

**FACT SHEET**

National Pollutant Discharge Elimination System (NPDES)  
Municipal Separate Storm Sewer System (MS4)  
Permit No. DC0000221 (Government of the District of Columbia)

**NPDES PERMIT NUMBER:** DC0000221 (Reissuance)

**PERMITTEE NAME AND MAILING ADDRESS:**

Government of the District of Columbia  
The John A. Wilson Building  
1350 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004

**MS4 ADMINISTRATOR NAME AND MAILING ADDRESS:**

Director, District Department of Environment and Energy  
1200 First Street, N.E., 6<sup>th</sup> Floor  
Washington, D.C. 20002

**FACILITY LOCATION:**

District of Columbia's Municipal Separate Storm Sewer System (MS4)

**RECEIVING WATERS:**

Potomac River, Anacostia River, Rock Creek, and Stream Segments Tributary  
To Each Such Water Body

**INTRODUCTION:**

Today's action proposes reissuance of the District of Columbia Municipal Separate Storm Sewer System (MS4) Permit. In the draft permit, the United States Environmental Protection Agency, Region III (EPA) continues to integrate the adaptive management approach with enhanced control measures that have been employed during the previous permit cycles to address the complex issues associated with urban stormwater runoff within the corporate boundaries of the District of Columbia, where stormwater discharges via the MS4.

**FACILITY BACKGROUND AND DESCRIPTION:**

The Government of the District of Columbia (DC, District, or permittee) owns and operates its own MS4, which discharges stormwater from various outfall locations throughout the District into its waterways.<sup>1</sup>

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<sup>1</sup>Portions of the District are served by a combined sanitary and storm sewer system. The discharges from

Today EPA is offering the draft permit for public notice and comment. This Fact Sheet published with that draft permit contains an explanation for proposed permit provisions, especially those that have changed since the prior permit.

Since EPA issued the District its first MS4 Permit in 2000, the program has evolved. The 2011 permit marked a fundamental turning point in stormwater management in the District as explained in further detail below. As a result, the District now has some of the most effective on-site retention stormwater regulations in the country, an established Stormwater Retention Credit system supporting off-site mitigation, and a solid foundation for green infrastructure implementation. Significant planning elements required under the 2011 permit, and the subsequent permit modification in 2012, as well as public involvement in a number of those planning tasks, now provide a robust foundation for implementation of over 200 total maximum daily load (TMDL) wasteload allocations (WLAs). Further, the District's water quality assessment program will now undergo a fundamental shift from discharge characterization to assessments of both loadings and the effect of water quality programs on the physical, chemical and biological integrity of receiving waters.

**ACTION TO BE TAKEN:**

EPA is today proposing a reissuance of the District of Columbia NPDES MS4 Permit for public review and comment. The new Permit is intended to replace the 2011 permit, which was modified in 2012, and was scheduled to expire on October 7, 2016. The draft permit has been designed around many of the Stormwater Management Program elements established by the last permit as well as the District's *Consolidated TMDL Implementation Plan (2016)* and the *Revised Monitoring Strategy (2016)*, both requirements of the 2011 permit. Consistent with the 2011 permit, a number of enforceable milestones and adaptive management benchmarks have been incorporated into the draft permit; these will allow the Agency and the public to monitor the District's progress in reducing and managing the effects of urban stormwater runoff on receiving waters in and around the District.

The 2011 permit has been administratively continued following its October 7, 2016 expiration, per the general authority for administrative extensions in 40 C.F.R. § 122.26. The administratively-continued 2011 permit (as modified in 2012) will therefore remain in effect until such time as the new permit is finalized.

Generally, this Fact Sheet addresses only proposed provisions that are new, notably different from the 2011 permit, or that may be confusing without additional context. This approach is consistent with the applicable regulation that requires the fact sheet to "briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit," 40 C.F.R. § 124.8. Provisions that were first introduced in prior District MS4 permits are discussed in the accompanying Fact Sheets for each such issuance (<https://www3.epa.gov/reg3wapd/npdes/dcpermits.htm>).

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the combined sewer system are not subject to the MS4 permit, but are covered under NPDES Permit No. DC0021199 issued to the District of Columbia Water and Sewer Authority.

DRAFT

With today’s public notice, EPA is commencing a 45-day comment period on the draft permit. EPA welcomes comments on all elements of the proposed permit.

**FEDERAL AUTHORITIES FOR REQUIREMENTS IN THE DRAFT PERMIT**

Though not exhaustive, the following table lists many of the legal authorities for major provisions contained in the draft permit. EPA also refers readers to the Standard Permit Conditions (Part 6) of the draft permit for additional regulatory requirements.

<b>Required Program Application Element</b>	<b>Regulatory References</b>
Adequate Legal Authority	40 C.F.R. § 122.26(d)(2)(I)(C)-(F)
Existing Structural and Source Controls	40 C.F.R. § 122.26(d)(2)(iv)(A)(1)
Implementing measures necessary to achieve TMDL WLAs	40 C.F.R. § 122.44(d)(1)(vii)(B)
Using BMPs to meet water quality objectives, as appropriate	40 C.F.R. § 122.44(k)
Compliance schedules and deadlines	40 C.F.R. § 122.47
Roadways	40 C.F.R. § 122.26(d)(2)(iv)(A)(3)
Pesticides, Herbicides, and Fertilizers Application	40 C.F.R. § 122.26(d)(2)(iv)(A)(6)
Municipal Waste Sites	40 C.F.R. § 122.26(d)(2)(iv)(A)(5)
Spill Prevention and Response	40 C.F.R. § 122.26(d)(2)(iv)(B)(4)
Infiltration of Seepage	40 C.F.R. § 122.26(d)(2)(iv)(B)(7)
Stormwater Management Program for Commercial and Residential Areas	40 C.F.R. § 122.26(d)(2)(iv)(A)
Manage Critical Source Areas	40 C.F.R. § 122.26(d)(iii)(B)(6)
Stormwater Management for Industrial Facilities	40 C.F.R. § 122.26(d)(2)(iv)(C)

Industrial and High Risk Runoff	40 C.F.R. § 122.26(d)(2)(iv)(C), (iv)(A)(5)
Identify Priority Industrial Facilities	40 C.F.R. § 122.26(d)(2)(iv)(C)(1)
Illicit Discharges and Improper Disposal	40 C.F.R. § 122.26(d)(2)(iv)(B)(1)-(5), (iv)(B)(7)
Flood Control Projects	40 C.F.R. § 122.26(d)(2)(iv)(A)(4)
Public Education and Participation	40 C.F.R. § 122.26(d)(2)(iv)(A)(6), (iv)(B)(5), (iv)(B)(6)
Monitoring and Assessment and Reporting	40 C.F.R. § 122.26(d)(2)(iv)(D)(v)
Monitoring	40 C.F.R. § 122.26(d)(2)(iv)(B)(2), (iii), iv(A), (iv)(C)(2) 40 C.F.R. § 122.44(i)
Characterization Data	40 C.F.R. § 122.26(d)(2)(iii)(B)-(D), 40 C.F.R. § 122.21(g)(7)
Reporting	40 C.F.R. § 122.41(l)

**DISCHARGES AUTHORIZED UNDER THIS PERMIT (Part 1)**

1.2 Permittee

The draft permit identifies the “permittee” as the Government of the District of Columbia, including all departments, agencies and authorities.

The 2011 DC MS4 Permit contains prescriptive requirements for the District for coordination among its various agencies and authorities for purposes of stormwater administration. However, following issuance of the 2011 permit, EPA issued a modification, in part to clarify the role of the permittee; in the Fact Sheet for EPA’s Permit Modification #1, the Agency “provide[d] clarity that the Government of the District of Columbia is the sole permittee.” In proposing Modification #1 (July 12, 2012), EPA offered the following rationale for the clarification:

The EPA recognizes that the Government of the District of Columbia has the institutional policies, regulations and agreements to make internal determinations about which District entities shall implement the various provisions of the permit. The EPA realizes that a number of departments, agencies and authorities of the Government of the District of Columbia will be engaged in carrying out particular responsibilities under the permit. However, the permit does not purport to identify which of these entities are responsible for any particular requirement, as this does not fall within the EPA's purview as the permitting authority. The EPA will continue to work directly with DDOE, the current stormwater administrator.

This rationale was incorporated into the final Fact Sheet that supported Modification #1 of the 2011 permit. Consistent with the underlying basis for the language in the 2012 Modification, EPA has removed as no longer necessary previous Permit Part 2.3 (Stormwater Management Program Administration/Permittee Responsibilities).

An additional reason for removal of this section of the permit is that sufficient coordination among District agencies is currently occurring as expected at the time of the 2011 permit; *see e.g.*, Memoranda of Understanding between DOEE and the following other District agencies DDOT (as amended, Sept. 28, 2014), Dept. of Public Works (Sept. 14, 2015), Dept. of General Services (May 12, 2014), and DC Water (Sept. 10, 2014). Further, this revision is consistent with the 2015 Annual Report. *See* 2015 Annual Report at 2.3 ("As required by Section 2.3.2 of the permit, the District has a number of mechanisms in place to ensure that coordination across all agencies with responsibilities to implement permit provisions occurs. Specifically, DOEE coordinates the District's MS4 Technical Workgroup (TWG) and the cabinet-level Storm Water Advisory Panel (SWAP).").

#### 1.4.1 Permittee Legal Authority

The 2011 DC MS4 Permit contains a number of requirements related to the expansion of legal authority for the District to implement its stormwater programs. The draft permit reflects activities undertaken and completed by the permittee with respect to those legal authority requirements, as evidenced by Section 2.1 of the 2015 Annual Report, which contains a detailed summary of laws and regulations that provide the District with authority to control stormwater pollution within the MS4 drainage area.

In addition, the permittee has satisfied the permit application requirements to demonstrate adequate legal authority, 40 C.F.R. § 122.26(d)(2)(i). *See* SWMP (<http://doee.dc.gov/sites/default/files/dc/sites/ddoe/publication/attachments/Final%20SWMP%201-15-16.pdf>); referenced in Application.

Finally, it should be noted that the 2011 permit separately required the permittee to continue to implement the DC Stormwater Regulation, and a similar provision is included in the proposed permit, so it is appropriate to include a more limited reference in this portion of the permit. 2011 permit at 4.1.1 ("No later than 18 months following issuance of this permit, the permittee shall, through its Updated DC Stormwater Regulations or other permitting or regulatory mechanisms, implement one or more enforceable mechanism(s) that will adopt and implement the following performance standard for all projects undertaking development that disturbs land greater than or equal to 5,000 square feet: ").

#### 1.4.3 Permittee Fiscal Resources

As to fiscal resources, the 2011 permit contains a requirement that the permittee provide "adequate finances, staff, equipment and support capabilities to implement the existing Stormwater Management Program (SWMP) and the provisions of this permit. For the core program the permittee shall provide a dedicated funding source. Each annual report under Part 6

of this permit shall include a demonstration of adequate fiscal capacity to meet the requirements of this permit.” [2011 DC MS4 Permit at 2.2.] The basis for that requirement was articulated in the supporting Fact Sheet:

[M]any commenters noted that the implementation costs of the District’s stormwater program will be significant. EPA agrees. The federal stormwater regulations identify the importance of adequate financial resources [40 C.F.R. §122.26(d)(1)(vi) and (d)(2)(vi)]. In addition, after seeing notable differences in the caliber of stormwater programs across the country, EPA recognizes that dedicated funding is critical for implementation of effective MS4 programs. In 2009 the District established, and in 2010 revised, an impervious-based surface area fee for service to provide core funding to the stormwater program (understanding that stormwater-related financing may still come from other sources as they fulfill multiple purposes, *e.g.*, street and public right-of-way retrofits). In conjunction with the 2010 rule-making to revise the fee the District issued a Frequently Asked Questions document that indicates the intent to restrict this fee to its original purpose, *i.e.*, dedicated funding to implement the stormwater program and comply with MS4 permit requirements. EPA believes this action is essential, and ... expects that the District will maintain a dedicated source of funding for the stormwater program.

While the preceding statement served as an appropriate justification for including a “fiscal responsibility” provision in the 2011 permit, EPA has determined that, at this point, the District has demonstrated sufficient dedicated sources of funding for the stormwater program, as discussed in Section 2.1 of the 2015 Annual Report, including the Enterprise Fund, the Anacostia River Clean Up and Protection Fund, and general obligation funds. Further, each annual report submitted during the life of the 2011 permit provided a description of sufficient fiscal capacity.

The District has now complied with the fiscal resource requirements of the regulation applicable to its application for stormwater discharges by including the following in its renewal application: “[a] description of the financial resources currently available to the municipality to complete Part 2 of the permit application. A description of the municipality’s budget for existing storm water programs, including an overview of the municipality’s financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.” 40 C.F.R. § 122.26(d)(1)(vi) *see also* 40 C.F.R. §122.26(d)(2)(vi).

Accordingly, EPA has stream-lined the requirement for demonstration of fiscal resources in every annual report. The draft permit proposes that the District must continue to officially certify the availability of adequate funds. However, the District need no longer provide a description of all financial resources being used to implement the stormwater management program in each annual report.

## 1.5 Discharge Limits

EPA explained the framework for discharge limits in the Final Fact Sheet for the 2011 permit. Because the relationship between water quality standards and maximum extent practicable are fundamental to the development of MS4 permits, EPA excerpts parts of that discussion here:

Today's Final Permit is premised upon EPA's longstanding view that the MS4 NPDES permit program is both an iterative and an adaptive management process for pollutant reduction and for achieving applicable water quality standard and/or total maximum daily load (TMDL) compliance. *See generally*, "National Pollutant Discharge Elimination System Permit Application Regulations for Stormwater Discharges," 55 F.R. 47990 (Nov. 16, 1990).

EPA is aware that many permittees, especially those in highly urbanized areas such as the District, likely will be unable to attain all applicable water quality standards within one or more MS4 permit cycles. Rather the attainment of applicable water quality standards as an incremental process is authorized under section 402(p)(3)(B)(iii) of the Clean Water Act, 33 U.S.C. § 1342(p)(3)(B)(iii), which requires an MS4 permit "to reduce the discharge of pollutants to the maximum extent practicable" (MEP) "and such other provisions" deemed appropriate to control pollutants in municipal stormwater discharges. To be clear, the goal of EPA's stormwater program is attainment of applicable water quality standards, but Congress expected that many municipal stormwater dischargers would need several permit cycles to achieve that goal.

Specifically, the Agency expects that attainment of applicable water quality standards in waters to which the District's MS4 discharges, requires staged implementation and increasingly more stringent requirements over several permitting cycles. During each cycle, EPA will continue to review deliverables from the District to ensure that its activities constitute sufficient progress toward standards attainment. With each permit reissuance EPA will continue to increase stringency until such time as standards are met in all receiving waters. Therefore today's Final Permit is clear that attainment of applicable water quality standards and consistency with the assumptions and requirements of any applicable WLA are requirements of the Permit, but, given the iterative nature of this requirement under CWA Section 402(p)(3)(B)(iii), the Final Permit is also clear that "compliance with all performance standards and provisions contained in the Final Permit shall constitute adequate progress toward compliance with DCWQS and WLAs for this permit term".

EPA believes that permitting authorities have the obligation to write permits with clear and enforceable provisions and thus the determination of what is the "maximum extent practicable" under a permit is one that must be made by the permitting authority and translated into provisions that are understandable and measurable. In this Final Permit EPA has carefully evaluated the maturity of the District stormwater program and the water quality status of the receiving waters, including TMDL wasteload allocations. In determining whether certain measures, actions and performance standards are practicable, EPA has also looked at other programs and measures around the country for feasibility of implementation. Therefore, today's Final Permit does not qualify any provision with MEP thus leaving this determination to the discretion of the District. Instead each

provision has already been determined to be the maximum extent practicable for this permit term for this discharger.<sup>2</sup>

The explanation provided in 2011 continues to apply to today's draft permit, and those discharge limits continue to be sufficiently aggressive, with the addition of numeric milestones developed as part of TMDL implementation planning. Part 1.5.3.1 sets specific milestones that must be achieved by the end of the permit term, including acres managed metrics that represent the implementation of stormwater control measures for all pollutants except for trash. The annual WLA for trash in the Anacostia River basin, 103,188 pounds, is also included as a discharge limit.

An important discharge limit proposed in this permit, which is new for the District stormwater management program, is expressed as acres managed. As defined in the permit, acres managed refers to any area that is treated by stormwater control measures above and beyond what is already implemented in the MS4 area on the effective date of this permit. Acres managed is not a direct measure of pollutant reduction, but stands as a collective indicator of reductions in multiple pollutants in stormwater as would be realized from on-site retention of 1.2" of stormwater as applied to the relevant drainage area and standardized by acres.

Pollutant load reduction estimates reflected in the acres managed metric will vary depending on type of management practice. Though many of the pollutant reductions will come from on-site retention, a variety of other stormwater management controls are also being implemented. The District Implementation Plan Modeling Tool will convert between pollutant reduction estimates and acres managed estimates. Per the proposed requirement in Part 4.6.2.1, annual reports will include pollutant reduction estimates for all indicator pollutants.

### **CONSOLIDATED TMDL IMPLEMENTATION PLAN (Parts 2 and 3)**

One of the key requirements of the 2011 permit was development of the Consolidated TMDL Implementation Plan (IP), with the expectation that the measures and schedules laid out in that plan would be incorporated into future permits. The IP has always been intended to be a long-term road map for implementing measures to address water quality impairments attributable wholly or partially to MS4 discharges, including impairments from legacy pollutants that were historically discharged through the MS4. This draft permit is the first permit to begin implementing the IP.

The IP builds on a foundation of logical model assumptions, reasonable baselines and a solid gap analysis. EPA encourages interested parties to review the August 2016 IP, which is available on the District website ([http://dcstormwaterplan.org/wp-content/uploads/0\\_TMDL\\_IP\\_080316\\_Draft\\_updated.pdf](http://dcstormwaterplan.org/wp-content/uploads/0_TMDL_IP_080316_Draft_updated.pdf)).

EPA has not yet approved the District's IP. The Agency's primary concerns, which have been expressed in comments to the District but which are still not fully resolved, are the lack of

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<sup>2</sup>See DC MS4 Final Fact Sheet for 2011 permit issuance, [https://www3.epa.gov/reg3wapd/pdf/pdf\\_npdes/stormwater/DCMS4/FinalPermit2011/DCMS4FINALDCfactsheet093011.pdf](https://www3.epa.gov/reg3wapd/pdf/pdf_npdes/stormwater/DCMS4/FinalPermit2011/DCMS4FINALDCfactsheet093011.pdf)



breadth in implementation actions, and a timeline that would not result in attainment of all 204 WLAs until 2154. Suggestions for accelerating that timeline proposed in this draft permit include:

1. **Revising TMDLs in Need of Updates (2.2.1).** Some of the longer schedules in the IP applied to TMDLs that are based on few data or old data that likely no longer accurately reflect in-stream conditions or sources. However, until those TMDLs are revised or withdrawn, they stand as written and approved. The draft permit proposes that during the first year of this permit term, the District provide a schedule for revisiting certain TMDLs with additional data collection and revision, as warranted. With more accurate information, the District should be able to address the necessary implementation measures for those impairments more aggressively.
2. **Stormwater Fee Options Evaluation (2.2.4).** EPA believes that, with additional funding, retrofits and other measures to achieve TMDL WLAs could be implemented more aggressively. The draft permit requires that during the next 3 years the District evaluate options for increasing the Stormwater Fee, including how the fee can complement and leverage other funding sources.
3. **Analysis of Updating Stormwater Management Regulations (2.2.5).** IP analyses demonstrate that many WLA attainment timelines could be shortened by increasing the District's on-site retention standard from 1.2" to 2", or by applying the standard in target watersheds. The draft permit proposes that over the next 3 years the District undertake an analysis to explore combinations of options.
4. **Bacteria Source Tracking (4.4.2) *and* Milestones and Benchmarks for the Next Permit Term (2.2.3.1).** Some of the lengthiest WLA attainment timelines are for *E. coli*. This is largely due to the fact that sources are poorly understood, and thus the IP relies mostly on general stormwater measures to achieve the necessary reductions, rather than measures that specifically target sources of *E. coli*. The draft permit proposes that during this permit term the District complete a study to track sources of bacteria and use that information to develop more aggressive milestones and benchmarks for *E. coli* that will inform requirements to be included in the next permit. The District would be required to make that study available for public notice and comment and provide it to EPA for review and approval no later than October 1, 2019. If the permittee opts to revise one or more bacteria TMDLs, the source tracking elements will be included in the revised TMDL, and EPA will adjust compliance schedules accordingly.
5. **Minimization of Legacy Pollutants (2.2.3.2).** The timelines for attainment of the WLAs for legacy pollutants, *i.e.*, chlordane, heptachlor epoxide, dieldrin, DDT, DDE, DDD and PCBs, are also quite protracted. Based on MS4 discharge data as well as in-stream data, the IP concludes that though these pollutants historically did reach surface waters via the MS4, ongoing sources of these legacy pollutants have been largely eliminated. However, their presence in receiving water sediments continues to present water quality concerns. Accordingly, the draft permit proposes that the

District confirm the conclusions regarding legacy pollutant elimination. In some cases the District may decide insufficient data are available and opt to modify the TMDL (2.2.1). For other legacy pollutants the District shall develop a minimization plan to address these pollutants. The required plan would include new benchmarks and milestones, and may include sediment remediation measures, as appropriate. The District would make the minimization plan available for public notice and comment, and provide it to EPA for review and approval with the 2020 Annual Report.

6. **Eliminating Exemptions for Certain Small Projects (2.4.1) and Implementing the Standard for Small Project (3.1.4.2).** Minimizing the number of exemptions from stormwater requirements that are currently available for smaller projects will naturally increase the amount of stormwater that is managed, and will also accelerate timelines for WLA attainment. The draft permit proposes that the District develop procedures over the next two years that will, through a series of design elements and on-site retention requirements, optimize stormwater management for these projects. The draft permit also proposes that this exemption be ultimately eliminated through implementation of these measures no later than January 1, 2019.
7. **Public Right-of-Way Optimal Design (2.4.2).** As noted below (see discussion regarding Part 3.1.3) the draft permit requires that the standard for projects in Public Rights-of-Way (PROW) will be implemented through site-specific analyses, rather than through a straight numeric on-site retention requirement. In order to enhance this process, and to also maximize stormwater capture in PROWs, the draft permit proposes that the District develop a set of PROW-optimal designs over the next four years.
8. **Evaluation of Pollutant Reductions from Catch Basin Cleaning (2.5).** There are certain pollutant reduction activities for which the District does not yet have methods for estimating pollutant reductions. Developing procedures for making those estimates will aid in tracking progress towards WLA attainment. The draft permit proposes that during this permit term the District develop a method for estimating pollutant reductions from catch basin cleaning.
9. **Stormwater Management and Retrofit Program for Existing Discharges (1.5.3.1 and 3.2).** The IP proposes an “acres managed” metric for tracking progress towards WLA attainment. EPA finds this an acceptable metric. The IP proposes a 5-year milestone of 1,038 acres managed for each of the next few permit terms. Though EPA is unconvinced that this is an acceptably aggressive milestone in future permit terms, it is included in the draft permit for the following reasons:
  - a. 1,038 acres managed represents a significant increase (250%) from the retrofit requirements of the 2011 permit, which required management of 413 acres (18,000,000 square feet). In addition, the draft permit also increases the PROW retrofit requirement 33% from 34 acres (1,500,000 square feet) to 46 acres (2,000,000 acres), and increases the tree canopy requirement 93% from a net increase of 4,150 trees per year to 8,000 trees per year. EPA is obligated

to evaluate incremental increases in effort and resources from the maximum extent practicable perspective. Under those circumstances, these numbers are deemed appropriate for this permit term.

- b. The increase in acres managed is expected to be a natural outgrowth of the implementation of enhanced measures described in Paragraphs 1-7 (above), and thus should correspondingly increase in future permit terms.

EPA welcomes and encourages comments on the TMDL planning and implementation requirements in this permit. Detailed alternatives or additions, supported by a strong rationale of what may be feasibly attainable in a permit term, will be carefully considered.

### **STORMWATER MANAGEMENT PROGRAM PLANNING (Part 2)**

The draft permit has been organized such that all planning requirements are included in Part 2, including requirements to undertake assessments, develop new strategies and update existing plans, along with the schedules for completion. This part also proposes elements to be approved by EPA and subject to public notice and comment.

TMDL planning requirements are discussed above in greater detail. However, those requirements include:

- Providing a schedule for updating all TMDLs in need of revision and commencing with the necessary efforts to implement the schedule (2.2.1);
- Updating the District's TMDL models and tools (2.2.2);
- Developing milestones and benchmarks for the next permit term, including an accelerated schedule for implementing measures to attain WLAs for *E. coli* and legacy pollutants (2.2.3);
- Evaluating options for increasing the District's Stormwater Fee (2.2.4);
- Conducting a cost/benefit analysis for making changes to the District's stormwater management regulations, i.e., increasing the on-site retention volume to 2 inches (2.2.5);
- Incorporating new or revised TMDLs into the Consolidated TMDL Implementation Plan (2.2.6);
- Adapting implementation strategies to optimize stormwater control measure effectiveness (2.2.7);
- Keeping the plan updated and publicly available on the District web site (2.2.8); and
- Making a fully-updated plan available to the public for review and comment 15 months prior to the expiration date of the permit, and submitting the plan to EPA nine months prior to the expiration date of the permit (2.2.8.3).

Specific implementation requirements for the Hickey Run TMDL (Part 4.10.2 of the 2011 permit) are now reflected in the requirements for TMDLs.

Additional Stormwater Management Program planning elements are also required, including:

- Developing an inspection strategy for all regulated on-site and off-site control measures (2.3);
- Developing a strategy to phase out or eliminate the on-site retention requirements for small projects (2.4.1);
- Compiling a set of optimal designs for public right-of-way features such as major arteries, residential streets, alleys, medians and sidewalks (2.4.2);
- Evaluating volumes and pollutant concentrations of materials removed from catch basins through regular clean-outs, such that pollutant removal estimates may be made (2.5); and
- Incorporating water quality elements into the District Snow Response Plan (2.6).

Part 2.7 of the draft permit addresses the issues of flood management and climate change. Executive Order 13653 (November 1, 2013) directs federal agencies to, among other things: improve climate preparedness and resilience; promote risk-informed decision making and preparedness planning; remove barriers to resilience; support climate resilient investment; and consider recommendations of state climate preparedness and resilience strategies. In 2016 the District proposed for public comment *Climate Ready DC, The District of Columbia's Plan to Adapt to a Changing Climate*. This plan assesses climate risks and vulnerabilities in DC, and makes a series of recommendations for enhancing community and infrastructure resilience. A number of those identified vulnerabilities and recommendations dovetail with elements of the District's stormwater management program. As such, EPA has made efforts to align the relevant SWMP elements with *Climate Ready DC* recommendations for ease of implementation. The District's climate strategy documents that:

- Average high temperatures will increase from 87° F to between 93° and 97° by the 2080s. A heat index of over 95° F will increase from an average of 30 days per year to 70-80 days by the 2050s and 75-105 days by the 2080s.
- Today's one in 100-year rainfall event could become a one in 25-year event by mid-century, and a one in 15-year event by the 2080s.
- Sea level rise and storm surges will put the District at greater risk for coastal flooding in the future.

The plan concludes that stormwater systems will be strained by more frequent and severe rain events, as well as potential inundation from sea level rise and coastal storms. As a result the District will experience more localized flooding and increased stormwater runoff. Other infrastructure will also be significantly stressed by these changes.

The District is already facing challenges associated with climate change. Part 2.7 of the draft permit acknowledges many of the stormwater management areas of overlap between water quality and flooding and proposes several specific measures designed to ensure that these issues are considered in tandem, including:

- Ensuring that development in floodplains neither exacerbates flooding nor threatens water quality (2.7.1);

- Ensuring that waterbodies and the flood storage capacity of floodplains are not threatened by development (2.7.2);
- Continuing to work collaboratively with other organizations on flood risk management, and ensure that water quality concerns are adequately represented (2.7.3);
- Implementing green infrastructure and other controls for both flood management and water quality on a watershed basis (2.7.4); and
- Factoring data on future climate conditions into decisions about standards for and resilience of stormwater infrastructure (2.7.5).

In addition, *Climate Ready DC* makes a number of recommendations that correspond to provisions of the draft permit. EPA has made efforts in the draft permit to ensure consistency with those common elements. EPA has not added new requirements to the permit based on the recommendations of the District’s climate strategy, but rather has taken steps to ensure that the draft permit is not at odds with the strategy and that objectives and time frames align to the extent possible. EPA is very supportive of the District’s efforts to enhance community resilience in the face of climate-related challenges and wants to ensure that the permit acknowledges and supports these efforts, where possible. The following table highlights some of the recommendations from *Climate Ready DC* that have notable overlap with the draft permit with short notes on alignment.

<b><i>Climate Ready DC</i> Recommendations</b>		<b>Draft MS4 Permit Alignment</b>
TU <sup>3</sup> 3.1	Update design standards for water drainage infrastructure to address the projected increase in intensity of precipitation.	The draft permit proposes that the District conduct an analysis of options for modifying the stormwater regulations, including increasing the on-site retention requirement or applying it to priority watersheds (Part 2.2.5).  In addition, the draft permit proposes that the District use future climate conditions and evaluate the need for revised standards in stormwater and floodplain management, and flood control projects (Part 2.7.6)
TU 3.2	Increase combined sewer and separate stormwater system capacity with green and grey infrastructure including raingardens, green roofs, cisterns and pervious pavement. Focus first on areas that flood regularly of have known drainage capacity issues.	The foundation for this permit is on-site retention of stormwater or green infrastructure, with specific requirements for development (Part 3.1) and retrofits (Part 3.2). There is nothing in the permit to discourage or prevent retrofit activities within the MS4 area from being focused in locations with flood or drainage problems.
TU 3.5	Flood proof critical stormwater and combined sewer infrastructure including,	The Draft permit proposes that the permittee utilize assess stormwater

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3 “TU” stands for the Transportation and Utilities sectors.

	but not limited to, pumping stations, inlets and outlets. Implement backflow prevention techniques.	infrastructure to determine which assets may need enhanced resilience to ensure ongoing performance (Part 2.7.6).
TU 5.3	Update design standards for roads and transit infrastructure to account for projected extreme temperatures and extreme precipitation events.	The draft permit requires the District to develop optimal stormwater management designs for public rights-of-way by 2020 (Part 2.4.2). The proposed language allows for the consideration of a variety of factors in this optimization, and does not preclude the inclusion of climate-related factors.
BD <sup>4</sup> 8.3	Develop incentives, training and technical assistance programs for significant water use reductions including rainwater and greywater harvesting and onsite blackwater treatment.	The on-site performance standards carried forward from the prior permit and already incorporated into the District’s stormwater regulations, include support for stormwater harvesting (Part 3.1). The permit includes training on these techniques both for the development community (Part 3.1.5) and municipal employees (3.9).
BD 10.1	Conduct a citywide analysis of flood zones to understand the impact of setbacks, buffers and zoning and land use policies on existing and future developments.	The draft permit incentivizes the restoration of stream buffers and floodplains by allowing the District to take credit towards WLA reduction for these activities (Part 3.2.5).
BD 10.3	Propose amendments to floodplain regulations and zoning and land use policies to ensure that waterfront setbacks and buffers allow for future sea-level rise, changes in precipitation patterns, sustainable landscaping practices, erosion, and reduce flood risks.	The draft permit requires that all development proposed for floodplains must be evaluated from both flooding, flood storage capacity and water quality perspectives (Part 2.7)
NC <sup>5</sup> 13.2	Reduce the heat-island effect and related increase in outside air temperatures with cool and living roofs, expanded green space and tree cover, prioritizing hotspots and those areas with the greatest number of heat vulnerable residents. Incorporate heat-island mitigation into planning for green infrastructure, tree canopy, and public space initiatives.	EPA notes that the draft permit proposes an increase in the number of tree plantings to 8,000 per year (Part 3.2.4) and the implementation of 350,000 square feet of green roofs (Part 3.2.3) in the MS4 area, which does include many of the identified hotspots and heat vulnerable residents.

<sup>4</sup> “BD” refers to buildings and development.

<sup>5</sup> “NC” stands for neighborhoods and communities.

NC 14.4	...Provide green space that supports community activities and serves as a rain garden to capture slow precipitation runoff...	The permit supports this measure with many green infrastructure-related provisions. See above.
GI <sup>6</sup> 18.5	Require climate change training for staff responsible for capital infrastructure and large development projects to educate them about climate risks and how to manage them.	EPA has added a notation to Municipal Employee Training (Part 3.9) as follows: “As appropriate, the permittee may combine this training with other relevant issues, such as climate change training.” This does not add a new permit requirement, only identifies an opportunity for dual purpose training.

Part 2.8 of the permit provides a summary table (Table 2) with the schedules for all planning and assessment elements required to be submitted to EPA. The Table also makes note of which of these elements the District shall make available for public notice and comment and which are subject to EPA approval.

In general, EPA has tried to align schedules with annual reporting in order to minimize the number of submittals. There are a few exceptions. For example, the quality assurance program plan (QAPP) for the water quality assessment program needs to be aligned with the sampling cycle rather than the annual reporting cycle. EPA has also tried to balance the benefits of immediate implementation against the value of formal review and input from the public and from EPA. EPA encourages the District to consider any input at any time on any element of the program. However, in the draft permit EPA has proposed that only certain critical elements be made available for formal public notice and comment and subject to EPA approval. These elements are:

- Report on *E. coli* source tracking study and new milestones and benchmarks (2.2.3.1);
- The Legacy Pollutant Minimization Plan (2.2.3.2);
- The Updated Consolidated TMDL Implementation Plan (2.2.8.3) prior to submitting it with the permit renewal package; and
- The Updated Stormwater Management Program Plan (2.9) prior to submitting it with the permit renewal package.

For many of the other required assessments and plans required by the permit EPA reserves the authority to comment, as well as to make modifications to provisions that will become enforceable in the next permit term. However, in most cases the draft permit is reasonably prescriptive, and considering that moving to immediate implementation accelerates water quality benefits, EPA is proposing to avoid public comment and EPA review for certain MS4 program elements. EPA welcomes comments on whether the appropriate balance has been achieved and if additional Stormwater Management Program elements listed in Table 2 of the draft permit should also be subject to formal public notice and comment and/or formal EPA approval.

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<sup>6</sup> “GI” refers to governance and implementation.

Parts 2.9 and 2.10 of the draft permit modify the time frame for submittal of the application package for permit renewal. The draft permit requires that a fully updated SWMP Plan and a fully updated TMDL Implementation Plan be provided for public notice and comment 15 months prior to the expiration date of the permit, and the application package be submitted to EPA nine months prior to the expiration date of the permit. Given the complexity of the District Stormwater Management Program and the iterative nature of MS4 permitting, the additional three months beyond the requirement in the existing permit should help ensure adequate time to reissue the permit prior to the expiration date.

As a note, previous permits had included a provision indicating that "[t]hese permit requirements do not prohibit the use of 319(h) funds for other related activities that go beyond the requirements of this permit, nor do they prohibit other sources of funding and/or other programs where legal or contractual requirements preclude direct use for stormwater permitting activities." At the time the previous permits were issued, EPA had not yet developed clear guidance on the appropriateness of using 319(h) funds for urban stormwater. However, in 2013, EPA issued guidance entitled "Nonpoint Source Program and Grants Guidelines for States and Territories," <https://www.epa.gov/sites/production/files/2015-09/documents/319-guidelines-fy14.pdf> (April 12, 2013). The guidance clarifies that "§ 319 funds may be used to fund any urban stormwater activities that do not directly implement a final municipal separate storm sewer system (MS4) NPDES permit," and contains very specific guidance on how the 319 funds can be spent. *See id.* At p. 24. Accordingly, this provision has been removed from the draft permit.

**STORMWATER MANAGEMENT PROGRAM IMPLEMENTATION (Part 3)**

The draft permit has been organized such that all requirements for implementing stormwater control measures are included in Part 3.

Some of the specific TMDL implementation issues are discussed above in greater detail. However, EPA emphasizes that *all* measures in this permit are pivotal in making progress towards attaining wasteload allocations (WLAs). Stormwater controls required by this permit include a balance of prevention and protection measures to minimize the likelihood of additional impairments occurring and reduction and remediation measures to address current impairments. The table below links impairment pollutants of concern to specific permit requirements to implement controls on those pollutants.

Pollutants	TMDLs	Permit Requirements
<b>Nutrients</b>		
Nitrogen, Phosphorus	Anacostia Nutrients and BOD (2008)  Chesapeake Bay Phosphorus, Nitrogen and Sediment (2010)	3.1, 3.2, 3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.6, 3.3.7, 3.3.8, 3.4, 3.5, 3.6, 3.7.5, 3.7.7, 3.10
<b>Conventional Pollutants</b>		



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Biochemical Oxygen Demand (BOD)	Kingman Lake TSS, Oil and Grease, BOD (2003) Anacostia Nutrients and BOD (2008)	3.1, 3.2, 3.3.1, 3.3.2, 3.3.8, 3.4, 3.6, 3.7.7, 3.10
Total Suspended Solids (TSS), Sediment	Kingman Lake TSS, Oil and Grease, BOD (2003) Watts Branch TSS (2003) Anacostia TSS (2007) Chesapeake Bay Phosphorus, Nitrogen and Sediment (2010)	3.1, 3.2, 3.3.4, 3.3.5, 3.3.6, 3.3.7, 3.3.8, 3.6, 3.5, 3.6, 3.10
Bacteria	Anacostia & Tributaries Bacteria (2003 & 2014) Kingman Lake Bacteria (2003 & 2014) Potomac & Tributaries Bacteria (2004 & 2014) Tidal Basin and Ship Channel Bacteria (2004 & 2014) Chesapeake and Ohio Canal Bacteria (2004 & 2014) Rock Creek Bacteria (2004 & 2014) Oxon Run Organics, Metals, and Bacteria (2004)	3.1, 3.2, 3.3.1, 3.4, 3.6 3.10
<b>Metals</b>		
Arsenic, Copper, Lead, Mercury, Zinc	Anacostia & Tributaries Metals and Organics (2003) Kingman Lake Organics and Metals (2003) Potomac Tributaries Organics and Metals (2004) Oxon Run Organics, Metals, and Bacteria (2004) Rock Creek Organics and Tributaries Metals (2004, revised 2016)	3.1, 3.2, 3.3.2, 3.3.3, 3.3.4, 3.3.6, 3.3.8, 3.4, 3.6, 3.7.6 3.10
<b>Organics</b>		

Polyaromatic Hydrocarbons (PAHs), Chlordane, Heptachlor Epoxide, Dieldrin, DDT, DDE, DDD, PCBs	Anacostia & Tributaries Metals and Organics (2003)	3.3.2,
	Kingman Lake Organics and Metals (2003)	3.3.3,
	Potomac and Anacostia Tidal PCB (2007)	3.3.4,
	Potomac Tributaries Organics and Metals (2004)	3.4,
	Oxon Run Organics, Metals, and Bacteria (2004)	3.5,
	Rock Creek Organics and Tributaries Metals (2004)	3.6 3.7.4, 3.7.6 3.10
<b>Other Pollutants</b>		
Oil & Grease	Anacostia Oil & Grease (2003)	3.1, 3.2,
	Kingman Lake TSS, Oil and Grease, BOD (2003)	3.3.2, 3.3.4, 3.4, 3.6, 3.7.6, 3.10
Trash	Anacostia Trash (2010)	3.1, 3.2, 3.3.2, 3.3.4, 3.3.6, 3.6, 3.7.1, 3.7.2, 3.7.3, 3.10

### 3.1 On-Site Retention Standard

Development of District stormwater regulations to implement a 1.2” on-site retention standard with an accompanying off-site mitigation program were major advancements of the program per the 2011 permit. During the previous permit term, the District successfully implemented both provisions, so the new Draft Permit requires the permittee to continue implementing this program, with a few enhancements and modifications, including posting on the District website the status of all projects, including both on-site and off-site stormwater management volumes retained (3.1.1.2). Additional modifications are noted below.

#### 3.1.2 Stormwater Retention Credit Program

At the time of this proposal the District Stormwater Retention Credit (SRC) program is only three years old. It is demonstrating notable potential, and has received national and international attention for its thoughtfully designed framework. The Nature Conservancy has promoted it as a national investment model<sup>7</sup>, and the United Nations has identified it as an

<sup>7</sup> The Nature Conservancy, *New Investment Model for Green Infrastructure to Help Protect Chesapeake Bay: Business and conservation interests set to invest in Washington, D.C.’s stormwater management program*,

example of innovation for climate action<sup>8</sup>. The SRC program is still in its infancy and has yet to realize its full potential. As such, EPA proposes for this permit term to leave the off-site mitigation program provisions of the permit essentially unchanged with a couple of enhancements:

- A limitation on grandfathering older development projects for SRC eligibility, to maximize water quality benefits. As such, for any retention practices installed prior to July 2013 (when the SRC program formally took effect), only projects for which an application has been submitted within 6 months after the effective date of this permit will be eligible to generate SRCs (3.1.2.2); and
- The permittee will commit \$12.75 million to establish an SRC Credit Purchase Agreement Program and technical support for property owners interested in generating SRCs (3.1.2.3). The TMDL IP indicated that these credits would be retired for additional water quality benefits, and the draft permit currently reflects this framework. However, EPA requests comments and suggestions on whether another framework could maximize the water quality benefits of these credits.

### 3.1.3 Implementing the Standard for Projects in the Public Right-of-Way

The 2011 permit provided a 5-year exemption from achieving the full 1.2” on-site retention requirement and conducting off-site mitigation for District-owned projects in the Public Right-of-Way (PROW) that were greater than or equal to 5,000 square feet. EPA was clear in the Fact Sheet for that permit that the exemption would not extend to the next permit term, and that the District should spend the 5-year period determining the on-site retention that was maximally practicable in PROWs. Because of the poor understanding of the range of on-site retention capacities in PROWs, EPA made no *a priori* determination in 2011 as to how this framework would be implemented, *e.g.*, as a numeric threshold or standard, an algorithm, or a process.

During the 2011 permit term the District implemented a process to assess each proposed PROW development or reconstruction project in the context of individual opportunities and challenges at the particular site. During the time period in which this process has been in place the District has undertaken site plan reviews for 13 Type 1 projects (solely reconstruction of existing PROW) and 116 Type 2 projects (parcel-based development that reconstructs adjacent PROW). District data for on-site retention across all of these projects indicate that feasibility varies widely from 0% to 600% retention of the 1.2” stormwater volume. This type of variation makes a strong demonstration that a deliberative analytical process that determines maximum on-site retention on a site-by-site basis can be successful with appropriate oversight and accountability. While some sites may have little if any capacity for on-site retention, others clearly have capacity significantly in excess of 1.2”. For this reason, the draft permit proposes that the District’s design considerations and decision process continue to be the mechanism for

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March 7, 2016. <http://www.nature.org/newsfeatures/pressreleases/new-investment-model-for-green-infrastructure-to-help-protect-chesapeake-bay.xml>

<sup>8</sup> United Nations, *UN report identifies innovative ways to boost investment for climate action in cities*, December 4, 2015. <http://www.un.org/sustainabledevelopment/blog/2015/12/state-of-city-climate-finance/>

implementing on-site retention measures in the Public Right-of-Way, as described in detail in the District's *Stormwater Management Guidebook (2013)*, <http://doee.dc.gov/swguidebook>.

EPA weighed the pros and cons of requiring the District to provide off-site mitigation for all PROW projects that cannot achieve on-site retention of 1.2" of stormwater, and determined that: (1) it could dis-incentivize full utilization of on-site retention capacity at those sites that can achieve significantly more than 1.2"; (2) it could divert District resources from retrofit projects with greater pollutant reduction potential; and (3) the overall on-site retention totals would not necessarily be enhanced since the District already has fixed annual numeric milestones, which must be achieved regardless. In the interest of balancing prescriptive and flexible requirements EPA is choosing *for this permit term* to allow the District to continue to demonstrate that the case-by-case maximization approach in PROWs achieves equal or better overall stormwater retention when considering optimum expenditure of District resources on stormwater management.

The status of all projects will be posted on the District website as a public record of the efficacy of this process, and EPA encourages all stakeholders to evaluate this information and provide feedback to the District and to EPA on the strengths and weaknesses of this approach. If necessary, this framework can be revisited with reissuance of the permit five years from now, including direct implementation of the 1.2" on-site retention requirement with off-site mitigation. At that time, in tandem with the PROW category-specific optimal designs that will be in place by 2020 per Part 2.4.2 of the proposed permit, it may be easier to determine if an alternative or combined framework may be more effective. At this time, however, EPA considers that the District has made a reasonable demonstration for the effectiveness and practicability of this evaluation and decision process as it applies to implementation of the on-site retention standard in public rights-of-way.

### 3.2 Retrofit Program for Existing Discharges

As noted above, the retrofit and accounting system used by the District has evolved in this draft permit to reflect the analyses undertaken with the development of the Consolidated TMDL Implementation Plan:

- Milestones have been established as 'acres managed' rather than square feet to reflect the accountability framework developed in the TMDL Consolidated Implementation Plan (3.2.1);
- Requirements for retrofits, overall and in the PROW, have increased (see discussion above) 250% from 413 acres in the 2011 permit to 1,038 acres (3.2.1);
- The District's RiverSmart programs are eligible to generate Stormwater Retention Credits (3.2.2);
- Requirements for tree plantings have increased to reflect the District's revised Tree Canopy strategy. The new District-wide strategy sets a higher annual goal for tree plantings in the District. To reflect that shift the permit proposes to require a net increase from 4,150 trees per year to 8,000 trees per year in the MS4 area (3.2.4); and
- Stream, buffer and floodplain restoration projects may be credited for WLA reductions where stream bed load or bank erosion has contributed to pollutant of

concern loadings (3.2.5). To the extent that pollutant reduction estimate methodologies have been established by the Chesapeake Bay Program for these activities, the District is encouraged to undertake these activities and factor the water quality benefits into milestone and benchmark analyses.

### 3.3 Municipal Operations

In May 2013 EPA performed a compliance inspection of the District’s MS4 program. As part of the compliance assessment EPA also reviewed documents provided by the District following the inspection, as well as the 2013 and 2014 annual reports. Several program deficiencies were identified, which are addressed in the draft permit, as referenced below.

<b>Noncompliance Issue</b>	<b>Corresponding Provision in the draft permit</b>
Failure to develop and implement a maintenance protocol for district-owned property;	3.8.1
Failure to maintain a complete electronic inventory of stormwater control practices that includes information on the mechanism used to assure maintenance;	3.3.2.6, 3.3.2.7
Failure to practice good housekeeping and to implement a yearly inspection schedule at municipal facilities;	2.3, 3.3.2.1, 3.3.2.2, 3.3.2.3, 3.3.2.5
Failure to implement the training required in the permit;	3.9
Failure to track all critical sources as required by the permit;	3.4.1.1
Failure to maintain an industrial facilities database as required by the permit.	3.3.2.6, 3.4.1.1

Other modifications in the draft permit to requirements for Municipal Operations largely reflect refinements resulting from planning efforts during the 2011 permit term and improvement of tracking systems, such as development of a database inventory of municipal operations and implementation of GIS-based mobile field applications for maintenance activities (3.3.2.6 and 3.3.4.2, respectively). Other proposed revisions include:

- All municipally-operated industrial activities will now be required to develop and implement Stormwater Pollution Prevention Plans (3.3.2.2);
- The annual catch basin cleaning requirement is clarified, at the request of the District, to allow occasional exceptions within a reasonable margin of error for logistical obstacles, such as cars parked over catch basin inlets (3.3.4.1);
- Street sweeping requirements remain largely the same, but are now expressed as miles swept per year rather than as frequency of sweeping in order to align with the Chesapeake Bay Program models for pollutant reduction estimation (3.3.6); and
- Standard and emergency utility and road repair projects will now be required to implement soil erosion and sedimentation measures and to remove silt from all dewatering discharges (3.3.7).

### 3.7 Targeted Pollutant Controls

A new section has been included in the permit to consolidate and document a number of District programs and policies focused on specific source controls. These include:

- Trash reduction efforts (3.7.1);
- The District fee on plastic shopping bags (3.7.2);
- The District ban on certain polystyrene foam food containers (3.7.3);
- The District ban on the use of coal tar pavement products (3.7.4);
- The District restrictions on phosphorus lawn fertilizers (3.7.5);
- The District program for hazardous waste collection (3.7.6); and
- The District leaf and yard waste collection program (3.7.7).

While most of the targeted pollution control programs are established and ongoing, inclusion in the draft permit provides a foundation for tracking and reporting the pollutant reductions from these initiatives.

### 3.8 Operation and Maintenance of Stormwater Management Practices

The provisions for operation and maintenance are largely carried forward from the prior permit, though the proposed requirements for non-District-operated stormwater control measures now explicitly include the need for long-term verification processes, including regular inspections that may be conducted by the District or by third parties, or may include owner/operator certifications.

## **WATER QUALITY ASSESSMENT (Part 4)**

Monitoring requirements in the District's MS4 permits prior to 2011 consisted largely of discharge characterization, which was accomplished through end-of-pipe monitoring for over 100 different analytes/pollutants. Most of the results for the majority of those pollutants were non-detect, indicating that for more than 10 years those contaminants had not been pollutants of concern in District MS4 discharges. In addition, the District was required to conduct standard dry weather screening for detection of illicit MS4 connections and discharges.

The 2011 permit required the permittee to develop a new and comprehensive water quality assessment strategy focused more narrowly on the pollutants that are still of significant concern in District waterways, and also on the health of the receiving waters themselves. The 2011 permit established the following objectives for the new program:

1. Make wet weather loading estimates of [*E. coli*, total nitrogen, total phosphorus, total suspended solids, cadmium, copper, lead, zinc, and trash] from the MS4 to receiving waters. Number of samples, sampling frequencies and number and locations of sampling stations must be adequate to ensure data are statistically significant and interpretable.
2. Evaluate the health of the receiving waters, to include biological and physical indicators such as macroinvertebrates and geomorphologic factors. Number of samples, frequencies and locations must be adequate to ensure data are statistically significant and

interpretable for long-term trend purposes (not variation among individual years or seasons).

3. Include any additional necessary monitoring for purposes of source identification and wasteload allocation tracking. This strategy must align with the Consolidated TMDL Implementation Plan. For [*E. coli*, total nitrogen, total phosphorus, total suspended solids, cadmium, copper, lead, zinc, and trash] monitoring must be adequate to determine if relevant WLAs are being attained within specified timeframes in order to make modifications to relevant management programs, as necessary.

In 2015, the District submitted the Revised Monitoring Program to EPA for review and approval. The District subsequently updated the Program in 2016. EPA encourages interested parties to review the Revised Monitoring Strategy, as that document includes many more details than the draft permit or this Fact Sheet. EPA has approved this Revised Monitoring Program and has incorporated it into the draft permit. The following Table (from the District Revised Monitoring Program, and recreated in the draft permit as Table 6) provides an overview of the new water quality assessment elements.

Overview of the Water Quality Assessment Program

Monitoring Element	Frequency	Year 1				Year 2				Year 3				Year 4				Year 5			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Wet Weather Monitoring	3 events each year																				
Dry Weather Screening	On a rolling basis so that each outfall is inspected once in the permit term																				
Macro-invertebrates	Once during spring index period each year																				
Habitat	Once during summer of the first year, then on an as-needed basis																				
Geomorphology	Once during summer of the first year, then on an as-needed basis																				
Receiving Water Quality	Once each month																				
Trash	3 wet weather events each year																				

#### 4.2 Wet Weather Discharge Monitoring

The draft permit proposes that wet weather discharge monitoring be conducted for the same nine pollutants of concern noted above. The District has established continuous record and stratified random monitoring locations in each of the three major watersheds of the District (Anacostia River, Potomac River, and Rock Creek Park). These sites will be monitored during at least three wet weather events each year to establish long-term discharge records. These data will be used to estimate pollutant loadings to receiving waters from the MS4.

#### 4.3 Receiving Water Assessments

Discharge data alone do not provide a full picture of the ecological health of receiving waters, thus the need to evaluate in-stream variables. The District monitoring program will now also include evaluations of habitat, macroinvertebrates and geomorphology, as well as in-stream water quality monitoring. Twenty-six wadeable stream locations throughout the District have been selected for ongoing assessment of these watershed indicators. Macroinvertebrate communities will be assessed annually. Habitat and geomorphology will be assessed once per permit term. Baselines for all of these variables will be established during this permit term, and these indicators will be evaluated and tracked over the long-term as part of the evaluation of the health of receiving waters and the effectiveness of the MS4 program.

The District is adopting many of the elements of the Maryland Biological Stream Survey (MBSS)<sup>9</sup> sampling and interpretation protocols for the District's program. These protocols include the use of Maryland reference streams since there are no longer any streams in the District that support the diversity of biota and have the physical features of a truly high quality stream. Given the proximity and similar ecozones, EPA supports this decision.

In the first year of the assessment program the District will be required to evaluate each stream for a variety of other features, including a utility assessment, obstructions, erosion points, dump sites, crossing conditions and buffer deficiencies.

The District is also required to conduct in-stream water quality sampling monthly for total nitrogen, ammonia, nitrite, nitrate, chloride, total phosphorus, orthophosphate, copper, zinc, sulfate, pH, acid neutralizing capacity, dissolved oxygen, specific conductance and hardness. Collectively these parameters should provide a solid assessment of the water quality in District receiving waters.

#### 4.4 Dry Weather Screening and Source Identification

Many of the elements and requirements of the dry weather screening program were established in prior permits as part of the District program to detect and eliminate illicit discharges from the MS4. Methods, schedules, priority systems and follow-up protocols of the base program are largely unchanged in the draft permit.

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<sup>9</sup> Maryland Department of Natural Resources, Maryland Biological Stream Survey.  
<http://dnr.maryland.gov/streams/Pages/mbss.aspx>



The draft permit proposes that the District conduct a Bacteria Source Tracking study (Part 4.4.2) to identify sources of *E. coli* in the MS4 area where WLAs have not yet been attained. Additional information on this provision is included in the discussion above about Part 3 of the permit.

#### 4.5 Trash Monitoring

During the previous permit term, the District participated in a multi-jurisdictional collaboration of MS4 communities subject to the Anacostia Trash TMDL. That work group has established monitoring protocols in order to align metrics for tracking and reporting on trash reduction and removal. As such, the District proposed a revised monitoring approach for trash, which EPA has approved. The permit requires the District to continue to sample trash from trash traps in District waterbodies and at outfalls at least 4 times per year for weight and counts of different types of trash.

In addition, the District is also required to conduct transect monitoring at 13 locations in the Rock Creek, Potomac River and Anacostia River watersheds. Data on trash weight will be collected at six of these sites and data on count and weight will be collected at all 13 sites.

These data will be used to be for the assessment of compliance with the Anacostia Trash TMDL WLA, and also the effectiveness of the District's bag fee and foam ban. The District may also use these data to inform future policy decisions regarding trash reduction.

#### 4.6 Data Synthesis

As noted above, the primary reason for revising the District's water quality assessment program is to ensure that there are data of sufficient type and amount to support meaningful interpretations and come to reasonable conclusions about the effectiveness of water quality programs and the status of receiving waters. To that end, the selection of meaningful indicators and the appropriate interpretation of those indicators is very important.

There are two basic categories of indicators for the District's stormwater management program. The draft permit proposes that the District provide a synthesis of what these indicators reveal:

*Programmatic Indicators*, which are metrics to evaluate specific aspects of program implementation such as numbers/types of control measures installed, number of inspections performed, or number of illicit connections identified and corrected. Because of the multi-faceted nature of the draft permit and the District's stormwater management program, there are numerous programmatic indicators (see Annual Reporting Template, and the discussion below).

*Watershed Indicators*, which are metrics used to evaluate specific aspects of ecological health, such as macroinvertebrate community diversity, geomorphological indices or water quality data. The Water Quality Assessment program outlined in Part 4 of the permit identifies

the indicators that have been selected for the District's program, including the pollutants of concern and the physical and biological variables being assessed on a regular basis.

Collectively these indicators provide the foundation for evaluating both short-term and long-term water quality patterns, as well as how well water quality protection programs are functioning. The draft permit proposes that the District estimate annual pollutant loadings for the identified pollutants of concern (4.6.2.1); estimate annual progress towards all numeric milestones (4.6.2.2); and using all data and information collected per the water quality assessments, formalize the suite of long-term indicators to be used well into the future over multiple permit terms (4.6.2.3).

The draft permit proposes that in each annual report the permittee will provide a short synthesis of areas of the program deemed effective with ongoing effort, and areas where additional strategies are needed to effectively tackle certain pollutants or sources. The conclusions must be supported by the indicators (4.6.3.1).

In the fifth year of the permit term the permittee will provide a synopsis of progress towards meeting all WLAs. The permittee will also update the SWMP with elements of the program that will be enhanced to make timely progress towards the water quality objectives of the permit and towards meeting the District's water quality standards (4.6.3.2).

#### 4.7 Data Management

The draft permit proposes a requirement for maintenance of gis- systems to ensure the long-term integrity of information and effective and nimble data storage, management and retrieval. Accessibility by multiple users is also proposed (4.7.1). In addition, the draft permit proposes proper stewardship of all data relevant databases (4.7.2).

### **REPORTING REQUIREMENTS (Part 5)**

Reporting requirements consist of three basic elements: (1) keeping information readily available to the public, (2) submittal of discharge monitoring reports, and (3) preparation and submittal of annual reports.

Providing information to interested stakeholders and the general public on the activities and outcomes of the stormwater management program is vitally important. The draft permit proposes that the permittee continue to develop web-based public-facing data information systems to report progress on implementation efforts, benchmarks and milestones, and the water quality status of receiving waters. The District is also required to maintain updated documents comprising the stormwater management program on the District website. Further, the permit requires the District to report annual progress against all numeric milestones in the permit and all benchmarks in the Consolidated TMDL Implementation Plan. The District must also post each annual report on the website at the same time it is submitted to EPA.

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The District is required to continue to submit Discharge Monitoring Reports (DMRs) annually to EPA with analytical results of all monitoring. DMRs will be submitted electronically to EPA via NetDMR.

In the draft permit EPA is proposing a different approach to annual reporting from the current practice. See the discussion below under Appendix A, Annual Report Template. Reporting year cycles will be aligned with the reporting year cycles that the District (and other Chesapeake Bay jurisdictions) use to report pollutant reductions and control measure implementation to the Chesapeake Bay Program Office, consistent with the District's implementation of the Chesapeake Bay nitrogen, phosphorus, and sediment TMDL. The Chesapeake Bay reporting year cycle runs from July 1 to June 30, so EPA proposes the same DC MS4 permit reporting year cycle. The draft permit proposes that annual reports be submitted to EPA, and posted on the District website, no later than December 1 of each year.

### **STANDARD PERMIT CONDITIONS FOR NPDES PERMITS (Part 6)**

Pursuant to 40 C.F.R. § 122.41, “[a]ll conditions applicable to NPDES permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations (or the corresponding approved State regulations) must be given in the permit.” As a result, EPA has removed from the current permit those conditions which are not plainly applicable to MS4 permits for the purpose of streamlining the permit and making relevant requirements easier to track; however, the generalized NPDES requirements continue to be applicable through incorporation by reference.

7.12.5. Electronic Reporting. This Part was added to reflect EPA's new Electronic Reporting Rule, 80 Fed. Reg. 64064 (Oct. 22, 2015); see also 40 C.F.R. 122.22(e), which became effective on December 21, 2015.

### **OTHER REQUIREMENTS (Part 7)**

#### 7.1 National Historic Preservation Act

No changes to the provisions in the 2011 permit are proposed in this draft permit to meet requirements under the National Historic Preservation Act.

#### 7.2 Endangered Species Act

Concurrent with public notice of this draft permit, EPA is submitting a proposed Biological Evaluation and Finding of Not Likely to Adversely Affect to the U.S. Fish and Wildlife Service (FWS) and The National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries). This action is consistent with requirements under Section 7 of the Endangered Species Act (50 C.F.R. 402; 16 U.S.C. 1536(c)).

Some of the monitoring and assessment required by this permit will help support additional evaluation of potential effects on these threatened and endangered species. Analytical monitoring data submitted via NetDMR are available to FWS and NOAA Fisheries on an

ongoing basis.

### **PERMIT DEFINITIONS (Part 8)**

This Part of the draft permit clarifies that terms not specifically defined in the permit or in Clean Water Act regulations, are meant to be interpreted as in common usage. In addition, EPA has revised or added definitions for several terms used in the permit, including:

- Consolidated TMDL Implementation Plan (new)
- Critical Sources (new)
- Discharge Monitoring Report (revised)
- General Retention Calculator (new)
- Green Area Ratio Program (new)
- Maryland Biological Stream Survey (new)
- Maximum Extent Practicable (new)
- Programmatic Indicators (new)
- Public Right-of-Way (new)
- RiverSmart (new)
- Stormwater Control Measure (new)
- Stormwater Retention Credit (new)
- Stormwater Management Program (revised)
- Stormwater Management Program Plan (new)
- Stormwater Retention Volume (new)
- Watershed Indicators (new)

### **ANNUAL REPORT TEMPLATE (Appendix A)**

There are several proposed changes to annual reporting in the draft permit.

The permittee has suggested, and EPA has agreed, that consolidating all annual reporting requirements in one location in the permit rather than scattered throughout, would provide clarity for all parties. As a result, all annual reporting requirements are now consolidated into the proposed Annual Report Template.

EPA also proposes an annual reporting template as a way to improve efficiency in both developing annual reports and reviewing annual reports. District MS4 program annual reports generally consist of approximately 100 pages or more, much of which consist of fairly lengthy narrative. Though EPA appreciates the general thoroughness of these reports, it is often difficult and time-consuming to efficiently make compliance determinations. EPA is therefore proposing that most annual reporting elements be simplified to quantifiable metrics, short answers, yes/no compliance statements, and other straightforward and succinct assessments of program requirements. This approach does not preclude the District from attaching additional supplements to their reports or EPA from requesting them on an as-needed basis. In fact, as summarized in Table 2 of the draft permit, the permittee will be required to submit certain new plans and strategies with particular annual reports. However, EPA intends for the Annual

## DRAFT

Reporting Template to provide a concise summary of annual progress in a format that is easily reviewable and understandable to both EPA and members of the public.

EPA has developed a Draft Annual Report Template in a fillable portable document format for ease of both preparation and review. The Annual Report Template is not an official EPA form and, as such, there is no requirement that the permittee use it. However, the District has indicated an interest in a simplified format, and whether the fillable form is used or not, the draft permit is proposing that each annual report include these elements.

Nearly all reporting elements are direct reflections of the requirements of this permit. The template numbering system corresponds to the permit numbering system for easy reference.

The one set of reporting elements that does not directly reflect permit requirements are the TMDL benchmarks. As noted in Part 2.2.6.1(a), and as defined in the draft permit, benchmarks are quantifiable targets or goals used to assess progress toward milestones and WLAs. Benchmarks are meant to be used to assess progress in an adaptive management framework, but are not considered directly enforceable measures. Therefore, they are not included in the permit. However, the District committed to tracking and reporting on these measures in the Consolidated TMDL Implementation Plan. Therefore, the Annual Report Template includes reporting requirements for each benchmark.

The reporting items in the Annual Report Template are largely self-explanatory and directly reflect the permit provisions, other than for TMDL-related benchmarks as explained in the previous paragraph. EPA welcomes any comments or suggestions for additions or revisions to reporting elements in order to provide information that the agency or any other stakeholder might find useful, as long as those new or modified reporting elements reflect permit provisions or information that the District could reasonably be expected to have and disseminate as part of the stormwater management program. EPA also welcomes suggestions on the format of the Template that might facilitate ease of use either for those reporting or those utilizing information in the report.