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.

PART I. COVERAGE UNDER THIS GENERAL PERMIT

A. Permit Area

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 (State) as defined under Title 40 of the Code of Federal Regulations (CFR) § 122.26(b)(16) and 122.32(a)(1).

B. Regulated Small MS4s

MS4 owners or operators required to obtain coverage under this general permit are those located within the geographical area of:

1. Urbanized areas as determined by the latest Decennial Census by the United States (U.S.) Census Bureau; or

2. Other MS4s designated by the Maryland Department of the Environment (MDE) under the Clean Water Act (CWA) and associated regulations.

C. Obtaining Coverage

Owners or operators of MS4s regulated under this general permit must apply for coverage by submitting a Notice of Intent (NOI) according to requirements in Part II below, using the form provided by MDE in Appendix C. A list of MS4 owners and operators required to obtain permit coverage is found in Appendix A. A small municipality may be a co-permittee or coordinate with a surrounding county covered under an MS4 NPDES stormwater permit.

D. Definitions

Terms used in this permit are defined in relevant chapters of 40 CFR § 122 or the Code of Maryland Regulations (COMAR) 26.08.01, 26.17.01, and 26.17.02. Terms not defined in CFR or COMAR shall have the meanings attributed by common use.

PART II. NOTICE OF INTENT REQUIREMENTS

A. Deadlines for Notification

MS4 owners and operators identified in Appendix A must apply for coverage under this general permit and submit to MDE an NOI that contains the information outlined in Part II.B by October 31, 2018.

B. Contents

An NOI serves as notification that the MS4 owner or operator intends to comply with this general permit. The NOI form is provided in Appendix C of this permit. The NOI must contain the following:

1. The name, address, telephone number, and e-mail address of the responsible contact person for the required MS4 programs listed in Parts IV and V of this general permit;

2. A brief description of the jurisdiction. This must include the approximate size, land uses, a description of the stormwater conveyance system, and a list of properties owned or operated by the permittee covered under the Maryland General Permit for Stormwater Discharges Associated with Industrial Activity or an industrial individual surface water discharge permit;

3. A brief description of any agreements with another entity when responsibilities for permit compliance are shared between the permittee and entity. The relationship and specific duties of all parties must be provided;

4. An estimate of the anticipated expenditures to implement the required programs specified in this general permit; and

5. An authorized signature according to Part VII.O of this general permit.

C. Where to Submit

MS4 owners or operators applying for coverage under this permit must submit NOIs to the following:

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

PART III. WATER QUALITY

MS4 owners and operators covered under this general permit must manage, implement, and enforce management programs for controlling all stormwater discharges in accordance with the CWA and corresponding stormwater NPDES regulations, 40 CFR § 122, to meet the following requirements:

1. Effectively prohibit pollutants in stormwater discharges or other unauthorized discharges into the MS4 as necessary to comply with Maryland's receiving water quality standards;

2. Attain applicable wasteload allocations (WLAs) for each established or approved Total Maximum Daily Load (TMDL) for each receiving water body, consistent with Title 33 of the U.S. Code (USC) 1342(p)(3)(B)(iii); 40 CFR § 122.44(k)(2) and (3); and

3. Comply with all other provisions and requirements contained in this general permit, and in plans and schedules developed in fulfillment of this permit.

Compliance with the conditions contained in Parts IV and V of this permit shall constitute compliance with Section 402(p)(3)(B)(iii) of the CWA and adequate progress toward compliance with Maryland's receiving water quality standards and any stormwater WLA approved by the U.S. Environmental Protection Agency (EPA) for this permit term.

PART IV. MINIMUM CONTROL MEASURES

Permittees must ensure that the following minimum control measures (MCMs) are implemented in the jurisdiction served by the small MS4 covered under this permit. The six MCMs described below include Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post Construction Stormwater Management, and Pollution Prevention and Good Housekeeping. Specific requirements for compliance with this general permit are outlined for each MCM below. Permittees must report on the status of implementation of these required programs in accordance with the MS4 Progress Report (Appendix D).

Any permittee renewing coverage under the general permit must continue to make progress on permit requirements and report information as described below. All new permittees must begin development of programs described below within the first year of permit issuance and initiate implementation of programs thereafter. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term.

Permittees can choose to utilize partnerships or share responsibilities with other entities for compliance with any requirement of this general permit. This may entail establishing partnerships with the surrounding county or a municipality performing similar activities under the requirements of an NPDES MS4 permit. If responsibilities for permit compliance are shared

between the permittee and another entity, the relationship and specific duties of all participating entities must be described in the NOI and updated information provided in the MS4 Progress Report. However, the permittee shall remain responsible for compliance with all conditions of this general permit. For this reason, a legally binding contract, memorandum of understanding (MOU), or other similar means must be executed between the permittee and all other entities to avoid conflicts resulting from noncompliance with this general permit.

A. Public Education and Outreach

Permittees are required to implement and maintain a public education and outreach program, and distribute education materials to the community and employees to help reduce the discharge of pollutants caused by stormwater runoff. This entails developing brochures, booklets, and training programs to educate the public about the impacts of stormwater discharges on receiving waters, why controlling these discharges is important, and what the public can do to reduce pollutants in stormwater runoff. This program may be coordinated with other portions of the permittee's MS4 program or developed independent of other pollution control efforts.

Renewal permittees must update and continue to maintain their public education and outreach program. New permittees must begin development of this program within the first year of permit issuance and initiate implementation thereafter. All permittees must provide program updates in accordance with the MS4 Progress Report specified for this MCM. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term.

In order to comply with this MCM, all permittees must:

1. Develop a process by which the public can report water quality complaints that must include a phone number, within one year of permit issuance;

2. Determine the target audience within the jurisdiction and develop materials to educate the audience on the impact of stormwater. These topics may include water conservation, chemical application on lawns and landscaping, proper car wash procedures, proper disposal of paint and other household hazardous waste, recycling and trash pick-up, and proper pet waste disposal;

3. Distribute stormwater educational materials through newsletters, websites, or other appropriate methods. Submit examples of educational material to MDE in accordance with reporting requirements;

4. Develop and implement an annual employee training program that addresses appropriate topics to prevent or reduce the discharge of stormwater pollution into the MS4. Submit topics selected and attendee list to MDE in accordance with reporting requirements; and

5. Briefly describe in reports to MDE how the education programs complement and strengthen other programs of the MS4 permit.

B. Public Involvement and Participation

Permittees are required to create and foster opportunities for public participation in the MS4 management program for controlling stormwater discharges. Recommended activities include adopt-a-stream programs, public surveys, storm drain stenciling, stream cleanups, tree plantings, and Earth Day events. This program may be coordinated with other portions of the permittee's MS4 program or developed independent of other pollution control efforts.

Renewal permittees must update and continue to maintain their public involvement and participation program. New permittees must begin development of this program within the first year of permit issuance and initiate implementation thereafter. All permittees must provide program updates in accordance with the MS4 Progress Report specified for this MCM. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term.

In order to comply with this MCM, all permittees must:

1. Determine the target audience within the jurisdiction to promote public involvement and participation activities;

2. Specify activities appropriate for the target audience and promote participation;

3. Perform at least five public events during the permit term and report to MDE in accordance with reporting requirements;

4. Provide public access to the permittee's MS4 Progress Reports via website or other method and consider any substantive public comments received concerning the permittee's MS4 program; and

5. Comply with all State and federal public notice requirements for any regulated activity associated with this general permit.

C. Illicit Discharge Detection and Elimination (IDDE)

Permittees are required to develop, implement, and enforce a program to detect and eliminate illicit discharges into the MS4 in accordance with 40 CFR § 122.34(b)(3). A permittee will satisfy this MCM by field screening outfalls, inspecting the MS4 to identify sources of illicit discharges, eliminating illegal connections or illicit discharges, and enforcing penalties where appropriate. The illicit discharge program must also address illegal dumping and spills. Additional guidance is provided in Appendix B, Section II to assist permittees with the development of an acceptable IDDE program.

Renewal permittees must update and continue to maintain their IDDE program. New permittees must begin development of this program within the first year of permit issuance and initiate implementation thereafter. All permittees must provide program updates in accordance with the MS4 Progress Report specified for this MCM. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term.

In order to comply with this MCM, all permittees must:

1. Develop and maintain an updated map of the MS4 that identifies all stormwater conveyances, outfalls, stormwater best management practices (BMPs), and waters of the U.S. receiving stormwater discharges;

2. Adopt an ordinance or other regulatory means that prohibits illicit discharges into the MS4;

3. Establish and document legal means for gaining access to private property to investigate and eliminate illicit discharges (e.g., ordinance, easements);

4. Develop and implement written standard operating procedures (SOPs) that specify the following:

    a. An inspection checklist describing how outfalls are screened for dry weather flows (see Figure B.2 of Appendix B for an example of an outfall screening checklist);
    b. Screening of 20% of total outfalls per year, up to 100 outfalls;
    c. Procedures for identifying the source, and eliminating spills, illegal dumping, and other suspected illicit discharges;
    d. Identification of priority areas for illicit discharge screening based on pollution potential;
    e. Enforcement and penalty procedures;
    f. Procedures to inform employees, businesses, and the general public of the issues relating to illegal discharges and improper waste disposal; and
    g. Coordination with adjacent/interconnected MS4 operator(s).

5. Submit SOPs to MDE for review and approval within two years of permit issuance. MDE will review for consistency with guidance in Appendix B, Section II;

6. Document results of illicit discharge screening efforts, including a description of how screening locations were prioritized and any necessary follow-up investigations, enforcement, and remediation measures implemented to address any suspected discharge. Submit to MDE in accordance with reporting requirements; and

7. Maintain complete records of IDDE program investigations and make available to MDE during field reviews of the permittee's MS4 program.

D. Construction Site Stormwater Runoff Control

Permittees are required to comply with Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland and State erosion and sediment control regulations under COMAR 26.17.01. The statute and COMAR specify the requirements for any construction activity that disturbs 5,000 square feet of land area or 100 cubic yards or more of earth movement. MDE considers compliance with the State statute to be compliance with this MCM of this general permit, and 40 CFR § 122.34(b)(4).

All permittees must provide program updates in accordance with the MS4 Progress Report specified for this MCM. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term. In order to comply with State and federal laws and regulations pertaining to an acceptable erosion and sediment control program, all permittees must:

1. Adopt an MDE approved ordinance that includes a process for plan review and approval of proposed construction drawings and erosion and sediment control plans, and inspection and enforcement procedures in accordance with COMAR 26.17.01. Subsequently, any proposed amendments to the ordinance must be submitted to MDE for review and approval;

2. A municipality may accept the program that is being implemented by its respective county or the State of Maryland. Each permittee that relies on its respective county for the implementation of an erosion and sediment control program must execute a binding agreement or resolution with said county. The agreement must clarify respective roles of all parties related to plan review and approval, construction site inspections, and enforcement;

3. Require compliance with requirements under MDE's *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control* or most recent revision and COMAR 26.17.01;

4. Ensure all necessary permits have been obtained, including MDE's General Permit for Stormwater Associated with Construction Activity for projects disturbing one acre or more, and local sediment and erosion control plan approval;

5. Develop a process for receiving, investigating, and resolving complaints from any interested party related to construction activities within the jurisdiction. Notify the complainant of the investigation and findings within seven days;

6. Track all active grading permits within the jurisdiction and report to MDE the disturbed areas for all active grading permits in accordance with reporting requirements;

7. Ensure that construction site inspections and enforcement procedures are performed in accordance with COMAR. For permittees that are not delegated, this will require ongoing communication and collaboration with the enforcement authority to ensure that any violations are properly addressed;

8. Use procedures within existing municipal codes to help prevent and reduce erosion and sediment pollution into waters of the State from any construction activity. A municipality may suspend or deny the issuance of a building or grading permit when it determines that the applicant is not in compliance with an approved erosion and sediment control plan; and

9. Ensure staff is adequately trained on proper procedures and actions to address potential discharge of pollutants into the MS4 as a result of any construction activity. The Responsible Personnel Certification on-line training course through MDE must be made available to appropriate staff.

E. Post Construction Stormwater Management

Permittees are required to maintain an acceptable stormwater management program in accordance with Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland and State stormwater management regulations under COMAR 26.17.02. The statute and COMAR require that stormwater management must be addressed for new development and redevelopment for any proposed project that disturbs 5,000 square feet or more of land area. MDE considers compliance with the State statute to be compliance with this MCM of this general permit, and 40 CFR § 122.34(b)(5).

All permittees must provide program updates in accordance with the MS4 Progress Report specified for this MCM. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term. In order to comply with State and federal laws, regulations, ordinances, and procedures pertaining to an acceptable stormwater management program, all permittees must:

1. Adopt an MDE approved stormwater management ordinance that provides plan review and approval processes, and inspection and enforcement procedures that ensure proper construction and maintenance of BMPs in accordance with COMAR 26.17.02. Subsequently, any proposed amendments to the ordinance must be submitted to MDE for review and approval;

2. A municipality may accept an MDE approved stormwater program that is being implemented by its respective county. Each permittee relying on the county for the implementation of a stormwater management program must execute a binding

agreement or resolution with said county. The agreement must clarify respective roles of all parties related to stormwater plan review and approval, construction and post construction inspections, routine maintenance, enforcement, and BMP tracking;

3. Require that all new and redevelopment projects adhere to the design criteria and performance standards in the latest version of the *2000 Maryland Stormwater Design Manual, Volumes I & II* (Manual). This includes that environmental site design (ESD) be implemented to the maximum extent practicable (MEP);

4. Maintain stormwater program implementation information and provide updates in accordance with the MS4 Progress Report that include:

   a. An Urban BMP database in accordance with the database structure in Appendix B, Tables B.1.a, b, and c. This information must be annually submitted to MDE with MS4 Progress Reports;
   b. Total number of triennial inspections performed and verification that inspections occur at least once every three years;
   c. Total number of violation notices issued and status of enforcement activities; and
   d. Summary of routine maintenance activities for all publicly owned BMPs. Maintenance plans must address periodic mowing, plant composition and health, trash and debris accumulation, sedimentation and erosion, dewatering, and overall function of the BMP in accordance with approved plans. Specify any actions taken to correct problems noted during routine maintenance activities.

5. Provide training to stormwater program staff and to staff responsible for proper BMP design, performance, inspection, and routine maintenance. Report to MDE the number of trainings offered, topics covered, and number of attendees.

F. Pollution Prevention and Good Housekeeping

Permittees are required to develop and implement an operation and maintenance program that includes a training component to prevent and reduce pollutant runoff from municipal operations in accordance with 40 CFR § 122.34(b)(6). A permittee will satisfy this MCM by developing, implementing, and maintaining procedures for pollution prevention and good housekeeping on permittee owned or operated properties and roads as outlined below.

Renewal permittees must update and continue to maintain their pollution prevention and good housekeeping program. New permittees must begin development of this program within the first year of permit issuance and initiate implementation thereafter. All permittees must provide program updates in accordance with the MS4 Progress Report. MS4 Progress Reports must document program development and demonstrate full implementation of all permit requirements by the end of the five-year permit term.

In order to comply with this MCM, all permittees must:

1. Ensure that appropriate staff and contractors receive training at least annually. The training must be designed to reduce or eliminate the discharge of pollutants during municipal operations. Training may include in-person, online, toolbox talks, on-the-job, or other formats, and permittees may build on existing training activities to fulfill this requirement. Topics must include spill prevention and response, proper disposal of waste, and periodic visual inspections to detect and correct potential discharges at properties owned or operated by the permittee;

2. Develop, implement, and maintain a good housekeeping plan for permittee owned or operated properties where any of the following activities is performed: maintenance of vehicles or heavy equipment, and handling of any of the following materials: deicers, anti-icers, fertilizers, pesticides, road maintenance materials such as gravel and sand, or hazardous materials. A standard plan may be created to address multiple properties where similar activities are conducted, provided the below items are addressed. The plan must include:

    a. A description of site activities;
    b. A list of potential pollutants including their sources and locations on the site. The plan must consider conveyance of stormwater entering, flowing across, and leaving the site;
    c. Written good housekeeping procedures designed to prevent discharge of pollutants off site that include regular visual inspections to detect potential discharges;
    d. Written procedures for corrective actions to address any release, spill, or leak on site; and
    e. Documentation of any discharge, release, leak, or spill, including date, findings, and response actions.

3. Quantify and report pollution prevention efforts related to the following activities:

    a. Number of miles swept and pounds of material collected from street sweeping and inlet cleaning programs, as applicable;
    b. Good housekeeping methods for pesticide application such as integrated pest management plans or alternative techniques;
    c. Good housekeeping methods for fertilizer application such as chemical storage, landscaping with low maintenance/native species, and application procedures;
    d. Good housekeeping methods for snow and ice control such as use of pretreatment, truck calibration and storage, and salt dome storage and containment; and
    e. Other good housekeeping methods performed by the permittee not listed above.

4. Submit in the NOI a list of properties owned or operated by the permittee where the activities listed in this MCM are performed, and indicate which are covered under the Maryland General Permit for Stormwater Discharges Associated with Industrial Activity. Provide an update in annual reports if the status of industrial activity permit coverage changes for any property.

PART V. CHESAPEAKE BAY RESTORATION AND MEETING TOTAL MAXIMUM DAILY LOADS

Maryland's Watershed Implementation Plan (WIP) specifies the nutrient and sediment load reductions required to address the Chesapeake Bay TMDL by 2025. This general permit will make progress toward that strategy by requiring small MS4s to commence restoration efforts for twenty percent of existing developed lands that have little or no stormwater management. This five-year permit term requires permittees to develop planning strategies and work toward implementing water quality improvement projects. Restoration planning strategies and implementation schedules required under this general permit are consistent with addressing the water quality goals of the Chesapeake Bay TMDL by 2025. The conditions established below require permittees to perform watershed assessments, identify water quality improvement opportunities, secure appropriate funding, and develop an implementation schedule to show the twenty percent impervious area restoration requirement will be achieved by 2025. This constitutes adequate progress toward compliance with Maryland's receiving water quality standards and any stormwater WLA established or approved by EPA for small MS4s regulated under this permit.

Restoration efforts may include the use of ESD practices, structural stormwater BMPs, retrofitting, stream restoration, or other alternative restoration practices. Trading with other sectors may also be considered as another method to achieve pollutant reductions, once a program has been established, regulations are adopted, public participation requirements are satisfied, and its use is approved by EPA. Acceptable design criteria for stormwater BMPs are outlined in the Manual and MDE's 2014 *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated*, referred to hereafter as the Accounting Guidance. Appendix B of this permit provides relevant guidance from the Accounting Guidance for small MS4 permittees to comply with these requirements. A permittee must demonstrate compliance with restoration requirements by performing the following:

A. Develop a Baseline Impervious Area Assessment

Permittees must determine the total impervious surface area within their jurisdictions and delineate the portions that are treated with acceptable water quality BMPs. This analysis will provide the baseline used to calculate the twenty percent restoration requirement. This must be done in accordance with the guidance outlined in Appendix B, Section III of this permit (which is consistent with the Accounting Guidance). The impervious area baseline assessment must be submitted with the first year Progress Report for MDE review and approval. The following information must be submitted with this assessment:

1. Total impervious acres in accordance with guidance in Appendix B, Section III of this general permit;
2. Total impervious acres treated by water quality BMPs;
3. Total impervious acres treated by BMPs providing partial water quality treatment;
4. Total impervious acres treated by nonstructural practices (i.e., rooftop disconnections, non-rooftop disconnections, or vegetated swales);
5. Verification that any impervious area draining to BMPs with missing inspection records are not considered treated; and
6. Total impervious acres untreated and twenty percent of this total area (i.e., the restoration requirement).

B. Develop and Implement an Impervious Area Restoration Work Plan

Permittees must submit a work plan with the first year MS4 Progress Report to describe the activities and milestones that will be performed over the permit term to show progress toward the twenty percent impervious area restoration requirement. This will form the basis of a long term plan; however, the plan may be adjusted and refined as part of the adaptive management process over the course of the permit term. A work plan, recommended in the format of Table 1 below, must be submitted to MDE annually to describe progress and any modifications necessary to remain on track with restoration requirements. A suggested work plan is provided in Table 1. Permittees may use the work plan or develop a custom plan that addresses the unique circumstances of individual jurisdictions for MDE review and approval.

Table 1. Impervious Area Restoration Work Plan

Timeline	Management Strategies and Goals
Year 1	• Develop impervious area baseline assessment. • Develop restoration work plan for MDE review and approval. • Assess opportunities and timelines for implementing water quality BMPs. • Assess opportunities to develop partnerships with other NPDES permittees. • Determine funding needs and develop a long term budget.
Year 2	• Update and submit Urban BMP database. • Maintain inspection records for all BMPs. • Perform watershed assessments and identify water quality problems and opportunities for restoration. • Develop list of specific projects to be implemented for restoration and identify on the Restoration Activity Schedule (Table 2). • Incorporate future growth agency-wide/jurisdiction-wide master plans into restoration planning efforts. • Evaluate and refine budget needs for project implementation.

Timeline	Management Strategies and Goals
Year 3	• Update and submit Urban BMP database and documented maintenance and inspection status for all BMPs. • Develop adaptive management strategies for BMP implementation that identify opportunities for improved processes and procedures. • Continue to identify opportunities for water quality improvement projects and collaborative partnerships to meet restoration requirements.
Year 4	• Update and submit project implementation status in Table 2. • Update and submit Urban BMP database and documented maintenance and inspection status for all BMPs. • Submit narrative describing progress and updated adaptive management strategies toward implementing restoration projects.
Year 5	• Update and submit project implementation status in Table 2. • Provide complete list of specific projects needed to meet the twenty percent restoration requirement in Table 2 and include the projected implementation year (no later than 2025).

C. Develop a Restoration Activity Schedule

Permittees are required to develop a Restoration Activity Schedule (Table 2) and provide annual updates on the status of projects in the planning, construction, and final phase of implementation. A brief narrative must accompany Table 2 and describe progress of planned restoration activities. Table 2 below provides an example of how to submit the required information. The table outlines a schedule for various BMPs under different stages of implementation during the permit term. The impervious acre baseline is indicated as 100 acres and noted in year one. With the implementation of each BMP, the balance toward achieving the restoration requirement is recalculated in the Impervious Acre Restoration Target and Balance ("Imperv Acre Target and Balance") column. This plan must be continuously refined and updated over the duration of the permit term. By the end of the permit term, a complete list of projects required to meet the twenty percent restoration requirement must be provided. The projected implementation year must be no later than 2025.

Permittees may take credit for retrofit and redevelopment that has been implemented between January 1, 2006, and the beginning of the permit term. When the impervious area baseline analysis considers the drainage areas to these practices as untreated, then these projects may be credited toward impervious area restoration requirements. Credits may be reported using the Restoration Activity Schedule (Table 2) discussed below.

Impervious acre credits are based on the level of water quality treatment provided. When water quality BMPs treat one inch of rainfall, the impervious acres draining to the BMP will be considered restored. When the rainfall treated is less than one inch, a proportional acreage will be calculated for impervious acres treated based on the percentage of one inch of rainfall treated. When the rainfall treated is greater than one inch, credit is granted according to the Accounting Guidance. When alternative BMPs are

implemented, acreage may be calculated based on an impervious acre equivalent identified in Appendix B, Table B.4. Additional information on BMP implementation and impervious acre credits may be found in the Accounting Guidance.

Table 2. Restoration Activity Schedule (Example)

Type of Restoration Project	BMP[1] Code	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
				100				
Dry pond retrofit to wet	PWET	1,500	36	64	UC			
Bioretention	FBIO	260	6	58	P			
Bioswale	MSWB	100	2	56	P			
Dry pond retrofit to wet	PWET	800	10	46	P			
BMP retrofit	PWET	500	8	38	P			
Redevelopment	REDE	300	5	33	P			
Rain Gardens (4)	MRNG	20	2	31	P			
Disconn rooftop r/o	NDRR	200	10	21	P			
Stream restoration (1,000 linear feet)	STRE	500	10	11	P			
Outfall Stabilization	OUT	200	2	9	P			
Shallow marsh	WSHW	150	4	5	P			
Reforestation on Imperv	IMPF	100	3	2	P			
Green Roof, extensive	AGRE	100	0.5	1.5	P			
Perm pavement on existing pavement	APRP	150	2	-0.5	P			

[1] See Appendix B, Tables B.1.a, b, and c, Urban BMP database. BMP codes are identified under "MDE BMP Classification"

[2] Provide cost at project completion

[3] Project Status: Enter P for planning and design, UC for under construction, and C for complete

D. BMP Database Tracking

Permittees are required to develop a BMP inventory consistent with the required fields outlined in the BMP Database provided in Appendix B, Tables B.1.a, b, and c. A brief narrative must accompany the BMP database and provide verification that routine inspection and maintenance activities are up to date. The database fields for inspection and maintenance need to be completed and show that BMPs are inspected every three years and properly maintained. If the required inspection and maintenance data are missing or incomplete then any credit previously applied must be removed.

PART VI. EVALUATION AND ASSESSMENT, RECORDKEEPING, REPORTING, AND PROGRAM REVIEW

A. Evaluation and Assessment

The permittee must evaluate progress toward achieving compliance with all permit requirements, and the appropriateness of implemented BMPs. This must be achieved through reporting to MDE as specified in Part VI.C below.

B. Recordkeeping

The permittee must keep records for at least three years after the termination of this general permit. In addition to the information required in MS4 Progress Reports specified below, permittees must submit any additional supporting documentation at the request of MDE. The permittee must make its MS4 program information, including records, available to the public during regular business hours.

C. Reporting

1. The required information specified in the MS4 Progress Report in Appendix D must be completed each year as described in this section. The reporting period must be based on State fiscal year, i.e., July 1 – June 30. MS4 Progress Reports are due no later than October 31 of each year with the first report due October 31, 2019.

2. Annually, the permittee must submit a report to MDE that evaluates progress toward meeting the twenty percent impervious area restoration requirement specified in Part V above. Restoration activity described in the MS4 Progress Report must be completed and include:

    a. An impervious area baseline analysis in accordance with Part V.A and the guidance in Appendix B, Section III. This analysis must be submitted with the first year MS4 Progress Report for MDE review and approval;
    b. The Impervious Area Restoration Work Plan (Table 1 or other format) must be submitted with the first year MS4 Progress Report and in annual updates. The work plan must include a narrative discussing progress made toward restoration efforts and a description of adaptive management strategies necessary to keep proposed implementation efforts on track;
    c. An updated Restoration Activity Schedule in accordance with Table 2 must be submitted annually. By the end of the permit term, a complete list of projects required to meet the twenty percent restoration requirement must be specified in Table 2. The projected implementation year must be no later than 2025; and
    d. An updated Urban BMP database in accordance with Appendix B, Tables B.1.a, b, and c in electronic format and a brief narrative discussing

progress made toward completing the database and performing routine maintenance and inspections.

3. Reporting for the six MCMs specified in Part IV must be submitted in years 2 and 4 of the permit term and include all information requested in the MS4 Progress Report in Appendix D.

D. Program Review

In order to assess the effectiveness of the permittee's NPDES program for eliminating non-stormwater discharges and reducing the discharge of stormwater pollutants to the MEP, MDE will review program implementation as described in MS4 Progress Reports. Procedures for the review of local erosion and sediment control and stormwater management programs exist in Maryland's sediment control and stormwater management laws. Additional reviews of MCM implementation and the twenty percent restoration requirement may be conducted at any time to determine compliance with permit conditions.

PART VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The permittee must comply with all conditions of this general permit. Any permit noncompliance constitutes a violation of the CWA and is grounds for enforcement action, permit coverage termination, revocation, or modification. The permittee must comply at all times with the provisions of the Environment Article, Title 4, Subtitles 1, 2, and 4; Title 7, Subtitle 2; and Title 9, Subtitle 3, Annotated Code of Maryland.

B. Failure to Notify

Agencies engaging in an activity under this general permit that fail to notify MDE of their intent to be covered under this general permit as described in Part II and who discharge to waters of the State without submitting an NOI application are in violation of the Environment Article, Annotated Code of Maryland and may be subject to penalties.

C. Limitations on Coverage

1. The following categories of non-stormwater discharges or flows must be addressed where such discharges are identified by the permittee as sources of pollutants to waters of the U.S.: landscape irrigation, diverted stream flows, rising groundwater, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, foundation drains, air conditioning condensate, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering runoff, flows from riparian habitats and wetlands, residual street wash water, and discharges or flows from fire fighting activities.

2. Non-stormwater sources, stormwater associated with industrial activity, or discharges associated with construction activities may be authorized to discharge via the municipal separate storm sewer system if such discharges are specifically authorized under an applicable NPDES discharge permit.

3. Only stormwater discharges from municipal separate storm sewer systems are authorized to discharge under this general permit.

D. Penalties Under the CWA - Civil and Criminal

For violations of this permit, the permittee is subject to civil and criminal penalties as set forth in 33 U.S.C. 1319(c) and (d) of the Clean Water Act, as adjusted for inflation according to 40 CFR § 19.4.

E. Penalties Under the State's Environment Article - Civil and Criminal

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from civil or criminal responsibilities and/or penalties for a violation of Title 4, Title 7, and Title 9 of the Environment Article, Annotated Code of Maryland, or any federal, local, or other State law or regulation. Section 9-342 of the Environment Article provides that a person who violates any condition of this permit is liable to a civil penalty of up to $10,000 per violation, to be collected in a civil action brought by MDE, and with each day a violation continues being a separate violation. Section 9-342 further authorizes MDE to impose upon any person who violates a permit condition, administrative civil penalties of up to $10,000 per violation, up to $100,000.

Section 9-343 of the Environment Article provides that any person who violates a permit condition is subject to a criminal penalty not exceeding $25,000 or imprisonment not exceeding one year, or both for a first offense. For a second offense, Section 9-343 provides for a fine not exceeding $50,000 and up to two years imprisonment.

The Environment Article, Section 9-343, Annotated Code of Maryland, provides that any person who tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $50,000 per violation, or by imprisonment for not more than two years per violation, or both.

The Environment Article, Section 9-343, Annotated Code of Maryland, provides that any person who knowingly makes any false statement, representation, or certification in any records or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $50,000 per violation, or by imprisonment for not more than two years per violation, or both.

F. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

G. Continuation of an Expired General Permit

An expired general permit continues in force and effect for all permittees covered under this general permit until a new general permit is issued or the general permit is revoked or withdrawn. Coverage for new permittees may not be granted under an expired general permit.

H. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment and is in violation of this general permit.

I. Duty to Provide Information

The permittee shall furnish to MDE any information that may be requested to determine compliance with this general permit. The permittee shall also furnish to MDE, upon request, copies of records required to be maintained in compliance with the conditions of this general permit.

J. Other Information

When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to MDE, it shall promptly notify MDE of the facts or information.

K. Requiring an Individual Permit

1. MDE may require any jurisdiction to apply for and/or obtain an individual NPDES permit. When MDE requires a jurisdiction to apply for an individual NPDES permit, MDE will provide notification in writing that an application is required. This notification shall include a brief statement of the reasons for the decision, an application form, and a deadline for filing the application. Applications must be submitted to MDE. MDE may grant additional time to submit an application upon request of the applicant.

2. Any jurisdiction designated for coverage under this general permit may request to be excluded from the coverage of this general permit by applying for an individual permit. In such cases, the jurisdiction must submit to MDE an

individual application in accordance with the requirements of 40 CFR § 122.26(c)(1)(ii), with reasons supporting the request.

3. When an individual NPDES permit is issued to a jurisdiction designated for coverage under this general permit, the applicability of this general permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit. When an individual NPDES permit is denied to a jurisdiction otherwise subject to this general permit, then coverage under this general permit may be terminated by MDE.

L. Property Rights

The issuance of this general permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of federal, State, or local laws or regulations.

M. Severability

The provisions of this general permit are severable. If any provision of this general permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this general permit to any circumstances is held invalid, its application to other circumstances shall not be affected.

N. Permit Actions and Reopener Clause

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition. The Environment Article, Section 9-330, Annotated Code of Maryland, provides that MDE may revoke coverage under this permit if it finds that:

1. False or inaccurate information was contained in the application;

2. Conditions or requirements of the discharge permit have been or are about to be violated;

3. Substantial deviation from the requirements has occurred;

4. MDE has been refused access for the purpose of inspecting to ensure compliance with the conditions of the discharge permit;

5. A change in conditions exists that requires temporary or permanent reduction or elimination of the permitted discharge;

6. Any State or federal water quality stream standard or effluent standard has been or is threatened to be violated; or

7. Any other good cause exists for revoking the discharge permit.

8. If there is evidence indicating that the stormwater discharges authorized by this general permit cause, or have the reasonable potential to cause or contribute to, a violation of a water quality standard, the permittee may be required to obtain an individual permit or the general permit may be modified to include specific limitations and/or requirements. Permit modification or revocation will be conducted according to 40 CFR § 122.62, 122.63, 122.64, and 124.5.

O. Signature of Authorized Administrator and Jurisdiction

All NOIs, annual reports, and information submitted to MDE shall be signed as required by COMAR 26.08.04.01-1 and 40 CFR § 122.22. As in the case of municipal or other public properties, signatories shall be a principal executive officer, ranking elected official, or other duly authorized employee.

P. Inspection and Entry

The permittee shall allow representatives of MDE and EPA access at reasonable times to conduct an inspection of a regulated property or activity, or to review records that must be kept as a condition of this permit.

Q. Proper Operations and Maintenance

The permittee shall properly operate and maintain all BMPs and controls which are used to achieve compliance with the conditions of this permit.

R. Reporting Requirements

The permittee shall report any non-compliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time when the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times; if the non-compliance has not been corrected, the anticipated time that it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the non-compliance.

PART VIII. AUTHORITY TO ISSUE GENERAL NPDES PERMITS

In compliance with the provisions of the CWA, as amended (33 USC 1251 et seq. the Act), agencies that are defined in Parts I.B.1 and I.B.2 of this general permit and that submit an NOI in accordance with Part II of this general permit are authorized to discharge in accordance with the conditions and requirements set forth herein.

D. Lee Currey
Director
Water and Science Administration

April 27, 2018
Date

APPENDIX A

Maryland Designation Criteria for Small Municipal Separate Storm Sewer Systems

Appendix A

Maryland Designation Criteria for Small Municipal Separate Storm Sewer Systems

Phase I of the U.S. Environmental Protection Agency's (EPA) stormwater program was promulgated in 1990 under the Clean Water Act (CWA). This program relies on National Pollutant Discharge Elimination System (NPDES) permit coverage to address polluted discharges from stormwater runoff from medium and large municipal separate storm sewer systems (MS4s) that serve populations of 100,000 or more. The Phase II program expands Phase I by requiring owners and operators of "small" MS4s in urbanized areas to implement programs to control stormwater runoff through the use of an NPDES permit. A small MS4 can be municipally owned, but can also apply to State and federal agencies, and include transportation, universities, local sewer districts, hospitals, military bases, and prisons. This appendix describes the designation criteria for regulating small MS4 municipalities and State and federal properties.

Small Municipal Separate Storm Sewer Systems Permit Area

Parts I.A and I.B of the General Permits for Discharges From Small Municipal Separate Storm Sewer Systems for municipalities and for State and federal properties specify that small MS4s in the State of Maryland are regulated if located within the following geographical areas:

1. **Urbanized areas as determined by the latest Decennial Census by the U.S. Census Bureau**. Coverage is required for owners or operators of small MS4s located within the boundaries of an "urbanized area" (UA) based on the 2010 Decennial Census in accordance with 40 CFR § 122.32(a)(1). A map of designated urbanized areas is located at the following website: www.epa.gov/npdes/urbanized-area-maps-npdes-ms4-phase-ii-stormwater-permits

2. **Other areas designated by MDE.** MDE has developed a set of designation criteria for small municipalities located outside of urbanized areas in accordance with 40 CFR § 122.26(a)(9) and 123.35(b)(2).

MS4 General Permit Waiver Criteria

The Code of Federal Regulations specifies that certain municipalities may be waived from permit coverage under the following conditions:

1. An MS4 serves a population of less than 1,000 within the urbanized area and does not contribute substantially to the pollutant loadings of a physically interconnected regulated MS4 and stormwater controls are not needed based on wasteload allocations (WLAs) in an EPA approved or established total maximum daily load (TMDL); or

2. An MS4 serves a population of less than 10,000 and the permitting authority has evaluated receiving waters and determined that additional stormwater controls are not needed based on WLAs associated with an EPA approved TMDL or, if a TMDL has

not been approved, an equivalent analysis that determines sources and allocations for the pollutants of concern; and has determined that future discharges from the MS4 do not have the potential to result in exceedances of water quality standards or other significant water quality impacts.

In addition to the above waiver criteria, municipalities that discharge stormwater runoff combined with municipal sewage (i.e., combined sewer systems (CSS)) are point sources that are not subject to MS4 requirements (40 CFR § 122.26(a)(7)).

Table A.1 below provides a list of all Maryland counties and their municipalities that are required to be regulated under the MS4 program. The municipalities designated for Phase II MS4 general permit coverage are identified in the table based on the criteria herein. A municipality may request co-permittee status with its respective Phase I or Phase II county. Approximately 40 small municipalities are currently regulated through the MS4 NPDES program as co-permittees within Carroll, Montgomery, and Prince George's Counties.

Table A.1. Phase II MS4 General Permit Designation by County

Counties and Baltimore City	Jurisdictions Designated for Phase II MS4 Coverage	Justification
Allegany	N/A	County has CSS
Anne Arundel	Annapolis	City is located w/in UA
Baltimore	N/A	Phase I permit covers entire county
Baltimore City	N/A	Phase I permit covers entire city
Calvert	Calvert County*	County is located w/in UA and meets MDE designation criteria
Caroline	N/A	Not located w/in UA
Carroll	N/A	Phase I permit covers all municipalities
Cecil	Cecil County, Elkton, North East*, Perryville*, and Rising Sun*	County and municipalities are located w/in UA; County also meets MDE designation criteria
Charles	Indian Head* and La Plata*	Towns are located w/in UA
Dorchester	N/A	Not located w/in UA
Frederick	Brunswick, Emmitsburg, Frederick, Middletown, Mount Airy, Myersville, Thurmont, and Walkersville	Middletown, Mount Airy, and Walkersville are located w/in UA; Brunswick, Emmitsburg, Thurmont, and Myersville meet MDE designation criteria
Garrett	N/A	Not located w/in UA
Harford	Aberdeen, Bel Air, and Havre de Grace	Towns and city located w/in UA
Howard	N/A	Phase I permit covers entire county
Kent	N/A	Not located w/in UA
Montgomery	Gaithersburg, Rockville, and Takoma Park	Cities are located w/in UA; Phase I permit covers all other municipalities
Prince George's	Bowie	City is located w/in UA; Phase I permit covers all other municipalities
Queen Anne's	Queen Anne's County*	County is located w/in UA and meets MDE designation criteria
St. Mary's	St. Mary's County*	County is located w/in UA and meets MDE designation criteria
Somerset	N/A	Not located w/in UA
Talbot	Easton*	Town meets MDE designation criteria
Washington	Washington County, Boonsboro*, Hagerstown, Smithsburg, and Williamsport*	County and municipalities are located w/in UA; County also meets MDE designation criteria
Wicomico	Wicomico County*, Fruitland*, and Salisbury	County and cities are located w/in UA; County also meets MDE designation criteria
Worcester	N/A	Not located w/in UA

* Indicates a county or municipality newly designated for coverage as a Phase II small MS4

Eligible State and Federal Properties for MS4 Permit Coverage

The definition of a small MS4 is noted under 40 CFR § 122.26(b)(16)(iii), and specifies these are: "[o]wned or operated by the United States, a State, city, town, borough, county, parish district, association, or other public body" and are "systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospitals or prison complexes, and highways or other thoroughfares". Therefore, the CFR definition of a small MS4 indicates that regulated State and federal properties are similar to municipal systems. EPA clarifies that regulated small MS4s should be those that provide stormwater drainage service to human populations, and not to individual buildings (64 Federal Register 68749).

Other available documentation such as federal guidance defining urban areas and literature describing water resource impacts from developed lands are also an important consideration when determining eligibility criteria. For example, the U.S. Census Bureau defines "Nonresidential Urban Territory" in the Federal Register (volume 76, no. 164, August 24, 2011) as those areas that contain a "high degree of impervious surface", or twenty percent impervious area, and are within 0.25 miles of an urban area. Furthermore, documentation that evaluates the potential for properties to contribute pollutants to the MS4 is also considered. For example, *Impacts of Impervious Cover on Aquatic Systems* (Center for Watershed Protection, 2003) indicates that in-stream water quality declines when watershed impervious cover exceeds ten percent.

Based on this information, MDE has determined that an impervious area threshold is appropriate for establishing eligibility criteria for government properties for which agencies are required to obtain MS4 general permit coverage. Eligible properties will be those that have greater than ten percent impervious area. This is a conservative threshold when compared to the U.S. Census Bureau's urban area definition for non-residential urban territory, and considers water quality and natural resource protection. This threshold will allow the focus of the small MS4 program to concentrate on the most developed properties, such as military bases, hospitals, prison complexes, and highways, and is consistent with the intent of federal regulations.

MS4s eligible for coverage under this general permit include those properties that:

1. Are owned or operated by the State of Maryland or the U.S. and located within an urbanized area; and

2. Serve developed land area greater than five acres and have at least ten percent impervious area property wide; or

3. Are already covered under an NPDES small MS4 Phase II general permit.

State and Federal MS4 General Permit Waiver Criteria

MDE may grant a waiver from permit coverage if a State or federal agency does not own or operate a system of conveyances on a property, consistent with the intent of EPA guidelines described above. The owner or operator must demonstrate that the property:

1. Is comprised of very discrete areas, such as individual buildings. For example, a small property containing few buildings that have associated parking and driveways with storm drains directly connected to a surrounding MS4 may be eligible for a waiver. On the other hand, properties with numerous buildings, interior roads, and interior storm sewer infrastructure would not qualify for a waiver; and

2. Does not discharge a significant amount of pollutants from its MS4; or

3. Is not a military base, large hospital complex, prison complex, highway, or thoroughfare, and meets MDE's waiver criteria one or two above.

A State or federal agency that owns or operates any property that meets the eligibility criteria above and is not eligible for a waiver must file an NOI and obtain coverage under the NPDES program and comply with all terms and conditions of this MS4 permit. A list of potential State and federal agencies that may be affected by the eligibility criteria is available in the general permit. Permittees may file joint applications and share responsibilities in an effort to efficiently comply with permit requirements.

Summary

In accordance with the CWA, the criteria described above will require general permit coverage for the small municipalities and State and federal properties that have the greatest likelihood of causing discharge of polluted stormwater runoff. Regulating these small MS4s under the NPDES program will allow implementation of stormwater programs to protect water quality. MDE will consider additional information from municipal, State, or federal MS4 owners or operators regarding eligibility of permit coverage, such as high population and growth areas, as well as whether a system discharges to sensitive waters, is contiguous to other regulated systems, or is a significant contributor of pollutant loadings to a physically interconnected MS4 that is regulated by the NPDES program.

Table A.2. Federal Agencies Potentially Eligible for Permit Coverage

Federal Agency	Property Name
Amtrak	Multiple properties
Architect of the Capitol	Library of Congress*
Army Reserves	1SG Adam S Brandt Memorial (Curtis Bay)*, Jachman USARC*, Jecelin USARC #1*, Prince George's County Memorial USARC*
Dept of Agriculture	Beltsville Agricultural Research Center* and National Plant Germplasm & Biotechnology Lab*
Dept of Defense, Air Force	Joint Base Andrews*
Dept of Defense, Army	Aberdeen Proving Grounds*, Fort Detrick*, Adelphi Lab*, Fort George G. Meade*, Washington Aqueduct*, and multiple properties
Dept of Defense, Navy	Indian Head*, Bethesda*, Carderock*, Naval Academy*, and multiple properties
Federal Bureau of Prisons	Multiple Properties
National Security Agency	Fort Meade* and Friendship Annex
Dept of Homeland Security	FLETC Cheltenham Training Center* and multiple properties
National Park Service	Multiple properties
Dept of Veterans Affairs (VA)	Multiple properties (VA hospitals)
General Services Administration	Multiple properties
National Aeronautics and Space Administration	Goddard Space Flight Center*
National Institutes of Health	Bethesda Campus* and multiple properties
National Institute of Standards & Technology	Gaithersburg Campus*
Smithsonian Support Center	Suitland property
U.S. Coast Guard	Multiple properties
U.S. Postal Service	William F. Bolger Center* and multiple properties

* Indicates a federal property or agency currently regulated under the Phase II small MS4 program

Table A.3. State Agencies Potentially Eligible for Permit Coverage

State Agency	Property Name
MD Air National Guard	Multiple properties*
MD Army National Guard	Multiple properties*
MD Aviation Authority	Martin State Airport* and multiple properties
MD Dept of General Services	Ellicott City District Court* and multiple properties
MD Dept of Health	Multiple properties
MD Dept of Juvenile Services	Multiple properties
MD Dept of Public Safety & Correctional Services	Multiple properties
MD Dept of Transportation, Motor Vehicle Administration	Multiple properties* including Glen Burnie*
MD Dept of Transportation, Port Administration	Multiple properties*
MD Dept of Transportation, Transit Administration	Multiple properties*
MD Dept of Transportation, Transportation Authority	Multiple properties*
MD Food Center Authority	Multiple properties
MD National Capital Parks & Planning	Montgomery* and Prince George's Parks
MD School for the Deaf	Columbia and Frederick campuses
MD Stadium Authority	Camden Yards Sports Complex*
MD State Police	Multiple properties
Universities	Towson University*, University of Maryland - College Park*, and numerous additional campuses
Washington Metropolitan Area Transit	Multiple Metro stations*
Washington Suburban Sanitary Commission	Multiple properties*

* Indicates a State property or agency currently regulated under the Phase II small MS4 program

APPENDIX B

Compliance with General Permit Requirements for Small Municipal Storm Sewer Systems

Appendix B

Compliance with General Permit Requirements for Small Municipal Separate Storm Sewer Systems

The Maryland Department of the Environment (MDE) has issued two general discharge permits for small Municipal Separate Storm Sewer Systems (MS4s): one for small municipalities and another for State and federal agencies. These two permits require that management programs be developed to effectively control the discharge of pollutants from stormwater runoff and improve water quality. These small MS4 general permits are issued in accordance with the Clean Water Act (CWA) and corresponding National Pollutant Discharge Elimination System (NPDES) regulations, 40 Code of Federal Regulations (CFR) § 122.26. The permits establish the minimum requirements for municipal and State and federal agencies eligible for coverage under the NPDES program. This appendix provides guidance and additional information related to compliance with permit requirements. The guidance is organized into three sections as follows:

Section I: *Describes management options for permit compliance;*

Section II: *Provides guidance for developing an illicit discharge detection and elimination program; and*

Section III: *Provides guidance for developing and implementing a restoration program to meet Chesapeake Bay water quality goals by 2025.*

Section I. Management Options for Permit Compliance

According to 40 CFR § 122.30, the U.S. Environmental Protection Agency (EPA) strongly encourages partnerships and the watershed approach as the management framework for efficiently, effectively, and consistently protecting water quality and restoring aquatic ecosystems. This regulation offers flexibility to regulated owners and operators for complying with permit requirements. Therefore, the following options may be considered by small MS4s during planning and implementation efforts. This will allow government entities and small municipalities to combine resources and collaborate with other NPDES programs to most effectively and efficiently achieve the water quality goals intended in the CWA.

A. Options for filing a Notice of Intent (NOI) Application.

MDE will allow multiple options for filing an NOI to receive permit coverage. An NOI application may represent an individual jurisdiction or one or more co-permittees.

B. Qualifying Local Programs (State or local).

An applicant may develop programs to comply with all minimum control measures independently, or rely on another responsible entity, or rely on a qualifying local program to comply with permit requirements. Maryland has existing State statutes and local ordinances in place that already require implementation of specific management

measures that are more stringent than the conditions in 40 CFR § 122. Therefore, the statewide regulatory requirements under the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland for erosion and sediment control and Title 4, Subtitle 2 for stormwater management are considered to be "qualifying local programs". Compliance with these laws will meet the "Construction Site Stormwater Runoff Control" and "Post Construction Stormwater Management" permit requirements. The permittee remains responsible for the implementation of these measures through compliance with Maryland's erosion and sediment control and stormwater management laws.

C. Sharing Responsibility.

A permittee may rely on another entity such as a State, federal, or municipal partner to satisfy one or more of the permit obligations. All permit obligations of each entity must be noted in the NOI submitted to MDE according to Part II of this general permit and 40 CFR § 122.35. Other responsible entities must implement control measures that are at least as stringent as the corresponding requirements found in this NPDES general permit. Additionally, the other entity must agree to implement the minimum control measures on the permittee's behalf. However, the permittee remains responsible for all regulatory obligations. Therefore, MDE encourages the permittee to enter into a legally binding agreement such as a memorandum of understanding with the other entity to minimize uncertainty about compliance with the permit. This information must be specified in the NOI (Appendix C).

Section II. Illicit Discharge Detection and Elimination (IDDE) Program Guidance

Small municipalities and State and federal agencies covered under this NPDES MS4 permit are required to implement an IDDE program. The goal of this program is to find and eliminate pollutants entering the MS4. IDDE program activities include mapping the stormwater conveyance system, inspecting outfalls to discover polluted discharges, investigating the source of pollution, and taking steps to eliminate the discharge, which may include enforcement actions. Permittees are required to develop SOPs that detail the steps to implement these activities. This section provides guidance that permittees may use as a starting point to develop and implement their programs.

A discharge to an MS4 is illicit if it is not composed entirely of stormwater (40 CFR § 122.26(b)(2)). Illicit discharges can originate from a number of different types of sources, including incorrect plumbing, broken infrastructure, inappropriate business practices, and illegal dumping. For example, sanitary sewer lines or car wash drains may be connected to the MS4 instead of the sanitary sewer system. Drinking water lines or sanitary sewer pipes may be broken and leaking effluent into the MS4. Businesses may be inappropriately washing vehicles, allowing wash water to drain into stormwater inlets. Illicit discharges may also result from purposeful dumping of pollutants into an MS4.

A. Mapping

As part of their IDDE programs, permittees must develop a map of the MS4 that they own or operate. Map features must include stormwater conveyances, outfalls, stormwater best management practices (BMPs), and waters of the U.S. receiving stormwater discharges. As defined in 40 CFR § 122.26(b)(9), an outfall is a point source "at the point where a municipal separate storm sewer discharges to waters of the United States" (see Figure B.1). Mapping outfalls, stormwater conveyances, and stormwater BMPs will assist the permittee with tracking the source of a suspected illicit discharge. In addition, permittees must add the locations of private outfalls as they are discovered in the field to allow more effective coordination with private property owners, document hotspots, and identify and require the elimination of third party discharges. In this permit term, permittees may prioritize their initial mapping efforts to areas with a higher potential to pollute, such as areas that are urbanized, commercial, or rapidly developing.

Figure B.1. *The above outfalls are examples of different types of outfalls that must be identified on MS4 maps and included in the permittee's screening program. Areas with highly developed land uses (e.g., commercial business complexes, aging infrastructure) have a greater potential to pollute and must be prioritized. Structural stability and erosion concerns must also be identified as part of an effective IDDE program.*

If submitting a map would compromise the operational security of a State or federal agency, the agency may indicate that the map is available for MDE review on site.

B. Standard Operating Procedures

Permittees must develop SOPs that outline methods to conduct dry weather outfall inspections, locate the source of a suspected illicit discharge, and address illicit discharges. Program implementation as detailed in the SOPs can be prioritized in the areas that have a higher potential to pollute (e.g., urbanized, commercial, or areas with older stormwater infrastructure) and must include a long-term schedule for completing a jurisdiction-wide map. The SOPs must identify the number of outfalls to be investigated per year and include an inspection checklist to document the outfall screening. A good resource for developing the IDDE program and field checklist is found in the 2004 *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, authored by the Center for Watershed Protection and Dr. Robert Pitt. Figure B.2, the "Outfall Reconnaissance Inventory/Sample Collection Field Sheet", is one of several tools permittees may choose to use in their own programs. This checklist will assist a permittee in identifying any potential illicit discharge, determining the need for a more in-depth investigation, and noting any other outfall maintenance needs (e.g., cracks, erosion, excessive vegetation).

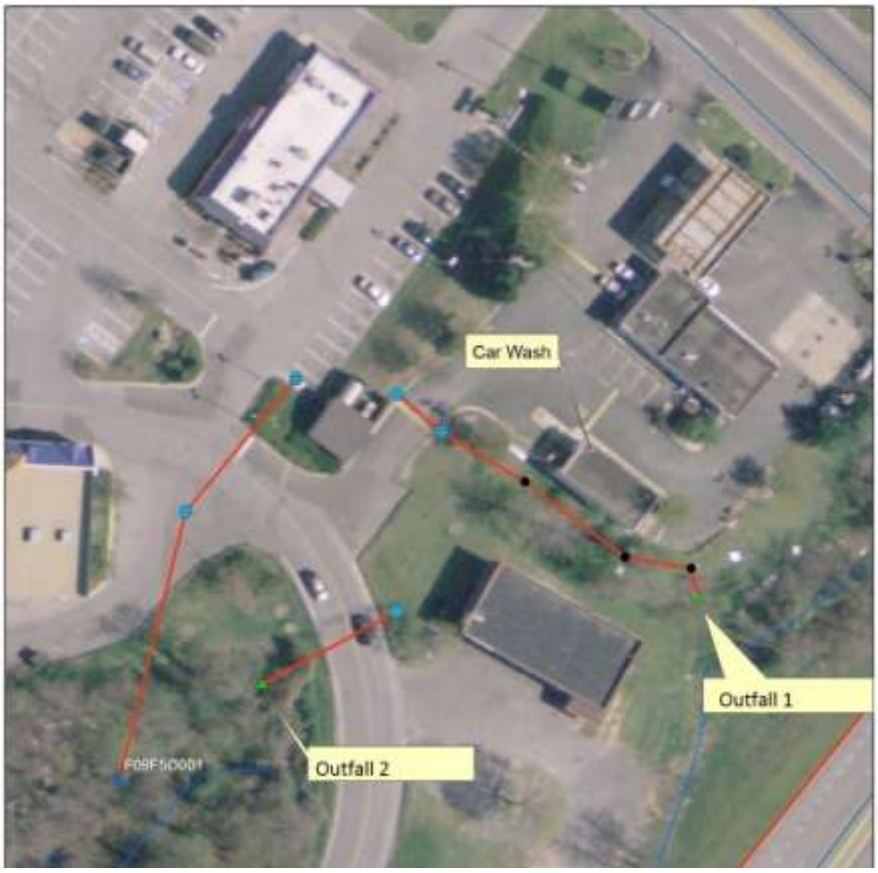
A Phase II MS4 municipality must screen 20% of total outfalls per year, up to 100 outfalls. Screening efforts for State and federal properties are tiered based on property size. For small properties (i.e., less than 100 acres), all outfalls must be screened each year. Medium size properties (i.e., 100 - 2,000 acres) must screen 50% of total outfalls. Large properties (i.e., more than 2,000 acres) must screen 20% per year, up to 100 outfalls. A tiered approach takes into consideration the scale of each State or federal property. For example, a small property with a total of five outfalls is expected to screen all five outfalls per year. Likewise, larger properties may screen a smaller percentage per year to account for the increased effort a greater number of outfalls would require.

C. Illicit Discharge Investigation

A dry weather screening is an outfall inspection conducted at a time when rain has not occurred recently, e.g., within the past 48 hours. During a period of dry weather, it is expected that any observed flow would be the result of some type of discharge other than precipitation. In some cases, the permittee may find that an outfall is not a useful inspection point to detect an illicit discharge (e.g., outfall is submerged, significant groundwater flow is present, the outfall serves a large drainage area). In these cases, the permittee has the discretion to pick an inspection point further up the system (e.g., a manhole or inlet, inflow to a stormwater BMP, or point source discharge in a commercial or industrial area) and document the adjustment in the inspection report. MDE encourages approaches where the permittee conducts screenings closer to the source of potential illicit discharges. When a dry weather flow is observed, a permittee must initiate an investigation to discover the source. If the source is determined to be illicit, the permittee is required to take corrective measures to eliminate the discharge and initiate enforcement actions when necessary. Two examples of illicit discharge

investigations are provided below to illustrate outfall identification, mapping, and discharge source tracking. These examples are taken from a Phase I MS4 annual report.

Example 1: Illicit Discharge Investigation for Discovered Wash Water



During a dry weather screening of Outfall 1, a flow was observed dripping into green sudsy water that had an oily odor. A chemical test indicated a high level of detergents. In the process of tracking the source, a high level of detergents was detected at Outfall 2, as well. The source was traced to a car wash that was believed to be discharging wash water into the MS4.

Example 2: Illicit Discharge Investigation for Detergents

A dry weather flow was discovered at the outfall of a stormwater BMP. A chemical test revealed the presence of chlorine and a high pH. A chemical test at the pond inflow indicated a high level of detergents. Upslope manholes were inspected to determine the path of the discharge. Starting at the point of discharge and inspecting contributing segments of stormwater conveyance pipes (sometimes called a trunk investigation), a single point of flow that exceeded the acceptable level of detergents was isolated. The investigation revealed that the source of the discharge was located within the segment connected to inlets protected by berms on a private commercial business property yard.

D. Illicit Discharge Elimination and Enforcement

After identifying the source of an illicit discharge, a municipal permittee is required to provide notice to the property owner and require that the responsible party takes appropriate action to eliminate the source of the illicit discharge. The permittee may exercise its legal authority to access the property and utilize enforcement. State and federal permittees are required to take appropriate action to eliminate the source of the illicit discharge. These IDDE investigation procedures and enforcement actions must be specified in the permittee's SOPs.

Figure B.2. Outfall Reconnaissance Inventory/Sample Collection Field Sheet
(from Center for Watershed Protection and Pitt, 2004)

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.): Last 24 hours:	Last 48 hours:	
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	

Land Use in Drainage Area (Check all that apply):

- ☐ Industrial
- ☐ Ultra-Urban Residential
- ☐ Suburban Residential
- ☐ Commercial
- ☐ Open Space
- ☐ Institutional
- Other: _____
- Known Industries: _____

Notes (e.g., origin of outfall, if known):

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Eliptical ☐ Box ☐ Other: ____	☐ Single ☐ Double ☐ Triple ☐ Other: ____	Diameter/Dimensions: _____	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ Open drainage	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other: ____	☐ Trapezoid ☐ Parabolic ☐ Other: ____		Depth: ____ Top Width: ____ Bottom Width: ____	
☐ In-Stream	(applicable when collecting samples)				
Flow Present?	☐ Yes ☐ No *If No, Skip to Section 5*				
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER		RESULT	UNIT	EQUIPMENT
☐Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No *(If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 – Faint	☐ 2 – Easily detected	☐ 3 – Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 – Faint colors in sample bottle	☐ 2 – Clearly visible in sample bottle	☐ 3 – Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 – Slight cloudiness	☐ 2 – Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 – Few/slight; origin not obvious	☐ 2 – Some; indications of origin (e.g., possible suds or oil sheen)	☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☐ No *(If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	☐ Yes	☐ No	
2. If yes, collected from:	☐ Flow	☐ Pool	
3. Intermittent flow trap set?	☐ Yes	☐ No	If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Figure B.2. Outfall Reconnaissance Inventory/Sample Collection Field Sheet
(from Center for Watershed Protection and Pitt, 2004)

Section III. Guidance for Impervious Area Restoration Program Development

Small MS4 owners and operators covered under this NPDES general permit are required to commence impervious area restoration for twenty percent of existing developed lands that have little or no stormwater management by the end of the permit term. This requirement supports the Maryland Watershed Implementation Plan (WIP) strategy for achieving nutrient and sediment load reductions on small MS4 properties to address Chesapeake Bay and local total maximum daily loads (TMDLs). Guidance for implementing restoration activities is available in the 2014 MDE document *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated*, hereafter referred to as the Accounting Guidance. While the most recent version of the Accounting Guidance should be referenced by all stormwater permittees, the method below highlights the most relevant information from that document for small MS4 owners and operators. This provides a clear outline for compliance with impervious area restoration for small MS4s.

A. Establishing Baselines: Impervious Surface Area Assessment

Permittees must develop an impervious surface area baseline assessment and delineate the areas that are treated with acceptable water quality BMPs to the maximum extent practicable (MEP). This analysis will provide the baseline used to calculate the twenty percent restoration requirement. The following information is needed for this assessment:

1. Land Use and Impervious Surface Area Analysis: Evaluate the total impervious surface within a permittee's regulated permit area using the best available land use data that can be generated from the same source from year to year. Small MS4 counties may determine baselines according to the impervious surfaces within the urbanized area of that jurisdiction.

BMPs designed in compliance with the water quality volume (WQ_v) treatment criteria found in the *2000 Maryland Stormwater Design Manual, Volumes I & II* (Manual) are considered to provide water quality treatment to the MEP. Therefore, the impervious area draining to BMPs designed and approved in accordance with the Manual does not need to be counted toward impervious area restoration requirements.

2. Urban BMPs: All municipalities and State and federal agencies are required to develop and maintain an Urban BMP database in accordance with Tables B.1.a, b, and c. The database identifies all existing stormwater BMPs within each jurisdiction along with design, construction, and inspection information. This database and accompanying field inspections must be used to verify the level of water quality treatment provided for an existing BMP. The following guidelines can be used to determine the level of water quality treatment provided by existing stormwater BMPs:

- BMPs constructed according to the Manual for new development after the baseline year of 2002 provide acceptable water quality treatment. The impervious areas draining to these BMPs do not need to be counted in the impervious area required to be restored.
- BMPs implemented for new development after 2002 may not be used for credit toward impervious area restoration.
- BMPs implemented prior to 2002 may provide some water quality treatment. These include wet ponds, wetlands, and infiltration BMPs. In these cases, the original design parameters for each BMP are needed to verify the level of treatment provided. The impervious area treated is based on the volume provided in relation to the WQ_v (i.e., 1 inch of rainfall). For example, if a BMP was designed to treat a half inch of rainfall, the amount of impervious area treated is 50% of the actual impervious area draining to the BMP.
- BMPs designed for flood control do not provide water quality treatment. The impervious area draining to these BMPs must count toward the baseline.
- Where plans, design specifications, and complete inspection and maintenance records are not available, BMPs are not considered to provide acceptable water quality treatment. Impervious areas draining to these structures must count toward the baseline.
- The impervious area treated by BMPs implemented for retrofitting or redevelopment between January 1, 2002, and December 31, 2005, may be subtracted from the baseline number.

A useful tool for an initial assessment is the Stormwater Management by Era approach documented by MDE in 2009. The approach considers four distinct regulatory eras where stormwater management requirements correlate with a certain level of BMP performance. These eras are as follows:

- Prior to 1985. Stormwater management regulations came into effect after this era. Any development constructed in this time period is most likely untreated (unless retrofits were constructed in later years).
- Between 1985 and 2002. BMPs implemented during this time addressed flood control; however, individual BMP design criteria must be used to verify whether water quality is provided.
- Between 2002 and 2010. The Manual was fully implemented during this era. New development that meets the water quality requirements of the Manual is considered to have acceptable treatment.
- Post-2010. ESD to the MEP is required. Any development project that complied with State regulations in the third and fourth eras is considered to have acceptable water quality treatment.

This approach was used in the development of Maryland's WIP for meeting Chesapeake Bay TMDLs. It can be used for identifying BMPs that provide water quality so that the treated impervious areas may be deducted from the baseline assessment. The stormwater management by era approach can also be valuable for long term planning and for targeting potential areas suitable for retrofitting.

3. **Impervious Surfaces in Rural Areas:** Many rural roads and residential subdivisions have open vegetated drainage systems, impervious area disconnections, and sheetflow to conservation areas that filter and infiltrate stormwater runoff. Each permittee must conduct a systematic review of existing rural areas to determine the extent of water quality treatment already provided. This review will also aid in identifying opportunities for retrofitting.

   Land use designation can help in selecting areas that are already adequately managed. For example, public roads and residential subdivisions in predominantly rural areas with low population densities (e.g., one or fewer dwelling unit per three acres) may have water quality design features equivalent to those defined in the Manual. Typically, areas that are less than fifteen percent impervious may meet ESD requirements according to the criteria for nonstructural practices in the Manual. These practices include rooftop disconnect, non-rooftop disconnect, and sheetflow to conservation areas. These practices promote sheetflow or treatment through vegetative filtering of runoff. If a permittee documents where conditions meet the Manual's criteria and adequate treatment is provided, then the impervious acres in these areas may be excluded from the baseline. Acceptable documentation can include a comprehensive GIS desktop analysis of land use and zoning conditions and local runoff patterns. Sufficient evidence to justify assumptions in the analysis must be included for MDE review and approval.

4. **Total Impervious Acres Not Treated to the MEP:** Subtract total impervious areas draining to water quality BMPs and nonstructural practices (determined above) from the total impervious land area owned or operated by the permittee as of the baseline year selected. Restoration requirements will apply to twenty percent of the remaining untreated impervious area at the start of the permit term.

B. Criteria for Impervious Area Restoration Crediting

The water quality objective for impervious area restoration is based on treating the WQ_v (i.e., 1 inch of rainfall) using BMPs defined in the Manual. Because of numerous constraints inherent in the urban environment, meeting the design standards specified in the Manual may not always be achievable. In these cases, retrofit opportunities that currently achieve less than the WQ_v must be pursued where they make sense. Applying impervious area treatment credit for these projects will be based on the proportion of the full WQ_v treated.

Where stormwater retrofits provide water quality treatment for existing unmanaged urban areas, impervious area restoration credit may be applied according to the following criteria:

- An acre for acre impervious credit will be given when a BMP is designed to provide treatment for the full WQ_v (i.e., 1 inch of rainfall); or

- A proportional acreage of credit will be given when less than the WQ_v is provided: (percent of the WQ_v achieved) x (drainage area impervious acres).
- When a BMP is designed to treat greater than one inch of rainfall, additional credit may be granted in accordance with the Accounting Guidance.

C. Acceptable Restoration Strategies

The following are acceptable restoration strategies for receiving impervious area restoration credit. Restoration BMPs may be implemented anywhere within the jurisdictional boundary. Permittees may submit alternative actions to comply with impervious area restoration requirements, subject to MDE approval.

1. New Retrofit BMPs: This includes new stormwater BMPs installed to provide water quality treatment for existing developed lands with no controls. Acceptable water quality BMPs and design criteria are provided in the Manual. When a BMP from this list is used and the full WQ_v is provided, the total impervious surface within the drainage area may be credited toward restoration.

2. Existing BMP Retrofits: These are existing BMPs that were not originally designed to provide water quality treatment (e.g., detention pond). As discussed previously, the impervious area draining to these BMPs may not be counted as treated. However, when retrofitted to an acceptable water quality BMP, such as converting a dry pond to a wetland, or providing additional WQ_v storage; the impervious acres draining to the BMP may be credited as restored.

3. BMP Enhancement and Restoration: Routine inspection and maintenance is essential to ensure optimal water quality treatment of any BMP. When BMP maintenance has not been performed, substantial structural problems will occur over time, undermining any water quality benefit intended from the practice. Therefore, when BMPs are not properly maintained they may not be considered to provide effective treatment for impervious surfaces. If credit was originally taken for water quality treatment, then future MS4 Progress Reports must remove that credit until the BMP is restored.

MDE has published maintenance guidance for each BMP and specified time periods for inspection and corrective action. This guidance is posted on the MDE stormwater webpage. In addition, the Natural Resources Conservation Service of Maryland has published *Pond Code 378*, which includes an inspection checklist for ponds. Code 378 identifies areas that will cause significant problems if left unaddressed. When inspections and repairs are performed according to these guidelines (or others required by local review authorities), then the BMP is considered properly maintained.

When a BMP has failed and significant structural problems exist, the BMP must be restored to receive proper restoration credit. Restoring a failed BMP must include providing the full WQ_v, and may entail increasing storage capacity,

providing forebays, increasing the flow path by installing berms or other design enhancements, re-planting with desirable wetland and native vegetation, or significant sediment clean outs. This restoration credit may apply to failed structures that need water quality enhancements in accordance with Chapter 3 of MDE's Manual. This is intended to ensure that BMPs are functioning as designed and that routine maintenance is addressed in order for the permittee to keep the credit.

4. **Alternative Stormwater BMPs**: The Accounting Guidance recognizes that new and innovative approaches to stormwater management are being developed on a continuous basis. Therefore, several alternative BMPs are documented that may be used for the purpose of impervious area restoration. Some of these alternative BMPs include street sweeping, buffer planting, reforestation, stream restoration, inlet cleaning, shoreline stabilization, and others. A list of these alternative BMPs is provided in Table B.3, below. The Accounting Guidance references acceptable criteria for BMP implementation and provides a method for translating pollutant load reductions from alternative BMPs into an impervious acre equivalent in order to credit these practices toward restoration requirements. When innovative practices are approved through Chesapeake Bay Program (CBP) expert panels or by MDE, the associated credits and design criteria may also be used for restoration credit.

   Impervious acres treated must be reported according to the "impervious acre equivalent" identified in Table B.4 for each alternative practice. As an example, where stream restoration is proposed, the impervious acre equivalent is equal to 0.01 acre per linear foot. This means that when 1,000 linear feet of stream are restored, then 10 acres of credit may be granted toward impervious area restoration.

5. **Trading**: MDE supports trading as a cost effective means for achieving pollutant load reductions. Adoption of new trading regulations in Maryland will include public participation and approval by EPA. Therefore, trading with other source sectors may be an option after formal regulatory procedures are satisfied.

6. **Redevelopment:** Maryland's stormwater management regulations for redeveloped lands are intended to gain water quality treatment on existing developed lands while supporting initiatives to improve urban areas. Therefore, when water quality treatment practices are provided to address State redevelopment regulations, the existing impervious area treated may be credited toward restoration requirements. In most cases the credit will be equivalent to 50% of the existing impervious area for the project. When additional volume above the regulatory requirements is provided, additional credit will be accepted on a proportional basis as described in Appendix B, Section III.A, above.

7. **Establishing Partnerships and Master Planning**: As discussed above, redevelopment activities may be credited toward restoration requirements. This

presents an opportunity to develop future growth master plans to provide water quality treatment beyond regulatory requirements. This can be a cost effective solution for addressing Maryland's stormwater management regulations while incorporating impervious area restoration initiatives into long-range planning efforts.

Small MS4 municipalities may work with private developers and offer incentives in order to gain additional water quality treatment for a project. MDE encourages localities to actively engage the development community through the stormwater plan review and approval process.

In addition to partnerships with the private sector, small municipalities and government agencies have the opportunity to collaborate with other watershed groups, and State, federal, or local entities to combine resources and facilitate implementation of restoration activities. As discussed in Section I of Appendix B, this could be a formal agreement with another entity and outlined in the NOI application, or this may be a partnership established for an individual project. Because the intent of the small MS4 general permit is to encourage partnerships to achieve the water quality goals of the CWA, MDE will remain flexible when any permittee pursues this option.

D. Urban Best Management Practice (BMP) Database and Codes

The data tables below provide a tracking system for all BMPs within a jurisdiction. BMP reporting requires populating data from three related tables as follows:

1. Table B.1.a: Information in this table must be completed for all structural, ESD, and alternative BMPs.

2. Table B.1.b: This table provides more specific information related to structural and ESD practices. The table is linked to Table B.1.a using the common field BMP_ID.

3. Table B.1.c: This table provides more specific information related to alternative BMPs. The table is linked to Table B.1.a using the common field BMP_ID.

Data must be submitted in Microsoft Excel spreadsheet format. A map using geographic information system (GIS) software is optional. An Excel spreadsheet template is provided on MDE's Phase II webpage to assist permittees in developing the database.

Some data for older BMPs may not be available, as the information was not required at the time of BMP construction. In these cases, an explanation must be provided. MDE expects that data development and verification will be an ongoing process throughout the permit term and baselines may be adjusted accordingly. Permittees may submit an adjusted impervious area baseline in MS4 Progress Reports to reflect updated information.

Reporting for ESD Practices

ESD practices may be entered as a single structure or as a system of practices. When numerous ESD practices are installed to collectively address stormwater requirements for a project, permittees may choose to enter these data as a system of ESD practices. Data for ESD systems may be captured by specifying:

- The common BMP_ID field will link ESD data in Table B.1.a to Table B.1.b.
- Table B.1.a requires Maryland grid coordinates for each BMP. For ESD systems this location must represent the most downstream point or practice.
- Table B.1.a requires the BMP type (BMP_Type). This is the most predominant BMP type in the ESD system.
- Table B.1.b requires the total number of BMPs (NUM_BMPS) implemented to address stormwater requirements for the ESD system of practices.
- Table B.1.b requires the total rainfall treated (PE_ADR). This represents the total rainfall treated for the collective number of BMPs in the ESD system.

Inspections for ESD Systems

Projects that meet the ESD to MEP requirement may be inspected as a collection of practices. Inspection and maintenance data in Table B.1.a. for ESD systems will represent the performance of the system of practices versus each individual practice. This is consistent with Code of Maryland Regulations 26.17.02.

Table B.1.a BMP Reporting Requirements

Description: This table is to be completed for all structural, ESD, and alternative BMPs.

Column Name	Data Type	Size	Description
BMP_ID	TEXT	13	Unique MDE BMP ID. (Ex: RO12BMP000001, Table B.2.a) (Ex: AOC12BMP00001, Table B.2.b)
REPORTING_YEAR	TEXT	4	State fiscal year (YYYY)
MD_NORTH	NUMERIC	8	Maryland grid coordinate Northing (NAD 83 meters)
MD_EAST	NUMERIC	8	Maryland grid coordinate Easting (NAD 83 meters)
PERMIT_NUM	TEXT	10	General Discharge Permit Number (municipal permittees use: 13-IM-5500. State and federal permittees use 13-SF-5501)
LOCAL_BMP_ID	TEXT	25	Local or State/federal project approval number (optional info)
BMP_NAME	TEXT	100	Use BMP names (e.g., Glendale Pond)
BMP_CLASS	TEXT	1	Use BMP classification noted in Table B.3 below (E, S, or A)
BMP_TYPE	TEXT	4	Use BMP Type or most predominant type in Table B.3 below
CON_PURPOSE	TEXT	4	Enter code for New Development (NEWD), Redevelopment (REDE), or Restoration (REST), Conversion (CONV)
LAST_INSP_DATE	DATE	8	Last inspection date (MM/DD/YYYY)
BMP_STATUS	TEXT	1	Enter P = Pass or F = Fail for BMP inspection status
MAIN_DATE	DATE	8	Last date maintenance was performed (MM/DD/YYYY); field is conditional on the BMP failing an inspection
REINSP_DATE	DATE	8	Next planned inspection date (MM/DD/YYYY)
REINSP_STATUS	TEXT	1	Re-inspection status (i.e., Pass/Fail); This is a follow-up inspection after a failed BMP has undergone maintenance
GEN_COMMENTS	TEXT	255	General comments - optional information

Table B.1.b Reporting Requirements for ESD and Structural Practices

Description: More specific data related to ESD and structural BMPs is populated in this table.

Column Name	Data Type	Size	Description
BMP_ID	TEXT	13	BMP_ID linking record to BMP_ID in Table B.1.a
NUM_BMPS	NUMERIC	2	Sum total of BMPs used to meet P_E (enter 1 for a single BMP)
ON_OFF_SITE	TEXT	10	Is the BMP located on the project site or off site
CONVERTED_FROM	TEXT	13	If conversion of existing BMP then prior BMP_ID must be entered here. Conditional on Con_Purpose = CONV
BMP_STATUS	TEXT	10	Enter "ACT" for active or "REM" for removed
BMP_DRAIN_AREA	NUMERIC	6	Total drainage area (acres) to a single BMP or ESD system
IMP_ACRES	NUMERIC	8	Total impervious area (acres) to a single BMP or ESD system
PE_ADR	NUMERIC	8	P_E addressed: Water quality treatment reported as rainfall (inches) treated for a single BMP or system of ESD practices within the drainage area
APPR_DATE	DATE	8	Permit approval date (MM/DD/YYYY)
BUILT_DATE	DATE	8	Construction completion date (MM/DD/YYYY)
GEN_COMMENTS	TEXT	255	General comments - optional information

Table B.1.c Reporting Requirements for Alternative BMPs

Description: More specific data related to alternative BMPs is populated in this table.

Column Name	Data Type	Size	Description
BMP_ID	TEXT	13	BMP_ID linking record to BMP_ID in Table B.1.a
PROJECT_DESC	TEXT	75	Description of project
PROJECT_LENGTH	NUMERIC	8	Length of stream restoration, shoreline or outfall stabilization in feet; Field is conditional on BMP_TYPE = OUT, SHST, or STRE
ACRES_SWEPT	NUMERIC	6	Acres swept for street sweeping (one pass); Field is conditional on BMP_TYPE = MSS or VSS
TIMES_SWEPT	NUMERIC	2	Number of times per year area is swept; Field is conditional on BMP_TYPE = MSS or VSS
ACRES_PLANTED	NUMERIC	6	Acres of trees planted; Field is conditional on BMP_TYPE = FPU or IMPF
IMP_ACR_ELIM	NUMERIC	6	Impervious acres removed to pervious land (IMPP); Field is conditional on BMP_TYPE = IMPP
EQU_IMP_ACR	NUMERIC	6	Equivalent impervious acres treated by alternative BMP (total acres of credit for the alt BMP)
INSTALL_DATE	DATE	8	BMP completion date (MM/DD/YYYY); Field is conditional on BMP_TYPE = OUT, SHST, STRE, SEPC, SEPD, or SEPP
IMPL_COMP_YR	TEXT	4	Year (calendar) of completed Project (YYYY); Field is conditional on BMP_TYPE = MSS, VSS, CBC, SDV, IMPF, IMPP, or FPU
GEN_COMMENTS	TEXT	255	General comments - optional information

BMP ID Field

The BMP_ID is a unique identifier assigned to each BMP or system of BMPs. An example of how to populate the BMP_ID field for a municipality using the required 13 characters is provided:

County or Municipal code + 2 digit year + BMP identifying code + 6 digit sequential number = 13 character BMP_ID code.

Table B.2.a

Municipality: City of Rockville	*RO*
	+
Year feature/record was captured: 2012	*12*
	+
Identifying code: BMP	*BMP*
	+
Record number: 1	*000001*
BMP_ID	***= RO12BMP000001***

County or Municipal Codes for Phase II Reporting:

Jurisdiction	Code
Aberdeen	AB
Annapolis	AN
Bel Air	BE
Bowie	BO
Calvert County	CV
Cecil County (includes North East, Perryville, and Rising Sun)	CE
Easton	EA
Elkton	EL
Frederick County (includes Brunswick, Emmitsburg, Middletown, Myersville, Thurmont, and Walkersville)	FR
City of Frederick	FC
Gaithersburg	GA
Hagerstown	HG
Havre de Grace	HV
Indian Head	IH
La Plata	LP
Queen Anne's County	QA
Rockville	RO
Takoma Park	TP
Salisbury	SI
St. Mary's County	SM
Wicomico County (includes Fruitland)	WI
Washington County (includes Boonsboro, Smithsburg, and Williamsport)	WA

State and federal permittees are also required to use a 13 character BMP_ID. Suggested agency codes are listed in the Excel spreadsheet template. If a permittee would like to use a different agency code than found in the template, MDE must approve that alternative agency code to ensure that it is not already in use.

Examples of how to populate the BMP_ID field for a State or federal permittee using the required 13 characters is provided:

Table B.2.b

Agency: Architect of the Capitol	*AOC*
	+
Year feature/record was captured: 2012	*12*
	+
Identifying code: BMP	*BMP*
	+
Record number: 1	*00001*
BMP_ID	***= AOC12BMP00001***

Agency: Maryland Army National Guard	*MARNG*
	+
Year feature/record was captured: 2012	*12*
	+
Identifying code: BMP	*BMP*
	+
Record number: 1	*001*
BMP_ID	***= MARNG12BMP001***

Table B.3 BMP Database Codes: BMP Class and BMP Type

BMP Class	BMP Type Code	BMP Type
Alternative Surfaces (A)		
E	AGRE	Green Roof – Extensive
E	AGRI	Green Roof – Intensive
E	APRP	Permeable Pavements
E	ARTF	Reinforced Turf
Nonstructural Techniques (N)		
E	NDRR	Disconnection of Rooftop Runoff
E	NDNR	Disconnection of Non-Rooftop Runoff
E	NSCA	Sheetflow to Conservation Areas
Micro-Scale Practices (M)		
E	MRWH	Rainwater Harvesting
E	MSGW	Submerged Gravel Wetlands
E	MILS	Landscape Infiltration
E	MIBR	Infiltration Berms
E	MIDW	Dry Wells
E	MMBR	Micro-Bioretention
E	MRNG	Rain Gardens
E	MSWG	Grass Swale
E	MSWW	Wet Swale
E	MSWB	Bio-Swale
E	MENF	Enhanced Filters
Ponds (P)		
S	PWED	Extended Detention Structure, Wet
S	PWET	Retention Pond (Wet Pond)
S	PMPS	Multiple Pond System
S	PPKT	Pocket Pond
S	PMED	Micropool Extended Detention Pond
Wetlands (W)		
S	WSHW	Shallow Marsh
S	WEDW	Extended Detention – Wetland
S	WPWS	Wet Pond – Wetland
S	WPKT	Pocket Wetland
Infiltration (I)		
S	IBAS	Infiltration Basin
S	ITRN	Infiltration Trench
Filtering Systems (F)		
S	FBIO	Bioretention
S	FSND	Sand Filter
S	FUND	Underground Filter
S	FPER	Perimeter (Sand) Filter

BMP Class	BMP Type Code	BMP Type
S	FORG	Organic Filter (Peat Filter)
S	FBIO	Bioretention
Open Channels (O)		
S	ODSW	Dry Swale
S	OWSW	Wet Swale
Other Practices (X)		
S	XDPD	Detention Structure (Dry Pond)
S	XDED	Extended Detention Structure, Dry
S	XFLD	Flood Management Area
S	XOGS	Oil Grit Separator
S	XOTH	Other

Alternative BMP Classification, Alternative BMP Type, and Alternative BMP Name

Alt. BMP Class	BMP Type Code	BMP Name
A	MSS	Mechanical Street Sweeping
A	VSS	Regenerative/Vacuum Street Sweeping
A	IMPP	Impervious Surface Elimination (to pervious)
A	IMPF	Impervious Surface Elimination (to forest)
A	FPU	Planting Trees or Forestation on Pervious Urban
A	CBC	Catch Basin Cleaning
A	SDV	Storm Drain Vacuuming
A	STRE	Stream Restoration
A	OUT	Outfall Stabilization
A	SPSC	Regenerative Step Pool Storm Conveyance
A	SHST	Shoreline Management
A	SEPP	Septic Pumping
A	SEPD	Septic Denitrification
A	SEPC	Septic Connections to WWTP
A	NNET	Nutrient Net (Agriculture Trading)
A	POTW	Publicly Owned Treatment Works (WWTP Trading)

Table B.4 Alternative Urban BMPs and Impervious Acre Credit

Alternative BMP	Calculating Impervious Acre Credit[1]	Impervious Acre Equivalent
Mechanical Street Sweeping	Acres swept multiplied by 0.07 = acres of credit	0.07
Regen/Vacuum Street Sweeping	Acres swept multiplied by 0.13 = acres of credit	0.13
Reforestation on Pervious Urban	Acres of reforested land multiplied by 0.38 = acres of credit	0.38
Impervious Urban to Pervious	Acres of reforested land multiplied by 0.75 = acres of credit	0.75
Impervious Urban to Forest	Acres of reforested land multiplied by 1.00 = acres of credit	1.00
Regenerative Step Pool Storm Conveyance (SPSC)[2]	Located in dry or ephemeral channels; credit is based on rainfall depth treated	Varies[2]
Catch Basin Cleaning	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Storm Drain Vacuuming	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Mechanical Street Sweeping	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Regen/Vacuum Street Sweeping	Tons of dry material collected multiplied by 0.40 = acres of credit	0.40
Stream Restoration	Linear feet of stream restored multiplied by 0.01 = acres of credit	0.01
Outfall Stabilization	Linear feet of outfall stabilized multiplied by 0.01 = acres of credit; max credit is 2 acres per project	0.01
Shoreline Management	Linear feet of shoreline restored multiplied by 0.04 = acres of credit	0.04
Septic Pumping	Units pumped (annually) multiplied by 0.03 = acres of credit	0.03
Septic Denitrification	Units upgraded (w/denitrification) multiplied by 0.26 = acres of credit	0.26
Septic Connections to WWTP	Units connected to a WWTP multiplied by 0.39 = acres of credit	0.39

1. For more information on calculating credits for alternative BMPs, see *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE, 2014).
2. Full impervious area credit is granted when practice treats 1 inch of rainfall. If the full WQ_v is not provided, then the impervious area credit is based on the percentage of 1 inch that is treated. Described in Appendix B, Section III.B.

APPENDIX C

Municipal Small MS4 Notice of Intent

Municipal Small MS4 Notice of Intent

Maryland Department of the Environment (MDE)

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

This Notice of Intent (NOI) is intended for municipalities applying for coverage under the General Discharge Permit (No. 13-IM-5500) for Small MS4s. Submitting this application constitutes notice that the entity below agrees to comply with all terms and conditions of the general permit. The information required in this NOI must be submitted to:

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

Contact Information

Permittee Name:	
Responsible Personnel:	
Mailing Address:	
Phone Number(s):	
Email address:	
Additional Contact(s):	
Mailing Address:	
Phone Number(s):	
Email address:	

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.

Printed Name	Signature	Date

Municipal Small MS4 Notice of Intent

Due Date: _____ **Date of Submission:** _____

Permittee Information

Renewal Permittee: ☐

New Permittee: ☐

Check if sharing responsibilities with another entity: ☐ Yes ☐ No

Required Information

1. A brief description of jurisdiction for which coverage is being sought:

2. The approximate size of jurisdiction (square miles): _____

3. Population: _____

4. Provide a list of properties owned or operated by the permittee covered under the Maryland General Permit for Stormwater Discharges Associated with Industrial Activity or an invidivual industrial water discharge permit:

5. Describe any programs that the applicant will share responsibilities for compliance with another entity. Describe the role of all parties and include a copy of a memorandum of agreement when applicable:

6. Anticipated expenditures to implement the terms and conditions of the 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:

Responsible Personnel:

Mailing Address:

Phone Number(s):

Email address:

Additional Contact(s):

Mailing Address:

Phone Number(s):

Email address:

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.

Printed Name Signature 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:

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?
☐ Yes ☐ No

   Has MDE approved the work plan?
☐ Yes ☐ No

Section I: Impervious Area Restoration Reporting

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:

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:

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

   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:

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

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:

Section I: Impervious Area Restoration Reporting

5. Provide a summary of impervious area restoration activities planned for the next reporting cycle (attach additional information if necessary):
6. Describe coordination efforts with other agencies regarding the implementation of impervious area restoration activities:
7. List total cost of developing and implementing the impervious area restoration program during the permit term:

Section II: Minimum Control Measures Reporting Forms

MCM #1: Public Education and Outreach

1. Does the permittee maintain a process and phone number for the public to report water quality complaints?
   ☐ Yes ☐ No

   Number of complaints received: ☐

   Describe the actions taken to address the complaints:

2. Describe training to employees to reduce pollutants to the MS4:

3. Describe the target audience(s) within the jurisdiction:

4. Are examples of educational/training materials attached with this report?
   ☐ Yes ☐ No

   Provide the number and type of educational materials distributed:
   Describe how the public outreach program is appropriate for the target audience(s):

5. Describe how stormwater educational materials were distributed to the public (e.g., newsletters, website):

6. Describe how educational programs facilitated efforts to reduce pollutants in stormwater runoff:

7. Provide a summary of the activities planned for the next reporting cycle:

8. List the total cost of implementing this MCM over the permit term:

MCM #2: Public Involvement and Participation

1. Describe how the public involvement and participation program is appropriate for the target audience(s):

2. Quantify and report public involvement and participation efforts shown below where applicable.

   Number of participants at public events:

   Quantity of trash and debris removed at clean up events:

   Number of employee volunteers participating in sponsored events:

   Number of trees planted:

   Length of stream cleaned (feet):

   Number of storm drains stenciled:

   Number of public notices published to facilitate public participation:

   Number of public meetings organized:

   Total number of attendees at all public meetings:

   Describe the agenda, items discussed, and collaboration efforts with interested parties for public meetings:

   Describe how public comments have been incorporated into the permittee's MS4 program, including water quality improvement projects to address impervious area restoration requirements:

   Describe any additional events and activities if applicable:

MCM #2: Public Involvement and Participation

3. Provide a summary of activities planned for the next reporting cycle:
4. List the total cost of implementing this MCM for the permit term:

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

1. Does the permittee maintain a map of the MS4 owned or operated by the permittee, including stormwater conveyances, outfalls, stormwater best management practices (BMPs), and waters of the U.S. receiving stormwater discharges?
   ☐ Yes ☐ No

   If Yes, attach the map to this report and provide a progress update on any features that are still being mapped. If No, detail the current status of map development and provide an estimated date of submission to MDE:

2. Does the permittee have an ordinance, or other regulatory means, that prohibits illicit discharges?
   ☐ Yes ☐ No

   If Yes, describe the means for enforcement utilized by the permittee (alternatively, a link may be provided to the permittee's webpage where this information is available). If No, describe the permittee's plan, including approximate time frame, to establish a regulatory means to prohibit illicit discharges:

3. Describe the process the permittee utilizes for gaining access to private property to investigate and eliminate illicit discharges:

4. Did the permittee submit to MDE standard operating procedures (SOPs) in accordance with Part IV.C of the permit?
   ☐ Yes ☐ No

   If No, provide a proposed date that SOPs will be submitted to MDE. MDE may require more frequent reports for delays in program development:

   Did MDE approve the submitted SOPs?
   ☐ Yes ☐ No

   If No, describe the status of requested SOP revisions and approximate date of resubmission for MDE approval:

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

5. Describe how the permittee prioritized screening locations in areas of high pollutant potential and identify the areas within which screenings were conducted during this reporting period:

6. Answers to the following questions must reflect this two-year reporting period.

   How many outfalls are identified on the map?

   How many outfalls were required to be screened for dry weather flows to meet the minimum numeric requirement (i.e., 20% of total outfalls, up to 100)?

   How many outfalls were screened for dry weather flows?

   Per the permittee's SOP, how frequently were outfalls required to be screened?

   At what frequency were outfalls screened during the reporting period?

   How many dry weather flows were observed?

   If dry weather flows were observed, how many were determined to be illicit discharges?

   Describe the investigation process to track and eliminate each suspected illicit discharge and report the status of resolution:

7. Describe maintenance or corrective actions undertaken during this reporting period to address erosion, debris buildup, sediment accumulation, or blockage problems:

8. Is the permittee maintaining all IDDE inspection records and are they available to MDE during site inspections?
   ☐ Yes ☐ No

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

9. If spills, illicit discharges, and illegal dumping occurred during this reporting period, describe the corrective actions taken, including enforcement activities, and indicate the status of resolution:

10. Attach to this report specific examples of educational materials distributed to the public related to illicit discharge reporting, illegal dumping, and spill prevention. If these are not available, describe plans to develop public education materials and submit examples with the next Progress Report:

11. Specify the number of employees trained in illicit discharge detection and spill prevention:

12. Provide examples of training materials. If not available, describe plans to develop employee training and submit examples with the next Progress Report:

13. List the cost of implementing this MCM during this permit term:

MCM #4: Construction Site Stormwater Runoff Control

Erosion & Sediment Control Program Procedures, Ordinances, and Legal Authority

1. Does the permittee have an MDE approved ordinance?
   ☐ Yes ☐ No

   Has the permittee submitted modifications to MDE?
   ☐ Yes ☐ No

   Has the adopted ordinance been submitted to MDE?
   ☐ Yes ☐ No

   If No, is the adopted ordinance attached?
   ☐ Yes ☐ No

2. Does the permittee rely on the County, local Soil Conservation District, or MDE to perform any or all requirements for an acceptable erosion and sediment control program?
   ☐ Yes ☐ No

   If Yes, check all that apply:
   ☐ Plan Review and Approval
   ☐ Construction Inspections
   ☐ Enforcement

3. Does the permittee have a process to ensure that all necessary permits for a proposed development have been obtained prior to issuance of a grading or building permit?
   ☐ Yes ☐ No

   Explain how the permittee ensures all permits are in place:

Erosion & Sediment Control Program Implementation Information

1. Does the permittee have a process for receiving, investigating, and resolving complaints from interested parties related to construction activities and erosion and sediment control?
   ☐ Yes ☐ No

   Describe the process:

   Provide a list of all complaints and summary of actions taken to resolve them:

MCM #4: Construction Site Stormwater Runoff Control

2. Total number of active construction projects within the reporting period: ☐

   Provide a list of all construction projects and disturbed areas:

   Does the permittee submit grading reports to MDE (only applies if the permittee has an MDE approved ordinance)?
   ☐ Yes ☐ No ☐ N/A

3. Total number of violation notices issued related to this MCM within the permit area (report total number whether the permittee or another entity performs inspections):
   ☐

   Describe the status of enforcement activities:

   Describe how the permittee communicates and collaborates with the enforcement authority for violations within the permit area. Include measures taken by the permittee such as suspending or denying a building or grading permit in order to prevent the discharge of pollutants into the MS4:

   Are erosion and sediment control inspection records retained and available to MDE during field review of local programs?
   ☐ Yes ☐ No

   If No, explain:

4. Number of staff trained in MDE's Responsible Personnel Certification:
   ☐

5. Describe the coordination efforts with other entities regarding the implementation of this MCM:

6. List the total cost of implementing this MCM over the permit term:

MCM #5: Post Construction Stormwater Management

Stormwater Management Program Procedures, Ordinances, and Legal Authority

1. Does the permittee have an MDE approved ordinance? ☐ Yes ☐ No

   Has the permittee submitted modifications to MDE? ☐ Yes ☐ No

   Has the adopted ordinance been submitted to MDE? ☐ Yes ☐ No

   If No, is the adopted ordinance attached? ☐ Yes ☐ No

2. Does the permittee have a memorandum of understanding (MOU) with the County to perform any or all requirements for an acceptable stormwater program?
   ☐ Yes ☐ No

   If Yes, check all that apply:
   - ☐ Plan Review and Approval
   - ☐ First Year Post Construction Inspections
   - ☐ As-Built Plan Approval
   - ☐ Post Construction Triennial Inspections
   - ☐ Enforcement
   - ☐ BMP Tracking and Reporting

Stormwater Management Program Implementation Information

1. Has an Urban BMP database been submitted in accordance with the database structure in Appendix B, Tables B.1.a, b, and c as a Microsoft Excel file?
   ☐ Yes ☐ No

   Describe the status of the database and efforts to complete all data fields:

2. Total number of triennial inspections performed: _____

   Total number of BMPs jurisdiction-wide: _____

   Are inspections performed at least once every three years for all BMPs?
   ☐ Yes ☐ No

   If No, describe how the permittee will catch up on past inspections and remain on track to perform BMP inspections once every three years:

MCM #5: Post Construction Stormwater Management

Are BMP inspection records retained and available to MDE during field review of local programs?
☐ Yes ☐ No

3. Total number of violation notices issued: _____

   Describe efforts to bring BMPs into compliance and the status of enforcement activities within the jurisdiction:

4. Describe how the permittee coordinates and cooperates with the County to ensure stormwater BMPs are functioning according to approved standards. (Applicable for municipalities that rely on the County to perform stormwater triennial inspections):

5. Provide a summary of routine maintenance activities for all publicly owned BMPs:

   Number of publicly owned BMPs: _____

   Describe how often BMPs are maintained. Specify whether maintenance activities are more frequent for certain BMP types:

   Are BMP maintenance checklists and procedures for publicly owned BMPs available to MDE during field review of local programs?
   ☐ Yes ☐ No

   Are BMP maintenance records retained and available to MDE during field review of local programs?
   ☐ Yes ☐ No

   If either answer is No, describe planned actions to implement maintenance checklists and procedures and provide formal documentation of these activities:

6. Number of staff trained in proper BMP design, performance, inspection, and routine maintenance: _____

MCM #5: Post Construction Stormwater Management

7. Provide a summary of activities planned for the next reporting cycle:
8. List the total cost of implementing this MCM over the permit term:

MCM #6: Pollution Prevention and Good Housekeeping

1. Provide a list of topics covered during the last training session related to pollution prevention and good housekeeping, and attach to this report specific examples of training materials:

   List all training dates within this two-year reporting period:

   Number of staff attended: ☐

2. Are the good housekeeping plan and inspection records at each property retained and available to MDE during field review of the local program? ☐ Yes ☐ No

   If No, explain:

   Provide details of all discharges, releases, leaks, or spills that occurred in the past reporting period using the following format (attach additional sheets if necessary).

   Property Name: Date:

   Describe observations:

   Describe permittee's response:

3. Quantify and report property management efforts as shown below, where applicable (attach additional sheets if necessary).

   Number of miles swept: ☐

   Amount of debris collected from sweeping (indicate units): ☐

   If roads and streets are swept, describe the strategy the permittee has implemented to maximize efficiency and target high priority areas:

   Number of inlets cleaned: ☐

   Amount of debris collected from inlet cleaning (indicate units): ☐

MCM #6: Pollution Prevention and Good Housekeeping

Describe how trash and hazardous waste materials are disposed of at permittee owned and operated property(ies), including debris collected from street sweeping and inlet cleaning:

Does the permittee have a current State of Maryland public agency permit to apply pesticides?
☐ Yes ☐ No

If No, explain (e.g., contractor applies pesticides):

Does the permittee employ at least one individual certified in pesticide application?
☐ Yes ☐ No

If Yes, list name(s):

If the permittee applied pesticides during the reporting year, describe good housekeeping methods (e.g., integrated pest management, alternative materials/techniques):

If the permittee applied fertilizer during the reporting year, describe good housekeeping methods (e.g., application methods, chemical storage, native or low maintenance species, training):

If the permittee applied materials for snow and ice control during the reporting year, describe good housekeeping methods (e.g., pre-treatment, truck calibration and storage, salt domes):

Describe good housekeeping BMP alternatives not listed above:

4. If applicable, provide a status update for permittee owned or operated properties regarding coverage under the Maryland General Permit for Stormwater Discharges Associated with Industrial Activity or an individual industrial surface water discharge permit:

5. List the total cost of implementing this MCM over the permit term: