# MARYLAND DEPARTMENT OF THE ENVIRONMENT

# NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

# MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGE PERMIT

## PART I. IDENTIFICATION

**A. Permit Number:** 06-DP-3320 MD0068349

**B. Permit Area**

This permit covers stormwater discharges from the municipal separate storm sewer system in Montgomery County, Maryland. This applies to discharges to and from the storm drain systems owned and operated by Montgomery County, including Montgomery County Public Schools, and the following localities: the Towns of Chevy Chase, Chevy Chase Village, Kensington, Somerset, and Poolesville; and the Village of Friendship Heights (co-permittees).

Requirements for discharges to the storm drain systems controlled by Montgomery County that become subject to National Pollutant Discharge Elimination System (NPDES) stormwater program requirements during the term of this permit may be added to this permit at the discretion of the Department.

**C. Effective Date:** February 16, 2010

**D. Expiration Date:** February 15, 2015

## PART II. DEFINITIONS

Terms used in this permit are defined in relevant chapters of Title 40 of the Code of Federal Regulations (CFR) Part 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 III. STANDARD PERMIT CONDITIONS

**A. Permit Administration**

The County shall designate an individual to act as a liaison with the Maryland Department of the Environment (MDE) for the implementation of this permit. The County shall provide the coordinator's name, title, address, phone number, and email address. Additionally, the County shall submit to MDE an organizational chart detailing personnel and groups responsible for major NPDES program tasks in this permit. MDE

shall be notified within 14 days of any changes in personnel or organization relative to NPDES program tasks.

## B. Legal Authority

Montgomery County shall maintain adequate legal authority in accordance with NPDES regulations 40 CFR Part 122 throughout the term of this permit. In the event that any provision of its legal authority is found to be invalid, the County shall notify the Department within 14 days and specify a schedule for making the necessary changes to maintain adequate legal authority.

## C. Source Identification

Sources of pollutants in stormwater runoff shall be identified and linked to specific water quality impacts on a watershed basis. The source identification process shall be used to develop watershed restoration plans that effectively improve water quality. The following information shall be submitted for all County watersheds in geographic information system (GIS) format with associated tables as required in PART IV of this permit:

1. Storm drain system: major outfalls, inlets, and associated drainage areas delineated;

2. Urban best management practices (BMP): stormwater management facility data including outfall locations and delineated drainage areas;

3. Impervious surfaces: delineated controlled and uncontrolled impervious areas based on, at a minimum, Maryland's hierarchical eight-digit sub-basins;

4. Monitoring locations: locations established for chemical, biological, and physical monitoring of watershed restoration efforts and the *2000 Maryland Stormwater Design Manual*; and

5. Watershed restoration: restoration projects proposed, under construction, and completed with associated drainage areas delineated.

## D. Discharge Characterization

Montgomery County and 10 other municipalities in Maryland have been conducting discharge characterization monitoring since the early 1990s. From this expansive monitoring, a statewide database has been developed that includes hundreds of storms across numerous land uses. Analyses of this dataset and other research performed nationally effectively characterize stormwater runoff in Maryland for NPDES municipal stormwater purposes. These analyses and additional monitoring data required under this permit shall be used by Montgomery County to assess the following: the effectiveness of stormwater management programs, County watershed restoration projects, and to document progress toward meeting waste load allocations (WLAs) included in Total

Maximum Daily Loads (TMDLs) approved by the U.S. Environmental Protection Agency (EPA) for watersheds or stream segments located in the County. Details about this monitoring can be found in PART III. H.

## E. Management Programs

The following management programs shall be implemented in areas served by the County's municipal separate storm sewer system. These management programs are designed to control stormwater discharges to the maximum extent practicable (MEP) and shall be maintained for the term of this permit. Additionally, these programs shall be integrated with other permit requirements to promote a comprehensive adaptive approach toward solving water quality problems. The County shall modify these programs according to PART III. J. below and address any needed program improvements identified as a result of periodic evaluation and within the timeframe specified by MDE.

1. Stormwater Management

An acceptable stormwater management program shall be maintained in accordance with the Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland. At a minimum, the County shall:

a. Conduct preventative maintenance inspections of all stormwater management facilities at least on a triennial basis. Documentation identifying the facilities inspected, the number of maintenance inspections, follow-up inspections, the enforcement action(s) used to ensure compliance, the maintenance inspection schedules, and any other relevant information shall be submitted in the County's annual reports.

b. Implement the stormwater management design policies, principles, methods, and practices found in the *2000 Maryland Stormwater Design Manual* and the provisions of Maryland's *Stormwater Management Act of 2007* (Act). This includes, but is not limited to:

i. Within one year of State adoption of regulations required under the Act, modify the County stormwater management ordinance, regulations, and new development plans review and approval processes in order to implement environmental site design (ESD) to the MEP;

ii. Within one year of State adoption of regulations required under the Act, review existing planning and zoning and public works ordinances and other local codes to identify impediments to, and opportunities for, promoting the implementation of environmental site design (ESD) to the MEP;

iii. Within two years of State adoption of regulations required under the Act, modify those ordinances and codes identified in Part III. E.1.b.ii. above to eliminate impediments to, and promote implementation of, ESD to the MEP; and

iv. Report annually the modifications that have or need to be made to all ordinances, regulations, and new development plans review and approval processes to accommodate the requirements of the Act.

c. Maintain programmatic and implementation information according to the requirements established as part of MDE's triennial stormwater program review.

2. Erosion and Sediment Control

An acceptable erosion and sediment control program shall be maintained in accordance with the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland. At a minimum, the County shall:

a. Implement program improvements identified in any MDE evaluation of the County's application for the delegation of erosion and sediment control enforcement authority;

b. At least three times per year, conduct responsible personnel certification classes to educate construction site operators regarding erosion and sediment control compliance. Program activity shall be recorded on MDE's "green card" database and submitted as required in PART IV of this permit; and

c. Report quarterly, information regarding earth disturbances exceeding one acre or more. Quarters shall be based on calendar year and submittals shall be made within 30 days following each quarter. The information submitted shall cover permitting activity for the preceding three months.

3. Illicit Discharge Detection and Elimination

The County shall implement an inspection and enforcement program to ensure that all discharges to and from the municipal separate storm sewer system that are not composed entirely of stormwater are either permitted by MDE or eliminated. At a minimum, activities shall include:

a. Field screening at least 150 outfalls annually. Each outfall having a discharge shall be sampled using a chemical test kit. Within one year of permit issuance, an alternative program may be submitted for MDE approval that methodically identifies, investigates, and eliminates illegal connections to the County's storm drain system;

b. Conducting routine surveys of commercial and industrial areas for discovering and eliminating pollutant sources. Areas surveyed shall be reported annually;

c. Maintaining a program to address illegal discharges, dumping, and spills;

d. Using appropriate enforcement procedures for investigating and eliminating illicit discharges, illegal dumping, and spills. Significant discharges shall be reported to MDE for enforcement and/or permitting; and

e. Reporting illicit discharge detection and elimination activities as specified in PART IV of this permit.

4. Trash and Litter

In 2006, Montgomery County committed to the goal of a trash free Potomac River by 2013 and signed the *Potomac River Watershed Trash Treaty* with other Washington, D.C. metropolitan area jurisdictions. Activities to meet obligations under the Treaty are specified in the *Trash Free Potomac Watershed Initiative 2006 Action Agreement* and include trash abatement program implementation, education, and evaluation to improve the quality of the Potomac River and its tributaries. The Potomac River Watershed Trash Treaty is incorporated by reference into this permit.

Consistent with the *Potomac River Watershed Trash Treaty*, Montgomery County shall:

a. Support and implement regional strategies to reduce trash and increase recycling;

b. As part of its public education program described in Part III. E.7. below, within one year of permit issuance, develop a work plan to implement a public outreach and education campaign with specific performance goals and corresponding deadlines to increase residential and commercial recycling rates, improve trash management, and reduce littering;

c. Within one year of permit issuance, establish baseline conditions of trash being discharged to and from the storm drain system and develop a trash reduction strategy and work plan for the Montgomery County portion of the Anacostia Watershed detailing control measures and deadlines by which those measures will be implemented to meet the 2013 goal of a trash free Potomac River. MDE shall review the work plan and approve it, if it meets the requirements of this permit;

d. In conformance with the County's trash reduction strategy, implement approved control measures according to the schedule specified in the Anacostia trash reduction work plan to eliminate the discharge of trash and debris from the County storm drain system;

e. Evaluate and modify local trash reduction strategies with an emphasis on source reduction and proper disposal;

f. Conduct a public participation process in the development of the trash reduction strategy that includes:

   i. Notice in a local newspaper and the County's web site outlining how the public may obtain information and provide comments to the County regarding the trash reduction strategy;
   ii. Procedures for providing the strategy to interested parties upon request;
   iii. A minimum 30 day public comment period; and
   iv. A summary of how the County addressed or will address any material public comments received

g. Submit annually, a report which details progress toward implementing the requirements of the *Trash Free Potomac Watershed Initiative 2006 Action Agreement*. The report shall describe the status of trash and litter elimination efforts including resources (e.g., personnel and financial) expended and the effectiveness of the program components described above toward meeting the goals of the Anacostia Watershed trash reduction strategy developed according to PART III. E.4.d. above.

5. Property Management

The County shall ensure that a Notice of Intent (NOI) has been submitted to MDE and a pollution prevention plan developed for each County-owned and municipal facility requiring NPDES stormwater general permit coverage. The status of pollution prevention plan development and implementation for each County-owned and municipal facility shall be submitted annually.

6. Road Maintenance

The County shall continue to implement a program to reduce pollutants associated with road maintenance activities. The road maintenance program shall include:

a. Street sweeping;

b. Inlet cleaning;

c. Reducing the use of pesticides, herbicides, fertilizers, and other pollutants associated with roadside vegetation management through increased use of integrated pest management (IPM); and

d. Controlling the overuse, and to the MEP, reducing use of winter weather deicing materials through continual testing and improvement of materials, equipment calibration, employee training, and effective decision-making.

The County shall report annually on the changes in practices and the pollutant reductions resulting from the road maintenance program.

7. Public Education

The County shall continue to implement a public education and outreach program to reduce stormwater pollutants. Outreach efforts may be integrated with other aspects of the County's activities. These efforts are to be documented and summarized in each annual report. The County shall within one year of permit issuance, develop a work plan to implement a public outreach and education campaign with specific performance goals and deadlines to:

a. Establish and publicize a compliance hotline for the public reporting of suspected illicit discharges, illegal dumping, and spills.

b. Provide information to inform the general public about the benefits of:

   i. Increasing water conservation;
   ii. The importance of community stormwater management facility maintenance;
   iii. Proper erosion and sediment control practices;
   iv. Increasing proper disposal of household hazardous waste;
   v. Improving lawn care and landscape management (e.g., the proper use of herbicides, pesticides, and fertilizers, ice control and snow removal, cash for clippers, etc.);
   vi. Car care;
   vii. Improving private well and septic system management; and
   viii. Proper pet waste management.

c. Provide information regarding the following water quality issues to the regulated community when requested:

   i. NPDES permitting requirements;
   ii. Pollution prevention plan development;
   iii. Proper housekeeping; and
   iv. Spill prevention and response.

d. Provide information regarding trash and littering as prescribed in Part III. E.4. above.

## F. Watershed Assessment

1. The County shall conduct a systematic assessment of water quality within all of its watersheds. These watershed assessments shall include detailed water quality analyses, the identification of water quality improvement opportunities, and the development and implementation of plans to control stormwater discharges to the MEP. The overall goal is to ensure that each County watershed has been thoroughly evaluated and has an implementation plan to maximize water quality improvements. At a minimum, the County shall:

a. Within one year of permit issuance, provide a long-term schedule for the completion of detailed assessments of each watershed in Montgomery County. These assessments shall be performed at an appropriate scale (e.g., Maryland's hierarchical twelve-digit sub-basins). At a minimum, watershed assessments shall:

i. Determine current water quality conditions;
ii. Identify and rank water quality problems;
iii. Identify and prioritize all structural and nonstructural water quality improvement opportunities;
iv. Include the results of a visual watershed inspection;
v. Specify how restoration efforts will increase progress toward meeting any applicable WLAs included in EPA approved TMDLs. The County shall modify restoration efforts based on program implementation effectiveness, implementation plans developed according to PART III. J. below, and any TMDLs that are changed during this permit term;
vi. Specify how the restoration efforts will be monitored and how those data collected will be used to document progress toward meeting applicable WLAs;
vii. Provide an estimated cost, a detailed implementation schedule, and benchmarks for anticipated pollutant load reductions to show progress toward meeting applicable WLAs for those improvement opportunities identified above; and
viii. Include a public information component.

b. Perform watershed assessments based on the established long-term schedule until all land area in Montgomery County is covered by a specific action plan to address the water quality problems identified.

c. The County shall complete a detailed watershed assessment for the Great Seneca Creek and Muddy Branch watersheds within one year of permit issuance.

d. Report annually on the status of compliance with the watershed assessment schedule.

## G. Watershed Restoration

The County shall implement those practices identified in PART III. F. above to control stormwater discharges to the MEP. The overall goals are to maximize the water quality in a single watershed, or combination of watersheds; use efforts that are definable and the effects of which are measurable; and show progress toward meeting any applicable WLAs developed under EPA approved TMDLs. At a minimum, the County shall:

1. By the end of this permit term, complete the implementation of those restoration

efforts that were identified and initiated during the previous permit term to restore ten percent of the County's impervious surface area. The watershed, or combination of watersheds where the restoration efforts are implemented shall be monitored according to PART III. H. below to determine effectiveness toward improving water quality.

2. By the end of this permit term, complete the implementation of restoration in a watershed, or combination of watersheds, to restore an additional twenty percent of the County's impervious surface area that is not restored to the MEP. Restoration shall include but not be limited to the use of ESD and other nonstructural techniques, structural stormwater practice retrofitting, and stream channel restoration. These efforts shall be separate from those specified in PART III. G.1. above and shall be monitored according to PART III. H. below to determine effectiveness toward improving water quality.

3. Report annually:

   a. The monitoring data and surrogate parameter analyses used to determine water quality improvements;

   b. The estimated cost and the actual expenditures for program implementation; and

   c. The progress toward meeting any applicable WLAs developed under EPA approved TMDLs in the watersheds established in PART III. G.1. and 2. above where restoration has occurred.

## H. Assessment of Controls

Assessment of controls is critical for determining the effectiveness of the NPDES stormwater management program and progress toward improving water quality. Therefore, the County shall use chemical, biological, and physical monitoring to document progress toward meeting the watershed restoration goals identified in PART III. G. above and any applicable WLAs developed under EPA approved TMDLs. Additionally, the County shall continue physical stream monitoring in the Clarksburg Special Protection Area to assess the implementation of the *2000 Maryland Stormwater Design Manual.* Specific monitoring requirements are described below.

1. Watershed Restoration Assessment

   The County shall continue monitoring in the Lower Paint Branch watershed, or, select and submit for MDE's approval a new watershed restoration project for monitoring. Monitoring activities shall occur where the cumulative effects of watershed restoration activities can be assessed. One outfall and associated in-stream station, or other locations based on a study design approved by MDE, shall be monitored. The minimum criteria for chemical, biological, and physical monitoring are as follows:

a. Chemical Monitoring:

i. Twelve (12) storm events shall be monitored per year at each monitoring location with at least two occurring per quarter. Quarters shall be based on the calendar year. If extended dry weather periods occur, baseflow samples shall be taken at least once per month at the monitoring stations if flow is observed;

ii. Discrete samples of stormwater flow shall be collected at the monitoring stations using automated or manual sampling methods. Measurements of pH and water temperature shall be taken;

iii. At least three (3) samples determined to be representative of each storm event shall be submitted to a laboratory for analysis according to methods listed under 40 CFR Part 136 and event mean concentrations (EMC) shall be calculated for:

| | |
|---|---|
| Biochemical Oxygen Demand ($BOD_5$) | Total Lead |
| Total Kjeldahl Nitrogen (TKN) | Total Copper |
| Nitrate plus Nitrite | Total Zinc |
| Total Suspended Solids | Total Phosphorus |
| Total Petroleum Hydrocarbons (TPH) | Hardness |
| E. coli or enterococcus | |

iv. Continuous flow measurements shall be recorded at the in-stream monitoring station or other practical locations based on an approved study design submitted to MDE for review and approval. Data collected shall be used to estimate annual and seasonal pollutant loads and reductions, and for the calibration of watershed assessment models. Pollutant load estimates shall be reported according to Maryland's hierarchical eight-digit sub-basins.

b. Biological Monitoring:

i. Benthic macroinvertebrate samples shall be gathered each Spring between the outfall and in-stream stations or other practical locations based on an approved study design; and

ii. The County shall use the EPA Rapid Bioassessment Protocols (RBP), Maryland Biological Stream Survey (MBSS), or other similar method approved by MDE.

c. Physical Monitoring:

i. A geomorphologic stream assessment shall be conducted between the outfall and in-stream monitoring locations or in a reasonable area based on an approved study design. This assessment shall include an annual comparison of permanently monumented stream channel cross-sections and the stream profile;

ii. A stream habitat assessment shall be conducted using techniques defined by the EPA's RBP, MBSS, or other similar method approved by MDE; and

iii. A hydrologic and/or hydraulic model shall be used (e.g., TR-20, HEC-2, HEC-RAS, HSPF, SWMM, etc.) to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.

d. Annual Data Submittal: The County shall describe in detail its monitoring activities for the previous year and include the following:

i. EMCs submitted on MDE's long-term monitoring database as specified in PART IV below;

ii. Chemical, biological, and physical monitoring results and a combined analysis for the approved monitoring locations; and

iii. Any requests and accompanying justifications for proposed modifications to the monitoring program.

2. Stormwater Management Assessment

The County shall continue monitoring the Clarksburg Special Protection Area for determining the effectiveness of stormwater management practices for stream channel protection. Physical stream monitoring protocols shall include:

a. An annual stream profile and survey of permanently monumented cross-sections at an unnamed tributary to Little Seneca Creek to evaluate channel stability in conjunction with the residential development of Clarksburg;

b. A comparison of the annual stream profile and survey of the permanently monumented cross-sections with baseline conditions for assessing areas of aggradation and degradation; and

c. A hydrologic and/or hydraulic model shall be used (e.g., TR-20, HEC-2, HEC-RAS, HSPF, SWMM, etc.) to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.

## I. Program Funding

1. Annually, a fiscal analysis of the capital, operation, and maintenance expenditures necessary to comply with all conditions of this permit shall be submitted as required in PART IV below.

2. Adequate program funding to comply with all conditions of this permit shall be maintained.

## J. Total Maximum Daily Loads

1. Section 402(p)(3)(B)(iii) of the Clean Water Act (CWA) states that municipal storm sewer system permits must require stormwater controls to reduce the discharge of pollutants to the MEP. By regulation at 40 CFR §122.44, EPA further requires that BMPs and programs implemented pursuant to this permit must be consistent with applicable WLAs developed under EPA approved TMDLs. The overall goals of Maryland's NPDES municipal stormwater permit program are to control stormwater pollutant discharges by implementing the BMPs and programs required by this permit, show progress toward meeting WLAs developed under EPA approved TMDLs, and contribute to the attainment of water quality standards according to the CWA.

   In order to accomplish these goals, this permit requires in Part III. J. 2. below, that the County develop TMDL implementation plans that include estimates of pollutant loading reductions (benchmarks) to be achieved by specific deadlines and describe those actions necessary to meet the storm drain system's share of WLAs in EPA approved TMDLs. These implementation plans may be in addition or complementary to the watershed assessments required in PART III. F. above and include ongoing watershed restoration efforts required in this permit, as appropriate. Implementation plan benchmarks shall be based on data available to and generated by the County and used as interim goals for guiding adaptive management activities. All EPA approved TMDL's that establish WLA's applicable to the County's storm drain system are incorporated by reference into this permit.

2. Within one year of the effective date of this permit or the approval of an applicable TMDL by EPA, whichever is later, the County shall submit to MDE for review and approval a TMDL implementation plan for each EPA approved TMDLs for a watershed or portion of a watershed covered by this permit. The implementation plans shall include:

   a. The actions and deadlines by which those actions must be taken to meet the required pollutant load reduction benchmarks and WLAs within the specified time frame;

   b. A description of how ongoing watershed restoration efforts will be modified to address any applicable WLAs;

   c. A schedule and cost estimate to implement the complete watershed restoration efforts necessary to meet established WLA benchmarks;

   d. A description of a plan that will be used when benchmarks are not met and projected funding is inadequate;

   e. A public participation component that includes:

i. Notice in a local newspaper and the County's web site outlining how the public may obtain information and provide comments to the County regarding implementation plans;
ii. Procedures for providing the plan to interested parties upon request;
iii. A minimum 30 day comment period; and
iv. A summary in the next annual report of how the County addressed or will address any material public comments received.

3. As reflected in PART III. H. above, the assessment to determine whether the conditions of this permit are satisfied, the MEP standard is reached, and whether progress toward meeting applicable WLAs is realized is critical. Therefore, complete and accurate annual reporting, pursuant to PART IV of this permit is required to allow for regulatory review of the permitee's stormwater management program and continued assessment of waters of the State.

4. If EPA approved TMDL WLAs are not being met according to the benchmarks and deadlines contained in the County's TMDL implementation plans, an iterative approach shall be used where additional or alternative stormwater controls are proposed and implemented in order to achieve WLAs. The permittee shall evaluate and document progress toward meeting TMDL requirements within the jurisdiction on an annual basis. This assessment shall describe specific actions undertaken pursuant to the permit and if necessary, how these actions will be modified, and the deadlines by which they will be modified to achieve compliance with EPA approved TMDLs. This assessment shall include complete descriptions of the analytical methodology used to evaluate the effectiveness of restoration efforts; include summaries of monitoring data, descriptions of statistical analysis and/or other modeling approaches used to evaluate the data, and GIS data; and a detailed description of sampling protocols.

5. MDE shall review the annual assessment and any proposed modifications to the TMDL implementation plan and approve the modifications, if they are adequate.

## PART IV. PROGRAM REVIEW AND ANNUAL PROGRESS REPORTING

### A. Annual Reporting

1. Annual progress reports, required under 40 CFR 122.42(c), will facilitate the long-term assessment of Montgomery County's NPDES stormwater program. The County shall submit annual reports on or before the anniversary date of this permit that include:

   a. The status of implementing the components of the stormwater management program that are established as permit conditions including:

      i. Source Identification;

ii. Stormwater Management;
iii. Erosion and Sediment Control;
iv. Illicit Discharge Detection and Elimination;
v. Trash and Litter;
vi. Property Management;
vii. Road Maintenance;
viii. Public Education;
ix. Watershed Assessment;
x. Watershed Restoration;
xi. Assessment of Controls;
xii. Program Funding; and
xiii. Total Maximum Daily Loads.

b. A narrative summary describing the results and analyses of data, including monitoring data that is accumulated throughout the reporting year;

c. Expenditures for the reporting period and the proposed budget for the upcoming year;

d. A summary describing the number and nature of enforcement actions, inspections, and public education programs;

e. The identification of water quality improvements and documentation of progress toward meeting applicable WLAs developed under EPA approved TMDLs; and

f. The identification of any proposed changes to the County's program when WLAs are not being met.

2. To enable MDE to evaluate the effectiveness and progress of implementation of permit requirements, the following information shall be submitted on databases (in a format) consistent with Attachment A. Annually, except where noted, the following shall be submitted:

a. Storm drain system mapping (PART III. C.1.);

b. Urban BMP locations (PART III. C.2.);

c. Impervious surfaces (PART III. C.3.);

d. Watershed restoration project locations (PART III. C.5.);

e. Monitoring site locations (PART III. C.4.);

f. Chemical monitoring (PART III. H.1.);

g. Pollutant load reductions (PART III. H.1.);

h. Illicit discharge detection and elimination activities (PART III. E.3.);

i. Responsible personnel certification information (PART III. E.2.);

j. Grading permit information - quarterly (PART III. E.2.); and

k. Fiscal analyses - cost for NPDES related implementation (PART III. I.).

3. Because this permit uses an iterative approach to implementation, the County must evaluate the effectiveness of its programs in the Annual Report. BMP and program modifications shall be made if the County's Annual Report does not demonstrate compliance with this permit and show progress toward meeting WLAs developed under EPA approved TMDLs.

## B. Program Review

In order to assess the effectiveness of the County's NPDES program for eliminating non-stormwater discharges through the illicit connection program and reducing the discharge of pollutants to the MEP to protect water quality, MDE will review program implementation, annual reports, and periodic data submittal on an annual basis. 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 evaluations may be conducted at MDE's discretion to determine compliance with permit conditions.

## C. Reapplication for NPDES Stormwater Discharge Permit

This permit is intended to continue in effect for no more than 5 years. Continuation or reissuance of this permit beyond this permit term will require the County to reapply for NPDES stormwater discharge permit coverage in its fourth year annual report. Failure to reapply for coverage constitutes a violation of this permit.

As part of this application process, Montgomery County shall submit to MDE an executive summary of its NPDES stormwater management program that specifically describes how the County is meeting the overall goal to ensure that each County watershed has been thoroughly evaluated and its progress in implementing water quality improvements to the MEP. This application shall be used to gauge the effectiveness of the County's NPDES stormwater program and will provide guidance for developing future permit conditions. At a minimum, the application summary shall include:

1. Montgomery County's NPDES stormwater program goals;

2. Program summaries for the permit term regarding:

   a. Illicit connection detection and elimination results;

b. Watershed restoration status including County totals for impervious acres, impervious acres controlled by stormwater management, the current status of watershed restoration projects and acres managed, and documentation of progress toward meeting WLAs developed under EPA approved TMDLs as of the date of issuance of this permit for watersheds or stream segments located in the County.

c. Pollutant load reductions as a result of this permit and an evaluation of whether TMDLs are being achieved.

d. Other relevant data and information for describing County programs.

3. Program operation and capital improvement costs for the permit term; and

4. Descriptions of any proposed permit condition changes based on analyses of the successes and failures of the County's efforts to comply with the conditions of this permit.

## PART V. SPECIAL PROGRAMMATIC CONDITIONS

### A. Tributary Strategies

With the renewal of the Chesapeake Bay Agreement in 2000, Maryland, along with Virginia, Pennsylvania, the District of Columbia, and the Chesapeake Bay Commission, continues to reduce the discharge of nutrients and sediments to Chesapeake Bay. Montgomery County lies predominantly within two of Maryland's ten major Chesapeake Bay tributary basins: The Middle Potomac and Patuxent River tributary basins. This NPDES permit encourages Montgomery County to assist with the implementation of the Tributary Strategy designed to meet the nutrient and sediment reduction goals of these tributaries.

### B. Comprehensive Planning

The County shall cooperate with the Maryland National Capital Park and Planning Commission (Commission) during the development and completion of the Water Resources Element (WRE) of the Commission's comprehensive land planning process as required by the Maryland Economic Growth, Resource Protection and Planning Act of 1992 (Article 66B, Annotated Code of Maryland). Such cooperation shall entail all reasonable actions authorized by law and not restricted by the Maryland-Washington Regional District Act (Article 28, Section 7-101 through 7-121.1, Annotated Code of Maryland), including but not limited to reviewing and approving the plans prepared and presented to it by the Commission, appropriating funds, and guiding the work of the Commission by instructing it to include certain tasks within its action plan.

## PART VI. ENFORCEMENT AND PENALTIES

### A. Discharge Prohibitions and Receiving Water Limitations

The County shall prohibit non-stormwater discharges through its municipal separate storm sewer system. NPDES permitted non-stormwater discharges are exempt from this prohibition. Discharges from the following will not be considered a source of pollutants when properly managed: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration to separate storm sewers; uncontaminated pumped ground water; discharges from potable water sources; foundation drains; air conditioning condensation; irrigation waters; springs; footing drains; lawn watering; individual residential car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash water; and fire fighting activities. The discharge of stormwater containing pollutants, which have not been reduced to the MEP, is prohibited.

The County shall not cause the contamination or other alteration of the physical, chemical, or biological properties of any waters of the State, including a change in temperature, taste, color, turbidity, or odor of the waters or the discharge or deposit of any organic matter, harmful organism, or liquid, gaseous, solid, radioactive, or other substance into any waters of the State, that will render the waters harmful to:

1. Public health, safety, or welfare;

2. Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial use;

3. Livestock, wild animals, or birds; and

4. Fish or other aquatic life.

### B. Duty to Mitigate

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

### C. Duty to Comply

The County shall comply with all conditions of this permit. Failure to comply with a permit provision constitutes a violation of the CWA and is grounds for enforcement action; permit termination, revocation, or modification; or denial of a permit renewal application. The County shall 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 of the Annotated Code of Maryland.

The County shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the County to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the County only when the operation is necessary to achieve compliance with the conditions of the permit.

## D. Sanctions

1. Penalties Under the CWA - Civil and Criminal

The CWA provides that any person who violates any permit condition is subject to a civil penalty not to exceed $32,500 per day for each violation. Any person who negligently violates any permit condition is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more that 1 year, or both. Any person who knowingly violates any permit condition is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both.

2. 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 County 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 the Department, and with each day a violation continues being a separate violation. Section 9-342 further authorizes the Department to impose upon any person who violates a permit condition, administrative civil penalties of up to $5,000 per violation, up to $50,000.

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 1 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 2 years.

The Environment Article, §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 2 years per violation, or both.

The Environment Article, §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 2 years per violation, or both.

## E. Permit Revocation and Modification

1. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the County for a permit modification or a notification of planned changes or anticipated noncompliance does not stay any permit condition. A permit may be modified by MDE upon written request by the County and after notice and opportunity for a public hearing in accordance with and for the reasons set forth in COMAR 26.08.04.10.

After notice and opportunity for a hearing and in accordance with COMAR 26.08.04.10, MDE may modify, suspend, or revoke and reissue this permit in whole or in part during its term for causes including, but not limited to the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either a temporary reduction or elimination of the authorized discharge; and

d. A determination that the permitted discharge poses a threat to human health or welfare or to the environment and can only be regulated to acceptable levels by permit modification or termination.

2. Duty to Provide Information

The County shall furnish to MDE, within a reasonable time, any information that MDE may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit; or to determine compliance with this permit. The County shall also furnish to MDE, upon request, copies of records required to be kept by this permit.

## F. Property Rights

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

## G. Severability

The provisions of this permit are severable. If any provision of this 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 permit to any circumstance is held invalid, its application to other circumstances shall not be affected.

## H. Signature of Authorized Administrator and Jurisdiction

Each application, report, or other information required under this permit to be submitted to MDE shall be signed as required by COMAR 26.08.04.01-1. Signatories shall be a principal executive officer, ranking elected official, or other duly authorized employee.

Jay G. Sakai, Director
Water Management Administration

2/18/10
Date

**Attachment A**
**Annual Report Databases**

As part of the NPDES annual reporting process, permittees are required to complete databases for storm drain systems, urban best management practices, impervious surfaces, watershed restoration, monitoring site locations, chemical monitoring, pollutant load reductions, biological monitoring, illicit discharge detection, erosion and sediment control responsible personnel training, quarterly grading permit summaries, and fiscal analyses. For compatibility purposes, databases should be submitted in Access or Excel. Any file in a format other than Access or Excel is to be submitted in a "*.dbf" format. Examples of databases and definitions for each category are provided below. If there are any questions regarding the compatibility of databases, please contact the Water Management Administration's Sediment, Stormwater, and Dam Safety Program at (410) 537-3543.

MDE is now utilizing Environmental System Research Institute (ESRI) Arc Geographic Information System (ArcGIS) technologies to track and update all collected datasets and integrate them spatially. GIS datasets shall be submitted in an ESRI Geodatabase or shapefile format, (i.e., "*.shp"). The first annual report submittal shall include the entire collection of mapped datasets (i.e., databases corresponding to tables A, B, C, D, E, G,H, I, and K below). In subsequent annual reports, only new or additional information needs to be submitted (i.e., new BMP structures, retrofits, removed impervious surfaces, etc.). All datasets shall conform to the Maryland State Geographic Information Committee standard – North American Datum (NAD), 1983 Maryland State Plane Coordinate System in "meter" units. Location information collected by global positioning systems (GPS) for the purposes of populating the GIS datasets shall be accurate to the sub-meter (+/- 1 meter) level for acceptable mapping. Additionally, each table below requires a "unique identifier" which is necessary for linking GIS mapping locations to datasets with further descriptions (i.e., outfall dimensions, BMP type, chemical results, etc.).

**A. Storm Drain System Mapping (PART III.C.1.) Associated with GIS Coverage**

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 4 | Annual report year |
| OUTFALL_ID | TEXT | 15 | Unique outfall ID |
| MD_NORTH | NUMBER | 10 | Maryland grid coordinate (NAD 83 meters) Northing |
| MD_EAST | NUMBER | 10 | Maryland grid coordinate (NAD 83 meters) Easting |
| DIM_OUTFL | NUMBER | 5 | Outfall Dimensions in inches |
| WTRSHD_CODE | NUMBER | | Maryland 8-digit hydraulic unit code |
| TYPE_OUTFL | TEXT | 3 | Outfall Type (RCP,CMP, PVC) |
| DRAIN_AREA | NUMBER | 5 | Drainage area to outfall (acres)[1] |
| LAND_USE | TEXT | 3 | Predominant land use[2] |

[1] GIS shapefile required
[2] Use attached Maryland Office of Planning land use codes.

**B. Urban Best Management Practices (BMP) (PART III.C.2.) Associated with GIS Coverage**

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 4 | Annual report year |
| STRU_ID | TEXT | 10 | **Unique structure ID** |
| PERMIT_NO | TEXT | 50 | Unique permit number |
| STRU_NAME | TEXT | 60 | Structure name |
| ADDRESS | TEXT | 50 | Structure address |
| CITY | TEXT | 15 | Structure address |

| | | | |
|---|---|---|---|
| STATE | TEXT | 2 | Structure address |
| ZIP | TEXT | 10 | Structure address |
| MD_NORTH | NUMBER | 9 | Maryland grid coordinate (NAD 83 meters) Northing |
| MD_EAST | NUMBER | 9 | Maryland grid coordinate (NAD 83 meters) Easting |
| ADC_MAP | TEXT | 5 | ADC map book coordinate (optional if BMP has MD Northing\Easting) |
| WATERSHED_CODE | TEXT | 20 | Maryland 8-digit hydraulic unit code |
| STRU_TYPE | TEXT | 10 | Identify structure or BMP type[3] |
| LAND_USE | TEXT | 3 | Predominant land use[2] |
| DRAIN_AREA | NUMBER | 8 | Structure drainage area (acres)[1] |
| TOT_DRAIN | NUMBER | 5 | Total site area (acres) |
| RCN | NUMBER | 5 | Runoff curve number (weighted) |
| ON_OFF_SITE | TEXT | 3 | On or offsite structure |
| APPR_DATE | DATE/TIME | 8 | Permit approval date |
| BUILT_DATE | DATE/TIME | 8 | Construction completion date |
| GEN_COMNT | TEXT | 60 | General comments (e.g., redundant controls) |
| LAST_CHANGE | DATE/TIME | 8 | Date last change made to this record |

[1] GIS shapefile required
[2] Use attached Maryland Office of Planning land use codes
[3] Use attached urban BMP type code

## C. Impervious Surfaces and Watershed Restoration Associated with GIS Coverage (PART III.C.3.)

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 4 | Annual report year |
| WATERSHED_CODE | NUMBER | 20 | Maryland 8-digit hydrologic unit code |
| IMP_ACREAGE | NUMBER | 10 | Total impervious acreage in watershed[1] |
| IMP_CONTROLLED | NUMBER | 10 | Impervious acreage treated by BMPs (before NPDES restoration)[1] |
| RESTORATION_P | NUMBER | 10 | Impervious acreage proposed for watershed restoration[1] |
| RESTORATION_UC | NUMBER | 10 | Impervious acreage under construction for watershed restoration[1] |
| RESTORATION_C | NUMBER | 10 | Impervious acreage completed (since program inception)[1] |

[1] GIS shapefile required

## D. Watershed Restoration Project Locations Associated with GIS Coverage (PART III.C.5.)

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 4 | Annual report year |
| PRJCT_NAME | TEXT | 30 | Unique project ID |
| PRJCT_CATEG | TEXT | 25 | New BMP, retrofit, education, maintenance, etc. |
| DESCRIPTION | TEXT | 60 | Brief description of the project |
| PRJCT_TYPE | TEXT | 10 | Identify structure or BMP type[3] |
| MD_NORTH | NUMBER | 10 | Maryland grid coordinate (NAD 83 meters) Northing |
| MD_EAST | NUMBER | 10 | Maryland grid coordinate (NAD 83 meters) Easting |
| DRAIN_AREA | NUMBER | 8 | Drainage area in acres[1] |
| LAND_USE | TEXT | 5 | Predominant land use[2] |
| PRJCT_STATUS | TEXT | 20 | Proposed, under construction, completed |

[1] GIS shapefile required
[2] Use attached Maryland Office of Planning land use codes.
[3] Use attached urban BMP type code.

## E. Monitoring Site Locations Associated with GIS Coverage (PART III.C.4.)

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 4 | Annual report year |
| STATION | TEXT | 30 | Unique station ID |
| TYPE | TEXT | 10 | Outfall or instream station |
| WATERSHED_CODE | TEXT | 20 | MD 8-digit hydraulic unit code |
| MD_NORTH | NUMBER | 10 | Maryland grid coordinate (NAD 83 meters) Northing |
| MD_EAST | NUMBER | 10 | Maryland grid coordinate (NAD 83 meters) Easting |
| DRAIN_AREA | NUMBER | 8 | Drainage area in acres[1] |

[1] GIS shapefile required

### E.1. Monitoring Site Locations - Use for Multiple Land Use Values in the Drainage Area

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 4 | Annual report year |
| STATION | TEXT | 30 | Name of station (associated with unique station ID in section E.) |
| LAND_USE_RANK | NUMBER | 8 | Ranking of land use from predominant to least |
| LAND_USE | TEXT | 8 | Identify land use[2] |
| DRAIN_AREA | NUMBER | 8 | Drainage area in acres[1] |

[1] GIS shapefile required
[2] Use attached Maryland Office of Planning land use codes

### E.2. Monitoring Site Locations - Use for Multiple Stormwater BMPs in the Drainage Area

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 4 | Annual report year |
| STATION | TEXT | 30 | Name of station (associated with unique station ID in section E.) |
| BMP_RANK | NUMBER | 5 | Ranking of BMPs from predominant to least |
| BMP_TYPE | TEXT | 10 | Identify structure or BMP type[3] |
| BMP_DESCRIPTION | TEXT | 60 | Brief description of BMP |
| BMP_DRAIN AREA | NUMBER | 5 | Drainage area in acres treated by BMP[1] |

[1] GIS shapefile required
[3] Use attached urban BMP type code.

## F. Chemical Monitoring (PART III.H.1.)

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| JURISDICTION | TEXT | 50 | Monitoring jurisdiction name |
| EVENT_DATE | DATE/TIME | 8 | Date of storm event |
| EVENT_TIME | DATE/TIME | 8 | Time monitoring begins |
| STATION_NAME | TEXT | 30 | Station name (associated w/ unique station ID in section E.) |
| OUTFALL_OR_INSTREAM | TEXT | 10 | Outfall or instream |
| STORM_OR_BASEFLOW | TEXT | 10 | Storm or base flow sample |
| DEPTH | NUMBER | 5 | Depth of rain in inches |
| DURATION | NUMBER | 5 | Duration of event in hours and minutes |
| INTENSITY | NUMBER | 5 | Intensity = depth/duration |
| TOTAL_STORM_FLOW_VOLUME | NUMBER | 5 | Total storm flow volume in gallons |
| WATER_TEMP | NUMBER | 5 | Flow weighted average of water temperature (Fahrenheit) |
| pH | NUMBER | 5 | Flow weighted average of pH |
| BOD_dt | NUMBER | 5 | Biological Oxygen Demand detection limit used in analysis |
| BOD_EMC0 | NUMBER | 5 | EMC for Biological Oxygen Demand in mg/l using (0)* |
| BOD_EMC_dt | NUMBER | 5 | EMC for Biological Oxygen Demand in mg/l using (dt)** |
| TKN_dt | NUMBER | 5 | Total Kjeldahl Nitrogen detection limit used in analysis |
| TKN_EMC0 | NUMBER | 5 | EMC for Total Kjeldahl Nitrogen in mg/l using (0)* |

| | | | |
|---|---|---|---|
| TKN_EMC_dt | NUMBER | 5 | EMC for Total Kjeldahl Nitrogen in mg/l using (dt)** |
| NITRATE_dt | NUMBER | 5 | Record Nitrate + Nitrite detection limit used in analysis |
| NITRATE_EMC0 | NUMBER | 5 | Enter EMC for Nitrate + Nitrite in mg/l using (0)* |
| NITRATE_EMC_dt | NUMBER | 5 | Enter EMC for Nitrate + Nitrite in mg/l using (dt)** |
| TOTAL_PHOSPHORUS_dt | NUMBER | 5 | Record Total Phosphorus detection limit used in analysis |
| TOTAL_PHOSPHORUS_EMC0 | NUMBER | 5 | Enter EMC for Total Phosphorus in mg/l using (0)* |
| TOTAL_PHOSPHORUSEMC_dt | NUMBER | 5 | Enter EMC for Total Phosphorus in mg/l using (dt)** |
| TSS_dt | NUMBER | 5 | Total Suspended Solids detection limit used in analysis |
| TSS_EMC0 | NUMBER | 5 | EMC for Total Suspended Solids in mg/l using (0)* |
| TSS_EMC_dt | NUMBER | 5 | EMC for Total Suspended Solids in mg/l using (dt)** |
| TOTAL_COPPER_dt | NUMBER | 5 | Record Total Copper detection limit used in analysis |
| TOTAL_COPPER_EMC0 | NUMBER | 5 | Enter EMC for Total Copper in ug/l using (0)* |
| TOTAL_COPPER_EMC_dt | NUMBER | 5 | Enter EMC for Total Copper in ug/l using (dt)** |
| TOTAL_LEAD_dt | NUMBER | 5 | Record Total Lead detection limit used in analysis |
| TOTAL_LEAD_EMC0 | NUMBER | 5 | Enter EMC for Total Lead in ug/l using (0)* |
| TOTAL_LEAD_EMC_dt | NUMBER | 5 | Enter EMC for Total Lead in ug/l using (dt)** |
| TOTAL_ZINC_dt | NUMBER | 5 | Record Total Zinc detection limit used in analysis |
| TOTAL_ZINC_EMC0 | NUMBER | 5 | Enter EMC for Total Zinc in ug/l using (0)* |
| TOTAL_ZINC_EMC_dt | NUMBER | 5 | Enter EMC for Total Zinc in ug/l using (dt)** |
| HARDNESS_dt | NUMBER | 5 | Record detection limit used in analysis |
| HARDNESS_EMC0 | NUMBER | 5 | Enter EMC for Hardness in ug/l using (0)* |
| HARDNESS_EMC_dt | NUMBER | 5 | Enter EMC for Hardness in ug/l using (dt)** |
| TPH_dt | NUMBER | 5 | Record detection limit used in analysis |
| TPH_EMC0 | NUMBER | 5 | EMC for Total Petroleum Hydrocarbons in mg/l using (0)* |
| TPH_EMC_dt | NUMBER | 5 | EMC for Total Petroleum Hydrocarbon in mg/l using (dt)** |
| ENTROCOCCI_dt | NUMBER | 5 | Record detection limit used in analysis |
| ENTROCOCCI_EMC0 | NUMBER | 5 | EMC for entrococci in MPN/100 using (0)* |
| ENTROCOCCI_EMC_dt | NUMBER | 5 | EMC for entrococci in MPN/100 using (dt)** |
| ECOLI_dt | NUMBER | 5 | Record E. Coli detection limit used in analysis |
| ECOLI_EMC0 | NUMBER | 5 | Enter EMC for E. Coli in MPN/100ml using (0)* |
| ECOLI_EMC_dt | NUMBER | 5 | Enter EMC for E. Coli in MPN/100ml using (dt)** |
| LOCAL_CONCERN1_dt | NUMBER | 5 | Record detection limit used in analysis |
| LOCAL_CONCERN1_EMC0 | NUMBER | 5 | Enter EMC for in mg/l using (0)* |
| LOCAL_CONCERN1_EMC_dt | NUMBER | 5 | Enter EMC for in mg/l using (dt)** |
| LOCAL_CONCERN2_dt | NUMBER | 5 | Record detection limit used in analysis |
| LOCAL_CONCERN2_EMC0 | NUMBER | 5 | Enter EMC for in mg/l using (0)* |
| LOCAL_CONCERN2_EMC_dt | NUMBER | 5 | Enter EMC for in mg/l using (dt)** |
| LOCAL_CONCERN3_dt | NUMBER | 5 | Record detection limit used in analysis |
| LOCAL_CONCERN3_EMC0 | NUMBER | 5 | Enter EMC for in mg/l using (0)* |
| LOCAL_CONCERN3_EMC_dt | NUMBER | 5 | Enter EMC for in mg/l using (dt)** |
| COMMENTS | TEXT | 50 | Monitoring comments/documentation |

**key:** **mg/l** = milligrams per liter ***ug/l*** = micrograms per liter **MPN** = most probable number per 100 milliliters
*** EMC (0)** = Flow weighted averages for three discrete samples representative of a storm using zero (0) for any discrete samples recorded less than the detection limit.
**** EMC (dt)** = Flow weighted averages for three discrete samples representative of a storm using the detection limit value (dt) for any discrete samples recorded less than the detection limit.

## G. Pollutant Load Reductions Associated with GIS Coverage (PART III.H.1. and PART III.J.)

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 4 | Annual report year |
| WATERSHED_CODE | NUMBER | 20 | MD 8-digit hydrologic unit code |
| TKN_RUNOFF | NUMBER | 10 | TKN load before treatment (lbs/year) |
| TKN_CONTROLLED | NUMBER | 10 | TKN treated by BMPs (lbs/year) |
| TP_RUNOFF | NUMBER | 10 | TP load before treatment (lbs/year) |
| TP_CONTROLLED | NUMBER | 10 | TP treated by BMPs (lbs/year) |
| TSS_RUNOFF | NUMBER | 10 | TSS load before treatment (lbs/year) |
| TSS_CONTROLLED | NUMBER | 10 | TSS treated by BMPs (lbs/year) |

### G.1. Additional Pollutants - Use for Multiple Pollutant Entries

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 4 | Annual report year |
| WATERSHED_CODE | NUMBER | 20 | MD 8-digit hydrologic unit code |
| POLLUTANT | TEXT | 20 | Identify additional pollutants for impaired water (TMDLs) |
| WLA_RUNOFF | NUMBER | 10 | WLA for an approved TMDL before treatment (lbs/year) |
| WLA_CONTROL | NUMBER | 10 | Waste load for an approved TMDL treated by BMPs (lbs/year) |

## H. Biological and Habitat Monitoring (PART III.H.1.)

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 4 | Annual report year |
| STATION | TEXT | 30 | Unique station ID |
| WATERSHED_CODE | TEXT | 20 | MD 8-digit hydrologic unit code |
| MD_NORTH | NUMBER | 5 | Maryland grid coordinate (NAD 83 Meters) Northing |
| MD_EAST | NUMBER | 5 | Maryland grid coordinate (NAD 83 Meters) Easting |
| DRAIN_AREA | NUMBER | 5 | Drainage area in acres |
| BIBI | NUMBER | 4 | Benthic index of biological indicators |
| EMBEDDEDNESS | NUMBER | 4 | Rapid bioassessment protocol score for embeddedness |
| EPIFAUNAL | NUMBER | 4 | Rapid bioassessment protocol score for epifaunal |
| HABITAT | NUMBER | 4 | Rapid bioassessment protocol score for habitat |
| LAND_USE | TEXT | 8 | Predominant land use[2] |

[2] Use attached Maryland Office of Planning land use codes.

## I. Illicit Discharge Detection and Elimination (PART III.E.3)

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 4 | Annual report year |
| OUTFALL_ID | TEXT | 15 | Unique outfall ID used in Section A. database |
| SCREEN_DATE | DATE/TIME | 8 | Field screening date |
| TEST_NUM | NUMBER | 5 | Initial screening, follow-up test, 3rd, etc. |
| LAST_RAIN | DATE/TIME | 8 | Date of last rain > 0.10" |
| TIME | DATE/TIME | 8 | Field screening time |
| OBSERV_FLOW | TEXT | 3 | Was flow observed? (yes/no) |
| CFS_FLOW | NUMBER | 5 | Flow rate in cubic feet per second (CFS) |
| WAT_TEMP | NUMBER | 5 | Water temperature (Fahrenheit) |
| AIR_TEMP | NUMBER | 5 | Air temperature in (Fahrenheit) |
| CHEM_TEST | TEXT | 3 | Was chemical test performed? (yes/no) |
| pH | NUMBER | 5 | pH meter reading |
| PHENOL | NUMBER | 5 | Milligrams per Liter (mg/L) |
| CHLORINE | NUMBER | 5 | mg/L |
| DETERGENTS | NUMBER | 5 | mg/L |

| | | | |
|---|---|---|---|
| COPPER | NUMBER | 5 | mg/L |
| ALGAEGROW | TEXT | 3 | Was algae growth observed? (yes/no) |
| ODOR | TEXT | 2 | Type of odor[4] |
| COLOR | TEXT | 2 | Discharge color[4] |
| CLARITY | TEXT | 2 | Discharge clarity [4] |
| FLOATABLES | TEXT | 2 | Floatables in discharge[4] |
| DEPOSITS | TEXT | 2 | Deposits in outfall area[4] |
| VEG_COND | TEXT | 2 | Vegetative condition in outfall area[4] |
| STRUCT_COND | TEXT | 2 | Structural condition of outfall[4] |
| EROSION | TEXT | 2 | Erosion in outfall area[4] |
| COMPLA_NUMBER | TEXT | 3 | Is screening complaint driven? (yes/no) |
| ILLICIT_Q | TEXT | 3 | Was illicit discharge found? (yes/no) |
| ILLICIT_ELIM | TEXT | 3 | Was illicit discharge eliminated? (yes/no) |

[4] Use Attached Pollution Prevention Activities Codes

## J. Responsible Personnel Certification Information (PART III.E.2.b.)

| Column Name | Data Type | Length | Description* |
|---|---|---|---|
| PREFIX | TEXT | 2 | Mr, Ms |
| FIRSTNAME | TEXT | 15 | First name |
| LASTNAME | TEXT | 15 | Last name |
| ADDRESS | TEXT | 50 | Full address |
| CITY | TEXT | 35 | City |
| STATE | TEXT | 2 | State |
| ZIP | NUMBER | 9 | Zip code |
| DATE | DATE/TIME | 8 | Date of class |
| PHONE | NUMBER | 10 | Phone number |
| CERTNUM | NUMBER | 6 | Certification number as provided by MDE |
| COMPANY | TEXT | 30 | Employer |
| INSTRUCTOR | TEXT | 20 | Instructor's last name |

* Do not use all caps

## K. Quarterly Grading Permit Information Associated with GIS Coverage (PART III.E.2.c.)

| Column Name | Data Type | Length | Description |
|---|---|---|---|
| SITE_NAME | TEXT | 60 | Construction site name |
| SITE_OWNER | TEXT | 60 | Construction site owner |
| OWNER_ADDRESS | TEXT | 50 | Owner address |
| OWNER_CITY | TEXT | 15 | Owner address |
| OWNER_ZIP_CODE | NUMBER | 5 | Owner zip code |
| SITE_ADDRESS | TEXT | 50 | Site address |
| SITE_CITY | TEXT | 15 | Site address |
| SITE_ZIP_CODE | NUMBER | 5 | Site zip code |
| MD_NORTH | NUMBER | 10 | Maryland grid coordinate (NAD 83 meters) – site |
| MD_EAST | NUMBER | 10 | Maryland grid coordinate (NAD 83 meters) – site |
| WTRSHD_CODE | NUMBER | 20 | MD 8-digit hydrologic unit code |
| DIST_AREA | NUMBER | 5 | Disturbed area of site in acres[1] |
| GRAD_PERM | TEXT | 10 | Local grading permit number |
| APPR_DATE | DATE/TIME | 8 | Grading Permit approval date |
| LAND_USE | TEXT | 8 | Predominant land use[2] (built) |

[1] GIS shapefile required

[2] Use attached Maryland Office of Planning land use codes

## L. Fiscal Analyses (PART III.1.)

| Permit Condition | Data Type | Length | Description |
|---|---|---|---|
| YEAR | TEXT | 13 | Annual report year |
| LEGAL_AUTH | TEXT | 13 | Total annual cost for legal authority |
| SOURCE_ID | TEXT | 13 | Total annual cost for source ID |
| SW MANAGEMENT | TEXT | 13 | Total annual cost for stormwater management |
| EROS_SED_CON | TEXT | 13 | Total annual cost for erosion and sediment |
| ILLICIT_DET/ELIM | TEXT | 13 | Total annual cost for illicit det/elimination |
| TRASH_ELIM | TEXT | 13 | Total annual cost for trash elimination |
| PROP_MANAGE | TEXT | 13 | Total annual cost for property management |
| INLET_CLEAN | TEXT | 13 | Total annual cost for inlet cleaning |
| STRT_SWEEP | TEXT | 13 | Total annual cost for street sweeping |
| RD_MAINT_OTHER | TEXT | 13 | Total annual cost for road maintenance - other |
| PUB_EDUCATION | TEXT | 13 | Total annual cost for public education |
| WTRSHD_ASSESS | TEXT | 13 | Total annual cost for watershed assessment |
| WTRSHD_RESTOR | TEXT | 13 | Total annual cost for watershed restoration |
| CHEM_MON_ASSESS | TEXT | 13 | Total annual cost for chemical monitoring |
| BIO_MON_ASSESS | TEXT | 13 | Total annual cost for biological monitoring |
| PHYS_STRM_ASSESS | TEXT | 13 | Total annual cost for physical assessment |
| MANUAL_MON | TEXT | 13 | Total annual cost for design manual monitorin |
| TMDL_ASSESS | TEXT | 13 | Total annual cost for tmdl assessment |
| TOTAL_NPDES_FUNDS | TEXT | 13 | Total annual cost for total npdes program |

## [2] 1997 MdOP Land Use/Land Cover

### 10 Urban Built-up

- **11 Low Density Residential** – Detached single family/duplex dwelling units, yards, and associated areas. Areas of more than 90 percent single family/duplex dwelling units, with lot sizes less than five acres but at least one-half acres (.2 dwelling units/acre to 2 dwelling units/acre).

- **12 Medium Density Residential** – Detached single family/duplex, attached single unit row housing, yards, and associated areas. Areas of more than 90 percent single family/duplex units and attached single unit row housing, with lot sizes of less than one-half acre but at least one-eighth acre (2 dwelling units/acre to 8 dwelling units/acre).

- **13 High Density Residential** – Attached single unit row housing, garden apartments, high rise apartments/condominiums, mobile home and trailer parks. Areas of more than 90 percent high density residential units, with more than 8 dwelling units/acre.

- **14 Commercial** – Retail and wholesale services. Areas used primarily for the sale of products and services, including associated yards and parking areas.

- **15 Industrial** – Manufacturing and industrial parks, including associated warehouses, storage yards, research laboratories, and parking areas.

- **16 Institutional** – Elementary and secondary schools, middle schools, junior and senior high schools, public and private colleges and universities, military installations (built-up areas only, including buildings and storage, training, and similar areas) churches and health facilities, correctional facilities, and government offices and facilities that are clearly separable from the surrounding land cover.

- **17 Extractive** – Surface mining operations, including sand and gravel pits, quarries, coal surface mines, and deep coal mines. Status of activity (active vs. abandoned) is not distinguished.

- **18 Open Urban Land** – Urban areas whose use does not require structures, or urban areas where non-conforming uses characterized by open land have become isolated. Included are golf courses, parks, recreation areas (except associated with schools or other institutions), cemeteries, and entrapped agricultural and undeveloped land within urban areas.

- **191 Large Lot Subdivision (Agriculture)** – Residential subdivisions with lot sizes less than 20 acres but at least 5 acres, with a dominant land cover of open fields or pasture.

- **192 Large Lot Subdivision (Forest)** - Residential subdivisions with lot sizes less than 20 acres but at least 5 acres, with a dominant land cover of deciduous, evergreen or mixed forest.

### 20 Agriculture

- **21 Cropland** – Field and forage crops.

- **22 Pasture** – Land used for pasture, both permanent and rotated: grass.

- **23 Orchards/Vineyards/Horticulture** – Areas of intensively managed commercial bush and tree crops, including areas used for fruit production, vineyards, sod and seed farms, nurseries, and green houses.

- **24 Feeding Operations** – Cattle or hog feeding lots, poultry houses, and holding lots for animals, and commercial fishing areas (including oyster beds).

- **241 Feeding Operations** – Cattle or hog feeding lots, poultry houses, and holding lots for animals.

- **242 Agricultural Building** – Breeding and training facilities, storage facilities, built-up areas associated with a farmstead, small farm ponds, and commercial fishing areas.

- **25 Row and Garden Crops** – Intensively managed track and vegetable farms and associated areas.

**40 Forest**

- **41 Deciduous Forest** – Forested areas in which the trees characteristically lose their leaves at the end of the growing season. Included are such species as oak, hickory, aspen, sycamore, birch, yellow poplar, elm, maple, and cypress.

- **42 Evergreen Forest** - Forested areas in which the trees are characterized by persistent foliage throughout the year. Included are such species as white pine, pond pine, hemlock, southern white cedar, and red pine.

- **43 Mixed Forest** – Forested areas in which neither deciduous or evergreen species dominate, but in which there is a combination of both types.

- **44 Brush** – Areas that do not produce timber or other wood products but may have cut-over timber stands, abandoned agriculture fields, or pasture. These areas are characterized by vegetation types such as sumac, vines, rose, brambles, and tree seedlings.

**50 Water** – Rivers, waterways, reservoirs, ponds, bays, estuaries, and ocean.

**60 Wetlands** – Forested and non-forested wetlands, including tidal flats, tidal and non-tidal marshes, and upland swamps and wet areas.

**70 Barren Land**

- **71 Beaches** – Extensive shoreline areas of sand and gravel accumulation, with no vegetative cover or other land use.

- **72 Bare Exposed Rock** – Areas of bedrock exposure, scarps, and other natural accumulations of rock without vegetative cover.

- **73 Bare Ground** – Areas of exposed ground caused naturally, by construction, or other cultural processes.

## [3] Glossary of Stormwater BMP Structure Types and Practices Reported to MDE

| Structure Name | Structure Code | Structure Function | CBP Urban Stormwater Workgroup (USWG) Categories |
|---|---|---|---|
| Artificial Wetlands | SM | See Shallow Marsh Structures | Wet Pond & Wetlands |
| Attenuation swale or dry swale | AS | Open drainage channel designed to detain and promote the filtration of stormwater runoff through underlying fabricated soil media (see Grassed Swale or SW) | Filtering Practice |
| Bio-retention | BIO or BR | Landscape designed such that stormwater runoff collects in shallow depressions before filtering through fabricated planting soil media | Filtering Practice |
| Check Dam | CD | A small dam constructed in a gully or other small waterway to decrease flow velocity (by reducing the channel gradient), minimize scour, & promote deposition of sediment | Filtering Practice |
| Detention Structure (Dry Pond) | DP | Designed to store runoff without a permanent pool | Dry Detention Ponds & Hydrodynamic Structure |
| Dry Well | DW | An infiltration trench variant designed to exclusively accommodate rooftop runoff | Infiltration Practice |
| Exemption | EXEMPT | Land development activities that are not subject to the stormwater management requirements | Not a SWM BMP |
| Extended Detention Structure (Two types): | ED | Designed to temporarily detain a portion of runoff for 24 hrs after a storm using a fixed orifice to regulate outflow at a specific rate, allowing solids & associated time to settle out | Dry Extended Detention Pond |
| 1) Extended Detention Structure, Dry | EDSD | Designed for the temporary storage of runoff associated with at least a 24 hr 1-year storm without creating a permanent pool of water | Dry Extended Detention Pond |
| 2) Extended Detention Structure, Wet | EDSW | Designed for the storage of runoff associated with at least a 24 hr 1-year storm. The detained water drains partially & the remaining portion creates a permanent pool | Depending upon structure design, this could be classified as a Dry Extended Detention Ponds or Wet Pond & Wetlands |
| Filter Strip | FS | Vegetated land designed to intercept sheet flow from upstream development | Filtering Practice |
| Flow Splitter (Only Montgomery County reports this practice) | FlSp | Hydraulic structure designed either to divert a portion of stream flow to a BMP located away from a channel, direct stormwater to a parallel pipe system or bypass a portion of base flow around a pond | |
| Flood Management Area | FLOOD | 10 year storm overbank flood protection | Not a WQ BMP |
| Forebay | FOREBAY | Storage structure adjoining a SWM BMP inlet designed to trap coarse sediments and thereby lessen their accumulation in the main treatment area * | Dry Detention Ponds & Hydrodynamic Structure |

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| Gabion | GABION | A large rectangular box made of heavy gauze wire mesh which holds cobbles and boulders for changing stream flow patterns, bank stabilization, and erosion control. | Filtering Practice |
| Grass Swale | SW | Open vegetated channel used to convey runoff and provide treatment by filtering pollutants and sediment | Filtering Practice |
| Hydrodynamic Structure aka:<br><br>1) Oil_grit separator<br>2) Bay Saver©<br>3) Stormceptor© | <br><br>OGS<br>BS<br>SC | An engineered structure used to separate sediments and oils from stormwater runoff using gravitational separation and/or hydraulic flow | Dry Detention Ponds & Hydrodynamic Structure |
| Infiltration Basin | IB | Designed to allow stormwater to infiltrate into permeable soils. It differs from a retention structure in that it may include a back-up underdrain pipe to ensure eventual removal of standing water | Infiltration Practice |
| Infiltration Trench (Three types):<br><br>1) Complete Exfiltration<br><br>2) Partial Exfiltration<br><br>3) Water Quality Exfiltration | IT<br><br>ITCE<br><br>ITPE<br><br>ITWQE | An excavated trench that has been backfilled with exposed or unexposed stones to form an underground reservoir (Also see Dry Well)<br><br>Runoff can only exit the trench by exfiltrating through the stone reservoir into the underlying ls<br><br>Runoff exits the trench by exfiltrating a) through the stone reservoir into the underlying soil, and b) via a perforated underdrain at the bottom of the trench that diverts runoff to a central outlet<br><br>Storage volume is set to receive only the first ½" of runoff (first flush) from an impervious area of the watershed | Infiltration Practice |
| Landscape | LANDSCAPE | Impervious area reduction (Only Prince Georges County has reports this SWM practice thus far) | Filtering Practice |
| Level Spreader | LS | A device for distributing stormwater uniformly over the ground surface as sheet flow to prevent concentrated, erosive flow and promote infiltration | Not a SWM BMP – Level Spreader |
| Micropool (Reported by jurisdictions before standardization of codes) | MP | A smaller permanent pool used in stormwater pond to mitigate the thermal impacts of a larger pond, impacts on existing wetlands, or compensate for lack of topographic relief | Wet Pond & Wetlands |
| Observation well | OBS_WELL | A test well installed in an infiltration trench to monitor draining time after installation | Not a SWM BMP – Observation Well |

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|---|---|---|---|
| Other | OTR | Self-explanatory. Describe practice in Field 20, GEN COMNT (e.g., rain barrel, trash collectors, etc.) | Viariable |
| Porous Pavement | PP | A porous asphalt surface designed to have bearing strength similar to conventional asphalt but provides a rapid conduit for runoff to reach a subsurface stone reservoir | Not a SWM BMP – Porous Pavement (MDE Non-Point Program experts do not regard this as a BMP) |
| Sand Filter | SF | A bed of sand to which the first flush of runoff is diverted. Water leaving the filter is collected in underground pipes & returned to a waterway. A layer of peat, limestone, and/topsoil may be added to improve removal efficiency | Filtering Practice |
| Shallow Marsh | SM | A structure with a permanent shallow pool planted with wetland vegetation often designed to provide extended detention | Wet Pond & Wetlands |
| Underground Storage | UGS | Vault like structure designed for the temporary storage of storm flow | Dry Detention Ponds & Hydrodynamic Structure |
| Variance | VARIANCE | A modification of the minimum stormwater management requirement if site conditions are such that strict adherence to the Guidelines would impose unnecessary hardship on the applicant without fulfilling the intent of the Guidelines | Not a SWM BMP |
| Vegetated Buffer | VB | A vegetated protective zone of variable width located along both sides of a waterway | Filtering Practice |
| Waiver | WAIVER | Exemption from stormwater management requirements granted to an applicant for a specific project based a review by MDE | Not a SWM BMP |
| Water Quality Inlet | OGS | See Hydrodynamic Structure-Oil_Grit Separator | Dry Detention Ponds & Hydrodynamic Structure |
| Wet Pond | WP | A structure with a permanent pool of water for treating incoming storm runoff | Wet Pond & Wetlands |

## [4] Pollution Prevention Activities Codes

**ODOR:** None (N), Sewage (SE), Sulfur (S), Oil (IL), Gas (G), Rancid-Sour (RS), Other (O)

**COLOR:** Clear (C), Yellow (Y), Brown (B), Green (GR), Red (R), Gray (G), Other (O)

**CLARITY:** Clear (C), Opaque (OP), Cloudy (CD), Other (O)

**FLOATABLES:** None (N), Oil Sheen (OS), Sewage (SE), Trash (T), Other (O)

**DEPOSITS:** None (N), Sediment (S), Oil (IL), Other (O)

**VEG_COND.:** Normal (N), Excessive Growth (EG), Inhibited Growth (IG), Other (O)

**STRUCT_COND**: Normal (N), Concrete Cracking (CC), Concrete Spalling (SP), Other (O)

**EROSION**: None (N), Moderate (M), Severe (S)