to be regulated under this general permit must submit a Notice of Intent (NOI) to MDE by October 31, 2018. An NOI serves as notification that the MS4 owner or operator intends to comply with the terms and conditions of this general permit.

APPENDIX D

Municipal Small MS4 Progress Report

Maryland Department of the Environment (MDE)

National Pollutant Discharge Elimination System (NPDES)
Small Municipal Separate Storm Sewer Systems (MS4) General Permit

This Progress Report is required for those jurisdictions covered under General Discharge Permit No. 13-IM-5500. Progress Reports must be submitted to:

Maryland Department of the Environment, Water and Science Administration
Sediment, Stormwater, and Dam Safety Program
1800 Washington Boulevard, Suite 440, Baltimore, MD 21230-1708
Phone: 410-537-3543 FAX: 410-537-3553
Web Site: www.mde.maryland.gov

Contact Information

Permittee Name:	City of Brunswick, Maryland
Responsible Personnel:	Carrie Myers (City Clerk)
Mailing Address:	1 West Potomac Street Brunswick, MD
Phone Number(s):	301-834-7500 Ext. 201
Email address:	assistant@brunswickmd.gov
Additional Contact(s):	Abigail Ingram
Mailing Address:	601 East Potomac Street
Phone Number(s):	301-834-7500 Ext. 303
Email address:	aingram@brunswickmd.gov

Signature of Responsible Personnel

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.

Carrie Myers

Printed Name

Carrie A. Myers

Signature

10/30/19

Date

Reporting Period (State Fiscal Year):

Due Date: **Date of Submission:**

Type of Report Submitted:

Impervious Area Restoration Progress Report (Annual):

Six Minimum Control Measures Progress (Years 2 and 4):

Both:

Permittee Information:

Renewal Permittee:

New Permittee:

Compliance with Reporting Requirements

Part VI of the Small MS4 General Discharge Permit (No. 13-IM-5500) specifies the reporting information that must be submitted to MDE to demonstrate compliance with permit conditions. The specific information required in this MS4 Progress Report includes:

1. Annual: Progress toward compliance with impervious area restoration requirements in accordance with Part V of the general permit. All requested information and supporting documentation must be submitted as specified in Section I of the Progress Report.
2. Years 2 and 4: Progress toward compliance with the six minimum control measures in accordance with Part IV of the general permit. All requested information and supporting documentation shall be reported as specified in Section II of the Progress Report. MDE may request more frequent reporting and/or a final report in year 5 if additional information is needed to demonstrate compliance with the permit.

Instructions for Completing Appendix D Reporting Forms

The reporting forms provided in Appendix D allow the user to electronically fill in answers to questions. Users may enter quantifiable information (e.g., number of outfalls inspected) in text boxes. When a more descriptive explanation is requested, the reporting forms will expand as the user types to allow as much information needed to fully answer the question. The permittee must indicate in the forms when attachments are included to provide sufficient information required in the MS4 Progress Report.

Section I: Impervious Area Restoration Reporting Form

Section I: Impervious Area Restoration Reporting

1. a. Was the impervious area baseline assessment submitted in year 1?

Yes No

b. If No, describe the status of completing the required information and provide a date at which all information required by MDE will be submitted:

- c. Has the baseline been adjusted since the previous reporting year?

Yes No

2. Complete the information below based on the most recent data:

Total impervious acres of jurisdiction covered under this permit:

Total impervious acres treated by stormwater water quality best management practices (BMPs):

Total impervious acres treated by BMPs providing partial water quality treatment (multiply acres treated by percent of water quality provided):

Total impervious acres treated by nonstructural practices (i.e., rooftop disconnections, non-rooftop disconnections, or vegetated swales):

Total impervious acres untreated in the jurisdiction:

Twenty percent of this total area (this is the restoration requirement):

Verify that all impervious area draining to BMPs with missing inspection records is not considered treated. Describe how this information was incorporated into the overall analysis:

BMPs with incomplete inspection records were flagged as Assumed/Inactive (status=REM) and not included in 2019 baseline calculations. These BMPs are placed on a priority list to inspect and make repairs, if needed, to ensure adequate performance for Year 2 (2020) reporting. Seven of these "inactive" BMPs are currently in sediment phase. Once they are online and fully functioning as BMP devices treating impervious area runoff, they will be included towards impervious area treatment credits.

2. Has an Impervious Area Restoration Work Plan been developed and submitted to MDE in accordance with Part V.B, Table 1 of the permit or other format?

Section I: Impervious Area Restoration Reporting

Yes No

Has MDE approved the work plan?

Yes No

If the answer to either question is No, describe the status of submitting (or resubmitting) the work plan to MDE and provide a date at which all outstanding information will be available:

The Work Plan is a component of this submission and has yet to obtain approval from MDE. The City of Brunswick did utilize the Restoration Work Plan template as provided by MDE to act as the foundation for the City of Brunswick's plan.

Describe progress made toward restoration planning, design, and construction efforts and describe adaptive management strategies necessary to meet restoration requirements by the end of the permit term:

The City has applied for grant assistance in the development of a Flood Control Study for three tributaries, as well as proposed stream restoration projects along Martins Creek and Gum Spring Road. We are coordinating with the City Engineer to analyze the viability of several locations for potential BMP implementation. Older SWM pond conversion is one technique we are examining to provide water quality measures in ponds that are currently only providing storage. More detailed information is discussed in the Draft City of Brunswick Stormwater Restoration Plan (dated 2019).

Adaptive strategies we are considering include stream bank armoring/restoration and velocity-reducing techniques along our main tributaries. Many of the stream corridors are experiencing increased erosion and bank degradation in response to more frequent and intense weather events. These stream restoration actions protect health, ensure safety, and protect critical assets as well as property values while also reducing sediment loads to the Potomac River.

Additionally, many of our ponds and BMPs are eligible for upgrading or conversion to amplify our water quality targets.

3. Has a Restoration Schedule been completed and submitted to MDE in accordance with Part V.B, Table 2 of the permit?

Yes No

In year 5, has a complete restoration schedule been submitted including a complete list of projects and implementation dates for all BMPs needed to meet the twenty percent restoration requirement?

Yes No

Section I: Impervious Area Restoration Reporting

Are the projected implementation years for completion of all BMPs no later than 2025?
 Yes No

Describe actions planned to provide a complete list of projects in order to achieve compliance by the end of the permit term:

The City plans to investigate all opportunities for BMP implementation as they arise; therefore, we do expect the project list to evolve over the permit period to improve our abilities to achieve compliance. We are actively researching and applying for grant opportunities to aid BMP implementation. City personnel plan to regularly attend workshops focusing on green infrastructure (such as the Green Streets, Green Jobs, Green Towns (G3) Grant Program in Nov 2019) to stay informed of creative ways other municipalities have infused BMPs into their SWM planning efforts.

Describe the progress of restoration efforts (attach examples and photos of proposed or completed projects when available):

Progress has admittedly been slow due to limited personnel to manage restoration projects, severe weather event response, and budget challenges. Emergency stormwater repairs have taken precedence in the last few years, as reflected in the City's 2020 budget. Once these projects are complete and we reevaluate the status, the City will pivot from a response position towards a preventive, proactive posture.

4. Has the BMP database been submitted to MDE in Microsoft Excel format in accordance with Appendix B, Tables B.1.a, b, and c?

Yes No

Is the database complete?

Yes No

If either answer is No, describe efforts underway to complete all data fields, and a date that MDE will receive the required information:

Database fields including Approved Date, Built Date, and Inspection Date are expected to be reconciled over the next year. Assuming adequate BMP performance (and passing inspection), completion of these fields will essentially establish the respective BMPs as active and count toward the impervious area treated. Any identified repairs and maintenance actions will be prioritized and ideally rectified prior to Year 2 reporting. Additionally, we will continue to evaluate the effectiveness of each existing BMP to validate drainage areas and perform additional stormwater management calculations as needed to provide accuracy of our current treatment status.

5. Provide a summary of impervious area restoration activities planned for the next reporting cycle (attach additional information if necessary):

Section I: Impervious Area Restoration Reporting

Impervious area restoration activities focus on adequate documentation and validation of existing BMP performance. Several of the City's existing BMPs are not eligible for treatment credit purely based on inadequate records. We believe that this is an easy way to boost our progress towards our 20 percent treatment goal.

6. Describe coordination efforts with other agencies regarding the implementation of impervious area restoration activities:
 1. **MD State Highway Administration (MDSHA):** State Roads MD-17, MD-180, MD-464, and MD-478 bound and/or pass through the City of Brunswick thereby creating opportunities to coordinate in impervious area restoration measures. While we have not had specific negotiations to date, credit trading is something the City is interested in investigating, particularly along MD-17 (Petersville Road)
 2. **CSX:** The City has coordinated with CSX to maintain SD outfalls on/near CSX property. CSX coordination must be carefully coordinated to ensure safety of personnel performing outfall inspections and maintenance (including removing sediment and debris obstructions). Coordination between CSX, Planning & Zoning, and Public Works is ongoing.
 3. **Frederick County Public Schools:** The Draft Stormwater Report identified potential opportunities to implement or enhance BMP facilities at Brunswick High School and Brunswick Elementary School. These two locations have adequate open space to increase or add new BMP facilities and expand treatment.
 4. **Frederick County SWM Managers:** The County maintains SWM facility inspection records. While we have worked with the County to obtain updated records, it is apparent that additional ongoing coordination would be beneficial. Perhaps a workshop or roundtable with Frederick County SWM managers and municipality representatives would be productive.

7. List total cost of developing and implementing the impervious area restoration program during the permit term:
Estimated \$1,110,000 which includes data validation, expansion of our mechanical street sweeping program, and restoration of a degraded stream channel.



Phase II MS4 Restoration Activity Schedule

Total Acreage (304.91); Impervious Acre Baseline (254.57); 20% Restoration Target (50.91 acres)

Type of Restoration Project	BMP Code ¹	BMP ID (Optional)	Cost (\$K) ²	Imperv Acres Treated	Imperv Acre Target and Balance	Project Status ³	Year Complete or Projected Implementation Year (by 2025)	MD Grid Coordinates (Northing/Easting)	
					50.91				
Data Reconciliation (Document Existing BMPs; Update IA Baseline)	-		\$20	7.9	43.01	P	2020	Multiple Locations	
Expand Mechanical Street Sweeping Program	MSS	FR19BMP000004	\$40	3.1	39.91	P	2021	600,005.346	1,135,156.764
Stream Restoration (1,500 LF)	STRE		\$1,050	45.0	-5.09	P	(Phased) 2025	600,246.949	1,139,432.607
Stream Restoration (710 LF)	STRE		\$497	21.3	-26.39	P	Future	602,981.679	1,136,560.400
Pond Retrofit (Add SmartSWM)	PMED	FR16BMP001246	\$75	5.6	-31.99	P	Future	605,726.321	1,132,874.665
Stream Restoration (1,790 LF)	STRE		\$1,253	53.7	-85.69	P	Future	603,821.860	1,136,657.480
Stream Restoration (200 LF)	STRE		\$150	6.0	-91.69	P	Future	604,570.810	1,135,497.050
Stream Restoration (400 LF)	STRE		\$320	12.0	-103.69	P	Future	601,456.210	1,134,394.170
Pond Retrofit (Add SmartSWM)	PWET	FR19BMP000009	\$75	2.6	-106.29	P	Future	607,508.032	1,131,449.937
Pond Retrofit (Convert Dry Pond to Wet Pond)	PWET	FR15BMP000931	\$200	6.4	-112.69	P	Future	604,509.510	1,135,709.894
Pond Retrofit (Add SmartSWM)	PMED	FR15BMP000718	\$75	1.9	-114.59	P	Future	604,982.983	1,141,106.159
Catch Basin Cleaning	CBC		\$25	0.5	-115.09	P	Future	Multiple Locations	
Retrofit (Increase DA and Convert to Sand Filter)	FSND	FR19BMP000018	\$240	2.0	-117.09	P	Future	603,439.701	1,135,868.466
Construct New Sand Filter	FSND		\$648	3.0	-120.09	P	Future	603,860.013	1,135,061.207



Phase II MS4 Work Plan

Timeline	Management Strategies and Goals
Year 1 (2019)	Develop the following in accordance with Year 1 Annual Reporting Requirements: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Impervious Area Baseline and establish 20% Restoration acreage. <input checked="" type="checkbox"/> Develop BMP Database <input checked="" type="checkbox"/> Develop Work Plan. <input checked="" type="checkbox"/> Develop Restoration Schedule. <input checked="" type="checkbox"/> Develop funding needs for a long term budget.
Year 2 (2020)	<ul style="list-style-type: none"> -Update BMP Database as BMPs are inspected and restored (or added). -Continue to refine impervious area/active BMP inventory. -Restoration Schedule Year 2 Focus: Adjust Impervious Baseline as BMPs are validated and/or restored. -IDDE Program: Reassess Outfall Inspection locations to prioritize high-risk areas. Expand inspection list to achieve 20% of total outfalls per requirements. Revise IDDE SOP accordingly. -Continue to identify means to incorporate alternative BMPs into the Restoration Schedule. -Refine budget needs to support Restoration Schedule program goals. -Submit MCM Progress Report with MS4 Annual Reporting Documents to MDE.
Year 3 (2021)	<ul style="list-style-type: none"> -Update BMP Database as BMPs are inspected and restored (or added). -Implement projects as detailed on Restoration Schedule. Update Schedule accordingly. -Refine budget needs to support Restoration Schedule program goals.
Year 4 (2022)	<ul style="list-style-type: none"> -Update BMP Database as BMPs are inspected and restored (or added). -Implement projects as detailed on Restoration Schedule. Update Schedule accordingly. -Refine budget needs to support Restoration Schedule program goals. -Submit MCM Progress Report with MS4 Annual Reporting Documents to MDE.
Year 5 (2023)	<ul style="list-style-type: none"> -Update BMP Database as BMPs are inspected and restored (or added). -Implement projects as detailed on Restoration Schedule. Update Schedule accordingly. -Refine budget needs to support Restoration Schedule program goals.