

Re: Fact Sheet

National Pollutant Discharge Elimination System (NPDES)
NPDES Permit Renewal (Storm Water)

NPDES PERMIT NUMBER: DC0000221

FACILITY ADDRESS:

Office of the City Administrator
Government of the District of Columbia
The John A. Wilson Building
1350 Pennsylvania Avenue, NW
Washington, DC 20004

FACILITY LOCATION:

District of Columbia
Municipal Separate Storm Sewer System (MS4)

RECEIVING STREAM:

Potomac River, Anacostia River,
And Tributaries

FACILITY BACKGROUND AND DESCRIPTION:

The Government of the District of Columbia owns and operates a Municipal Separate Storm Sewer System (MS4) which discharges storm water during wet weather events from various outfall locations throughout the District into its waterways. The District of Columbia Government was issued its first MS4 Permit in April, 2000, which required the permittee to implement its existing Storm Water Management Plan (SWMP) over the next three years and during that time review and propose an improved SWMP. In that time, the District has established and refined the infrastructure for dealing with MS4 permit compliance activities within their jurisdiction through passage of the District of Columbia Storm Water Permit Compliance Amendment Act of 2000 (DC Law #13-311) in June, 2001; developed a monitoring program to determine the chemical and physical characteristics of the municipal storm water being discharged from the MS4 outfalls; performed an assessment of existing MS4 activities which contribute to the runoff being discharged into the MS4 system; provided an implementation plan for managing the MS4 activities within the District; and submitted an upgrade to their existing SWMP. The Permit coverage extends to all areas within the corporate boundaries of the District of Columbia served by, or otherwise contributing discharges, from the MS4 system, but does not include the District's combined or sanitary sewer systems. Rather than establishing specific numeric outfall effluent limits, the Environmental Protection Agency (EPA)

has established a combination of narrative and best management practices as the effluent limits in this permit in Section I requiring implementation of the Upgraded SWMP as a non numeric effluent limit consistent with 40 CFR Part 122.44(k)(2). As explained below EPA has determined that the Upgraded SWMP represents (1) the technology based level of pollution reduction achieved through the combination of best management practices (BMPs) controlling the quantity as well as the quality of pollutants in the MS4 to the maximum extent practicable (MEP); and (2) the implementation of the Upgraded SWMP (in conjunction with narrative prohibition in Section I.C. of the permit) is sufficient to ensure compliance with applicable water quality standards. The MS4 Permit characterizes and controls storm water, and because of the indiscriminate nature of storm water focuses on controls of the sources of pollutants through the use of Best Management Practices (BMPs) under existing Federal rules and regulations. EPA has also identified an effluent limit consistent with the applicable total maximum daily loads (TMDLs) waste load allocations (WLAs).

EPA's implementing regulations for Section 301(b)(1)(C) among other things prohibit the issuance of an NPDES permit "when imposition of conditions cannot ensure compliance with the applicable water quality requirements" and to ensure that adequately protective NPDES effluent limits are imposed whenever "a discharge causes, has the reasonable potential to cause or contributes to an in-stream excursion about the allowable ambient concentration" of an applicable water quality standard. See 40 CFR §§ 122.4(d) and 122.44(d)(1)(iii). EPA views the MS4 NPDES permit program as an iterative process requiring reexamination of ongoing controls and continued improvements to the respective storm water management programs of each facility while continuing to adequately protect the water quality of the receiving stream.

When the MS4 Permit was issued on April 19, 2000, it was subsequently appealed for a number of reasons. After the parties fully briefed the issues, the appeal resulted in two decisions finally by the Environmental Appeals Board (EAB) in February, 2002 and upon reconsideration in May, 2002. The focus of those appeals was on a total of nine issues which included compliance with water quality standards through the use of BMPs, rather than through establishing numeric effluent limits; aggregate versus single outfall discharge limits and monitoring procedures for the Hickey Run Total Maximum Daily Load (TMDL) in the Permit; EPA's determination that the MS4 would reduce storm water pollutant discharges to the Maximum Extent Practicable (MEP); the process for addressing SWMP deliverables and modifications during the Permit cycle; and the conflict in the use of "waivers and exemptions" between District and Federal storm water regulations. One of the issues which the EAB agreed with EPA included the finding that MS4 permits may have BMPs as permit effluent controls sufficient to meet water quality standards, specifically affirming the Agency's position that NPDES permits are not required to have numeric effluent limits (especially storm water permits) but rather may contain BMPs as permit controls. The EAB also observed that the numeric limit for the Hickey Run TMDL in the Permit saying that the Permit was not necessarily required to have outfall specific limits. On BMPs and MEP, EPA's position was upheld on our determinations that the SWMP and BMPs represent the controls sufficient to achieve reduction of pollutants to "the maximum extent practicable"(MEP); that the Permit properly allowed for

improvements and upgrades; that EPA properly allowed a three year compliance schedule; and that the Permit properly considers cost benefit information.

With regard to permit modifications, the EAB upheld the compliance schedule and extension of time provisions which were up to 120 days in the Permit. Issues remanded to the Region included establishing a record justifying that the MS4 effluent limits will "ensure compliance" necessary to meet applicable water quality standards; inclusion in the Permit of the methodology for monitoring procedures and requirements for either a narrative or the numeric standard to address the Hickey Run TMDL; revise the Permit to explain how major and minor modifications with regard to MS4 monitoring location and SWMP changes will be addressed; and clarification of the District's "waivers and exemptions" clause in the Permit. Since that time, consistent with the EAB's ruling on this issue, EPA has clarified through Amendment Numbers 1 and 2 to the 2000 MS4 Permit how the MS4 is to be modified and addressing the different types of changes that may be required during the life of the permit. Amendment Number 2 also authorized a change in monitoring stations from the Anacostia watershed to the Rock Creek watershed. This Permit reflects those changes to the modification procedures and the monitoring stations. EPA has addressed the other remand issues in the fact sheet and/or in the reissued MS4 Permit.

ACTION TAKEN:

This action involves reissuing a second round National Pollutant Discharge Elimination System (NPDES) MS4 Permit to the Government of the District of Columbia. The reissued MS4 Permit will replace the one originally issued on April 19, 2000, and subsequently changed by Amendment Number 1 issued on January 12, 2001, and Amendment Number 2 issued on March 19, 2003. The reissued draft MS4 Permit was public noticed on November 14, 2003, for a thirty day review and comment period. EPA received four multiple comment letters from interested parties during the public comment period and has prepared individual responses to each of those letters (refer to MS4 Responsiveness Summary document). This permit incorporates information and schedules contained in the Upgraded SWMP as the primary pollutant control mechanism for addressing storm water issues during the next permitting cycle. Changes in the permit and Upgraded SWMP reflect information set forth in the District's First Annual Review dated April 19, 2001; the 2002 Annual Report dated April 19, 2002; the 2002 Implementation Plan dated April 19, 2002; and the Discharge Monitoring Report dated April 19, 2002; and which is supplemented by the 2003 Annual Report, the 2003 Implementation Plan, and the 2003 Discharge Monitoring Report, all of which are dated April 19, 2003. The Permit will require action and implementation of all MS4 activities by the permittee as set forth in this Permit and the Upgraded SWMP. The Permit promotes the demonstration of the effectiveness of various BMPs. The requirements of this Permit build on existing MS4 inventories, databases, and studies which support implementation of MS4 activities. Finally this Permit continues to require the development, collection and reporting of baseline and trend monitoring data under the District's current MS4 watershed-based monitoring program. Besides compliance with the conditions of this Permit, such information will be used to evaluate the overall effectiveness of current controls and direct the developments of additional controls to be taken to enhance the

District's storm water management program and provide further protection for water quality.

Based on the information available as described above for this Permit, EPA has determined that the District's Upgraded Storm Water Management Plan establishes controls that will reduce the discharge of pollutants to the maximum extent practicable consistent with EPA's MS4 storm water program requirements of Section 402(p)(3)(B)(iii) of the CWA. In reaching this conclusion, EPA reviewed not only the monitoring information discussed above, the TMDLs and resulting wasteload allocations (detailed in the Fact Sheet) but also the District's Annual Reports dated April 19, 2002 and April 19, 2003. In addition EPA also reviewed the District's Implementation Plans dated April 19, 2002 and April 19, 2003; the District's fifth Semi-Annual Report to the Mayor and City Council dated December 2003. To implement these requirements in the Permit, EPA has revised Part I.D. to clarify that the effluent limits for this permit are to implement the requirements set forth in the Upgraded Storm Water Management Plan. EPA has also provided a clarifying definition of the "maximum extent practicable" standard for the specific purposes in this MS4 Permit. The narrative effluent limits provide the performance-based standard for evaluating the environmental outcome of the storm water management activity which is being monitored for compliance. The Region finds that the Permit effluent limits and other requirements (such as those establishing "measurable performance standards" in Parts III.C.6 and III.D of the Permit) adequately hold the Permittee to continue meeting quantifiable outcomes tied to pollution reduction and real achievable results under the current system of annual permit deliverables.

Based on the following discussion, EPA finds that the Upgraded SWMP and the Permit effluent limits to implement that SWMP are sufficient to ensure compliance with applicable water quality standards. Because of continued uncertainty and lack of data regarding the efficiency of various BMPs, this Permit also includes substantial monitoring to verify and inform EPA's findings.

The District's Upgraded SWMP which EPA approved on October 29, 2003, set forth a framework for a long term storm water management control program under the reissued Permit for assessing its effectiveness in ensuring compliance with applicable water quality standards to the maximum extent practicable. The basic strategy for assessing the effectiveness of the Upgraded SWMP in meeting the applicable District water quality standards has been and continues to be dependent on the cyclic watershed monitoring and assessment program established under the current permit for assessing long term water quality impacts and trends, on specific BMP monitoring, where appropriate, and on the direct (i.e., number of BMPs installed; removal efficiencies; storm water volume reduction; event mean concentration reduction; pollutant loading reduction) and indirect (i.e., education of the public; monitoring for illicit discharges and construction impacts; cleaning of catch basin and streets; removal of floatables from District waterways) measurement systems of storm water management controls currently being implemented within the District. Within the next two years, the District will complete their initial baseline monitoring under the MS4 Permit and start with their next round of monitoring in the Anacostia, Rock Creek, and Potomac watersheds to be in a position to evaluate the

effectiveness of the storm water controls being implemented annually in achieving compliance with applicable water quality standards. This monitoring will serve to further inform and/or verify to EPA whether the Permit controls (including BMP effectiveness) are sufficient to ensure compliance with applicable water quality standards.

While the recommendations for each of the MS4 activities identified in the Upgraded SWMP will continue to be implemented during the reissued Permit cycle to ensure compliance with applicable water quality standards, District studies and reports indicate that there are over 350 BMPs installed currently to reduce the MS4 pollutants being discharged to the system, up to 60 tons per month during heavy rainfall periods of floating debris being removed from District waterways, 700 tons of trash per month being collected from 2,000 litter cans placed at bus stops and in heavy pedestrian traffic areas, approximately 6,000 tons of trash being cleaned annually through the catch basin program, and 5,298 construction sites inspected in FY2001 with 234 enforcement actions taken for violations of storm water regulations. Functional landscaping and low impact development (LID) practices will continue to be promoted and offered as cost effective means of addressing storm water management through site design modifications and implementation of BMPs. These practices encourage development in a hydrologically functional manner, consistent with the natural landscape. Between January, 2001, and February, 2002, the District's Department of Health approved 21 LID storm water management plans as demonstration projects. The 8th Street, S.E., pilot project scheduled for completion during FY 2004 by the Department of Transportation incorporates LID principles and will be used to evaluate the effectiveness of LID techniques within transportation capital projects to reduce storm water runoff and improve storm water quality. (Refer to Chapters 5 and 6 of the Storm Water Management Plan dated October 19, 2002, for additional information regarding MS4 activities).

As previously mentioned, the Permit to be reissued will build through implementation of BMPs and numeric criteria and program standards, where appropriate, on current projects already underway for each of the MS4 activities outlined in Part III.B of the existing Permit. This will be achieved through institutional and other accomplishments to date which included passage of the District's "Storm Water Permit Compliance Amendment Act of 2000" that created a permanent management infrastructure and funding source for implementing MS4 activities and additional actions under the existing Permit that increased District inspection and enforcement of MS4 activities; integrated BMPs and low impact development projects into all MS4 activities; enhanced informational databases for MS4 activities to support implementation; established programs to deal with source characterization and identification, snow and ice removal, and illicit discharge detection and correction; created a sampling program to monitor representative MS4 outfalls on a rotating subwatershed basis for the Anacostia River, Rock Creek, and Potomac River; and developed programs for educating the public and private sectors to effectively manage storm water.

On January 12, 2001, the Region issued Amendment No.1 to the existing Permit which clarified when the Permit would be reopened and modified in accordance with current NPDES

permit regulations. The Amendment was subsequently appealed to the EAB and packaged with the original appeal to be decided along with the February, 2002 ruling. The reissued Permit clarifies through the use of a reopener clause when modifications are appropriate and specifies throughout the Permit when major modifications to the Permit will be required. On March 19, 2003, the Region issued Amendment No. 2 to the existing Permit which authorized changes to the District's monitoring program shifting the stations and associated MS4 outfall locations from the Anacostia River subwatershed to the Rock Creek subwatershed and further discussed the modification issue. The outstanding issues remanded to the Region by the EAB which still remain are discussed below along with an explanation of how they are to be addressed in the reissued Permit.

Hickey Run is a very small tributary to the Anacostia River. The drainage area is a mere 1.7 square miles. The upper reach is essentially a closed stream and the lower reach an open channel. The headwaters of Hickey Run consist of underground storm sewer pipes with outfalls that are very close to each other. Through four outfalls, the storm sewer gives way to an open stream channel. The stream flows through the National Arboretum for less than a mile before meeting the Anacostia River. The stream has been historically plagued by illegal oil and grease dumping. Above the open stream, there are a number of transportation-related facilities in the watershed (gas stations, repair shops, etc.), many of which have not properly disposed of waste oil in the past. Also, oil and grease flush into the storm sewer system during rain storms.

While much of the oil and grease originates from nonpoint sources in the upper half of the Hickey Run watershed upstream from the four outfalls, these pollutants find their way to the storm sewer system and are thus classified as point sources in the Hickey Run TMDL. The open channel that flows through the National Arboretum in the lower half of the watershed picks up oil and grease from groundwater and sediments as well as occasional illegal dumping. These sources make up the nonpoint source load. The following table shows the percent of the total load of the pollutants from point and nonpoint sources.

Source	Percent of Total Load	
	Existing Conditions	After the TMDL
Point Source (4 outfalls)	88.9%	44%
Nonpoint Source	11.1%	31%
Margin of Safety	0.0%	25%

The TMDL required a wasteload allocation of 11.9 lbs/day of oil and grease at a stream flow in Hickey Run of 0.5 cubic feet per second representing the load from these four sewer outfalls. The effluent limit is 11.9 lbs per day for the MS4 discharge to Hickey Run.

Monitoring for oil and grease in Hickey Run is presently conducted by the District at their

ambient sampling site identified as THRO1 and the MS4 site identified in the existing Permit. Current monitoring data collected at both locations indicate that this parameter consistently meets the water quality standard criteria of 10 mg/l and should no longer be considered a pollutant of concern. The improved conditions for oil and grease within the Hickey Run subwatershed are attributed to the use of source controls and effective enforcement actions. Work will still continue in the Hickey Run subwatershed under this Permit by implementing additional techniques designed to identify violators and structural controls for ensuring TMDL requirements are met on a continuous basis. One of the measures which the District intends to pursue under this Permit is the establishment of a BMP structure below the largest outfall from Hickey Run prior to it becoming an open channel through the National Arboretum as a means to ensuring full compliance with the applicable water quality standard criterion. Development of a monitoring program for measuring the effectiveness and performance of the BMP in achieving the TMDL endpoint of 10mg/l for oil and grease is a provision of the Memorandum of Understanding which was signed in January, 2004 with the agencies responsible for the project. The aggregate approach and the setting of one limit at this outfall for monitoring the TMDL was decided based on the configuration of the enclosed stream, the volume of storm water that the outfall contributes to the open channel and that the ambient monitoring site downstream of the four outfalls that comprise Hickey Run has not shown oil and grease violations.

When the oil and grease TMDL for Hickey Run was developed, a single wasteload allocation (WLA) was assigned to the combined four outfalls that comprised the man-made reconfigured piped stream prior to it becoming a natural waterway in the vicinity of the National Arboretum. The 2000 MS4 Permit based a numeric effluent limit on that WLA and determined that the single numeric effluent limit was an appropriate control for all four outfalls because as discussed below the three downstream outfalls of the current MS4 monitoring site were not considered to be contributors to the oil and grease problem. That limit had a three year compliance schedule before it became effective. Because of the NPDES permit appeal and subsequent remand, that limit never became effective.

EPA now has two years of water quality monitoring data from the representative MS4 site for Hickey Run which demonstrates that the numeric criteria of 10mg/l is being met during wet weather events. Further evidence that the oil and grease criteria is being met is shown through monitoring records from the long established Hickey Run ambient sampling site further downstream which is maintained by the District of Columbia Department of Health under their Section.106 Program. EPA further notes that the improvement can be attributed to the source controls through the use of effective BMPs in the upper parts of the subwatershed in reducing the wasteload allocations initially entering each of the four outfalls to which the wasteload allocations in the TMDL were assigned (at the point of reentry into the main stream at the National Arboretum). Based on the above information regarding current achievement of the WLA through the SWMP BMPs, the Region has reconsidered the specific numeric effluent limit and has adopted a non-numeric narrative effluent limit (subsumed in the Part I.D.1, 2 and 3 narrative effluent limits) consistent with EPA regulations and the applicable WLA. EPA has also identified continued representative monitoring for Hickey Run to ensure that the current effluent

limits are sufficient to protect water quality consistent with the WLA in Part VI of the Permit. EPA notes that in addition the District has committed to install a structural floatable control BMP in the lower part of the Hickey Run subwatershed and to develop a comprehensive MS4 retrofit program in the headwaters of the subwatershed which is discussed in Chapter 3.0 of the 2004 Annual Report included in the final administrative record for the reissued Permit. This BMP will also further control oil and grease. While the installation of this control device is not a requirement of the Permit, the structure will reinforce the permittee's goal of continuing to maintain compliance with the oil and grease criteria established in the water quality standards and the WLA. Since EPA has adopted a narrative effluent limit applicable to the Hickey Run outfalls and representative monitoring consistent with 40 CFR 122.26 and 122.44 (k)(2), the EAB's remand of the numeric effluent limit and requisite monitoring procedures is moot.

Initiated two years ago, the District's continuous monitoring program under the MS4 has been limited to the sampling of representative MS4 sites in the Anacostia River subwatershed which includes the Hickey Run station. While the program is being designed to rotate the sampling to encompass the Rock Creek and Potomac River subwatersheds to establish baseline information and trend data to evaluate MS4 performance, the Region reaches the following conclusions based on the storm water data sampled to date from the Anacostia River subwatershed. The storm water data sampled reveals minor or no loads of volatile organic compounds, acid extractable compounds, base/neutral compounds, pesticides, polychlorinated biphenyls (PCBs), or dioxin. A number of metals are contributed in minor amounts; highest among these are copper and zinc. Moderate loads of nutrients were contributed, while significant loads of suspended and dissolved solids, fecal coliforms, and fecal streptococcus should be noted. Oil and grease, even at the Hickey Run storm water monitoring site, are no longer major pollutants of concern based on the available data and according to the draft 303(d) list mentioned previously in the fact sheet. While this information represents only one of the three watersheds to be monitored, it would appear that sediments, bacteria, and nutrients pose the greatest concern from the MS4 discharges at this time and that the potential for causing or contributing to water quality standard exceedances from the other parameters being monitored are relatively low.

The monitoring results from the April 19, 2002, and 2003, Discharge Monitoring Reports show the water quality standard criteria for oil and grease (10mg/l) being met during storm water sampling events at the MS4 representative station for Hickey Run. This would indicate that Best Management Practices (BMPs) required by the previous Permit applied throughout the Hickey Run watershed are being effectively managed providing adequate controls to ensure achievement of the applicable water quality criteria and TMDL wasteload allocation. The signed agreement between the District of Columbia Government and the National Arboretum to install a BMP project to control oil and grease and trash is viewed as a further measure of compliance on Hickey Run as the stream reestablishes itself to a viable waterway before crossing National Arboretum property prior to entering the Anacostia River.

The strategy and approach set forth in the Upgraded SWMP has been successfully demonstrated in the Hickey Run watershed. In that watershed a series of source controls and

enforcement actions have resulted in achievement of the applicable water quality criteria and applicable wasteload allocation of 10mg/l water based on the monitoring data collected over the last two years.(see Discharge Monitoring Reports dated April 19, 2002 and April 19, 2003) Based on that monitoring data, the criteria is being met during storm water events even through the low flow (base flow) was used in the Hickey Run TMDL effluent limit calculations. The District has determined that oil and grease is no longer a pollutant of concern as demonstrated by the District's draft 303(d) list (the list of impaired waterbodies). In that list, the District has proposed delisting the Hickey Run as a waterbody impaired by oil and grease as identified on previous 303(d) lists. Based on the information described above, the Region has thus determined that consistent with 40 CFR 122.44(d)(1) and EPA's Technical Support Document for Water Quality-Based Toxics Control that the BMP controls provided by the reissued Permit will be sufficient to ensure that the discharge from the Hickey Run outfalls will not cause or contribute to an exceedance of applicable water quality criteria for oil and grease. Work will still continue under the reissued Permit in the watershed however, through continued implementation of techniques for identifying and enforcing against illicit discharges, source control measures, and structural BMPs to provide preventative control measures for ensuring compliance with the applicable oil and grease water quality standard.

To further ensure compliance with water quality standards in addition to the non numeric limit requiring the use of BMPs identified in the SWMP, the Permit establishes narrative effluent limits identified in Parts I.C. and I.D of the reissued Permit which prohibits the permittee from discharging pollutants from the MS4 system to District waterways that could cause or result in an exceedance of applicable water quality standards. In further support of our determination that this MS4 Permit requires controls to reduce the discharge of pollutants to the "maximum extent practicable" (MEP) in accordance with Section 402(p)(3)(B)(iii) of the Clean Water Act which was specified previously in the fact sheet, EPA has added a definition of MEP in Part X of the reissued Permit. The permittee is also required in Part IX.B and IX.C. of the reissued Permit to demonstrate compliance with the effluent limits through the Annual Discharge Monitoring Report with the storm water component of any approved TMDL within the District [Refer to November 22, 2002, memorandum entitled, "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs] and when an exceedance occurs, to recommend a remedial course of action through the Annual Implementation Plan for correction to the maximum extent practicable within the permitting cycle. Language has been included in Part IX.A of the reissued Permit to say that "waivers and exemptions" under District law that are not consistent with applicable Clean Water Act requirements, regulations, policy, or guidance are prohibited; and, as such, this Permit does not authorize the discharge of any pollutant through such waivers, etc. The District's monitoring program for establishing baseline and trend data in the reissued Permit for determining BMP performance and compliance with water quality standards includes a complete set of MS4 representative sampling sites for the Anacostia and Potomac Rivers and Rock Creek.

Based in part on comments and on the analysis set forth above regarding the effluent limits developed to ensure compliance with water quality standards, EPA has adopted a narrative

effluent limit to the Part I.D.3 of the Permit that EPA has determined to be consistent with the applicable TMDL WLAs. EPA has determined that a combination of the narrative prohibition on discharges that “cause or contribute to the exceedance of the District’s water quality standard in Part I.C.2 of the Permit along with the effluent limitations identified in Part I.D.2 (primarily through implementation of the Upgraded Storm Water Management Plan) are sufficient to ensure compliance with the those water quality standards and are moreover consistent with the applicable TMDL WLAs. Since no implementation plan was part of the approved TMDL or WLA (nor is such a plan a requisite element of a TMDL), EPA has determined that in addition to the effluent limits it is appropriate that the Permit require the development of an implementation plan to determine whether the controls are sufficient and/or whether additional controls are necessary to further reduce the discharge of particular pollutants. The Permit is written as an action document to require implementation and to minimize delays. Part III.A of the Permit requires submission of these implementation plans as part of the compliance schedule. The Permittee is required to submit implementation plans for all of the applicable TMDL WLAs in the Anacostia River and Rock Creek watersheds. (Hickey Run is addressed in a separate Section VI of the Permit.) The Permit also requires the Permittee to describe the past practices and activities that have been implemented to achieve the reductions, the environmental benchmarks by which performance may be appropriately measured and any additional practices or controls that may be necessary for achieving the necessary reductions identified in the applicable WLA. The Permit requires submission of these plans to EPA and a review and decision to approve or disapprove (and resubmit the plan) by the Region. The Permit includes a specific Permit reopener authorizing EPA to formally modify the Permit in the event that EPA determines additional NPDES controls are necessary to be consistent with the WLAs. The Region expects that such additional may be necessary for some parameters but not others, but is moving forward to gather that information and make an informed decision.

To clarify the narrative effluent limits developed consistent with the applicable TMDL wasteload allocations identified in Part I.D.3 of the reissued Permit, EPA has identified all applicable TMDL WLAs with their associated reductions from the most current estimated loadings available at this time and included them in the attached table, hereafter known as Appendix A, to the fact sheet. Appendix A is intended to summarize the applicable approved TMDL WLA information as it relates to the DC MS4 as of the effective date of the Permit. Each waterbody is identified by its pollutant(s) of concern, the existing baseline loads estimated to originate from the MS4s, corresponding units for these loads, and the load reduction percentage associated with each TMDL WLA. The figures relate only to the MS4 portion of the total stormwater load allocation, and associated reduction for each waterbody. The TMDL WLA for the MS4 were determined by estimating total MS4 loads through modeling, identifying the dimensions of each permitted watershed, and proportionally assigning pollutant loads to each MS4 sewershed for each waterbody. Appendix A is a compilation of data extracted from the final District of Columbia TMDLs, EPA TMDL decision rationales, and supporting information. Appendix A is for informational purposes only and is intended as a guide to assist the permittee with implementing and evaluating the effectiveness of MS4 Permit controls developed consistent with the approved WLAs. The applicable approved TMDL documents should be consulted

regarding specific details concerning the development and explanation of the MS4 WLA information identified in Appendix A.

In response to the remand from the EAB and various commenters to the draft Permit, EPA has adopted a Permit provision IX.A that specifically prohibits any discharge that the District could otherwise allow through such a waiver or exemption issued under District laws. Such a discharge would not be authorized by this Permit and as such could constitute a violation of the terms of this Permit.

In its decision of the appeals of the 2000 MS4 Permit, the EAB remanded to the Region that the District's Section 401 certification could not be relied on solely as a mechanism for concluding that the document would in fact achieve water quality standards (WQS) and that an additional record of support would be needed by the Region. In response, EPA requested Section 401 certification of the second round draft MS4 Permit from the District's Department of Health at the time of the public comment and review period. The information used as the basis for our rationale discussed in the fact sheet and comments received during the public noticing period which are addressed in the responsiveness summary to comments as well as the Upgraded SMWP and associated MS4 Permit deliverables has been used by the Department to establish a record of support for their decision. The Section 401 certification which EPA Region III received from the Department of Health and which is part of the administrative record concludes that the second round draft MS4 Permit will ensure compliance with applicable WQS. The EPA Regional office accepts the Section 401 certification from the Department of Health with the understanding that the Region is not basing its reliance solely on the certification but on the record of support which is discussed above that the Department used during this process to arrive at the conclusions which are stated in the certification letter.

EPA consultations under the Endangered Species Act with the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration Marine Fisheries Service (NOAA Fisheries) were conducted as part of the public comment on the draft Permit. Both Services agreed with the findings of the biological evaluation prepared by the Region that the storm water discharges covered under the MS4 Permit would not adversely affect Federally listed endangered and/or threatened species located within the permitted area. EPA has included copies of the correspondence (letters dated December 30, 2003, from NOAA Fisheries and dated February 11, 2004, from USFWS) in the final administrative record for the reissued Permit.

For more information, contact Mr. Garrison D. Miller, mail code 3WP13, Office of Watersheds, EPA Region III, Environmental Protection Agency, 1650 Arch Street, Philadelphia, Pennsylvania 19103-2029.

Attachment (Appendix A)
District of Columbia MS4 Waste Load Allocations (WLAs) with Legend of Terms

Explanation of Terms for the TMDL Table

Column 1 - Stream segment name and number of pollutants for which TMDLs have been prepared.

Column 2 - The "Pollutant" column identifies the pollutant determined to cause a water quality impairment of a specific stream for which a TMDL was established:

BOD - Biochemical Oxygen Demand

TSS - Total Suspended Solids

Polynuclear Aromatic Hydrocarbons - PAH1, PAH2, PAH3. Classes of similar compounds grouped according to the number of carbon rings. Occur naturally in oil, coal, coal tar, and creosote; also result from incomplete combustion of hydrocarbons such as coal and oil.

Chlordane - A pesticide

Heptachlor Epoxide - A pesticide

Dieldrin - An insecticide

DDT - A pesticide banned in 1972. DDD and DDE are two products resulting from the breakdown of DDT that are more toxic than DDT itself.

TCB - Total Polychlorinated biphenyls were used as insulators for electrical equipment.

Column 3 - "Existing MS4 Load" identifies the estimated numerical quantity of pollutant discharged from the MS4 system. In many cases, the quantity and quality of the available water quality data regarding MS4 discharges was limited.

Column 4 - "TMDL MS4 WLA" identifies the waste load allocation portion of the total maximum daily load that may be discharged from the MS4 system.

Column 5 - "Units" describes how each numerical quantity is understood.

tons/G.S. - Tons per growing season. Growing season extends from April 1 through October 1.

lbs. for 3 yrs. - Describes the three year load in pounds. To get the annual load in pounds, must divide by three.

MPN/100ml - Describes fecal coliform bacteria count in terms of the Most Probable Number per 100 milliliters of solution

Column 6 - "MS4 % Reduction" describes the percentage decrease of individual pollutant loads from the estimated "Existing MS4 Load" necessary to achieve the to the "TMDL MS4 WLA."

"Unknown" - Refers to the current status of associated 'staged' TMDL and the need for additional data to quantify loads. Data will be collected in second stage of TMDL through a monitoring plan (See, e.g., Anacostia Oil & Grease TMDL and Approval Rationale for a more detailed discussion and/or the District's commitment to do follow up monitoring)..

Upper Anacostia	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Fecal Coliform Bacteria		4.40E+14	MPN/ 100 ml	90%
2	BOD	1.677E+05	8.108E+04	lbs/yr.	50%
3	Nitrogen	4.382E+04	2.920E+04	lbs/yr.	30%
4	Phosphorus	7.205E+03	4.887E+03	lbs/yr.	30%
5	TSS	1.468E+06	1.133E+02	tons/G.S.	77%
6	Oil/Grease	Unknown	3.700E+02	lbs/day	Unknown
7	Zinc	2.385E+03	2.361E+03	lbs/yr.	0%
8	Lead	3.916E+02	3.877E+02	lbs/yr.	0%
9	Copper	7.986E+02	7.906E+02	lbs/yr.	0%
10	Arsenic	1.217E+01	2.054E+00	lbs/yr.	85%
11	PAH1	9.759E+00	1.932E-01	lbs/yr.	98%
12	PAH2	5.777E+01	1.144E+00	lbs/yr.	98%
13	PAH3	57.76615488	1.144E+00	lbs/yr.	98%
14	Chlordane	1.423E-01	1.409E-02	lbs/yr.	90%
15	Heptachlor Epoxide	2.065E-02	4.089E-03	lbs/yr.	80%
16	Dieldrin	1.182E-02	8.192E-03	lbs/yr.	31%
17	DDD	5.265E-02	5.212E-03	lbs/yr.	90%
18	DDE	1.286E-01	1.273E-02	lbs/yr.	90%
19	DDT	3.443E-01	3.409E-02	lbs/yr.	90%
20	TCPCB		3.522E-01	lbs/yr.	0%
Lower Anacostia	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Fecal Coliform Bacteria		7.70E+13	MPN/ 100 ml	90%
2	BOD	1.070E+05	5.172E+04	lbs/yr.	50%
3	Nitrogen	2.299E+04	1.532E+04	lbs/yr.	30%
4	Phosphorus	3.769E+03	2.631E+03	lbs/yr.	30%
5	TSS	7.101E+05	7.546E+01	tons/G.S.	77%
6	Oil/Grease	Unknown	2.024E+02	lbs/day	Unknown
7	Zinc	1.339E+03	1.326E+03	lbs/yr.	0%
8	Lead	2.215E+02	2.193E+02	lbs/yr.	0%
9	Copper	2.287E+02	2.192E+02	lbs/yr.	0%
10	Arsenic	2.025E+01	3.415E+00	lbs/yr.	83%
11	PAH1	5.330E+00	1.055E-01	lbs/yr.	98%
12	PAH2	3.240E+01	6.415E-01	lbs/yr.	98%
13	PAH3	3.240E+01	6.415E-01	lbs/yr.	98%
14	Chlordane	7.855E-02	7.777E-03	lbs/yr.	90%
15	Heptachlor Epoxide	1.008E-02	2.082E-03	lbs/yr.	79%
16	Dieldrin	5.019E-03	3.478E-03	lbs/yr.	31%
17	DDD	8.746E-02	8.658E-03	lbs/yr.	90%
18	DDE	2.136E-01	2.115E-02	lbs/yr.	90%
19	DDT	5.720E-01	5.663E-02	lbs/yr.	90%
20	TCPCB		2.023E-01	lbs/yr.	0%
Kingman Lake	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Oil and Grease	Not Detected	1.278E+03	lbs/day	0%
2	Fecal Coliform Bacteria	3.849E+11	1.720E+11	MPN/ 100 ml	27%
3	Arsenic	2.650E-01	3.970E-02	lbs/yr.	85%
4	Copper	9.978E+00	1.000E+01	lbs/yr.	0%
5	Lead	4.872E+00	4.870E+00	lbs/yr.	0%
6	Zinc	2.974E+01	2.980E+01	lbs/yr.	0%
7	Chlordane	1.784E-03	1.780E-04	lbs/yr.	90%
8	DDD	1.301E-03	1.300E-04	lbs/yr.	70%
9	DDE	2.873E-03	2.870E-04	lbs/yr.	70%
10	DDT	7.766E-03	7.770E-03	lbs/yr.	97%
11	Dieldrin	1.598E-04	1.120E-04	lbs/yr.	30%
12	Heptachlor Epoxide	2.694E-04	5.390E-05	lbs/yr.	80%
13	PAH1	1.226E-01	1.200E-01	lbs/yr.	98%
14	PAH2	7.219E-01	7.080E+00	lbs/yr.	98%
15	PAH3	4.594E-01	4.500E-01	lbs/yr.	98%
16	TCPCB				
Fort Chaplin	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Arsenic	1.266E+00	3.760E-01	lbs for 3 yrs.	70%
2	Copper	4.620E+01	1.829E+01	lbs for 3 yrs.	65%
3	Lead	2.214E+01	7.670E+00	lbs for 3 yrs.	65%

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	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
4	Zinc	1.366E+02	1.339E+02	lbs for 3 yrs.	0%
Fort Stanton					
1	Arsenic	1.699E-01	5.046E-02	lbs for 3 yrs.	70%
2	Copper	6.273E+00	2.484E+00	lbs for 3 yrs.	55%
3	Lead	1.704E-01	6.748E-02	lbs for 3 yrs.	65%
4	Zinc	1.712E-01	1.695E-01	lbs for 3 yrs.	0%
5	Chlordane	1.132E-03	1.682E-04	lbs for 3 yrs.	85%
6	DDD	9.440E-04	9.346E-05	lbs for 3 yrs.	90%
7	DDE	1.895E-03	1.486E-04	lbs for 3 yrs.	92%
8	DDT	5.171E-03	1.536E-04	lbs for 3 yrs.	97%
9	Dieldrin	1.170E-04	2.340E-05	lbs for 3 yrs.	80%
10	Heptachlor Epoxide	7.513E-03	1.841E-05	lbs for 3 yrs.	90%
11	PAH1	7.831E-02	7.752E-02	lbs for 3 yrs.	0%
12	PAH2	4.528E-01	8.875E-03	lbs for 3 yrs.	98%
13	PAH3	2.871E-01	5.629E-03	lbs for 3 yrs.	98%
14	TPCBs			lbs/yr.	99.90%
Fort Davis					
1	Arsenic	3.300E-01	9.800E-02	lbs for 3 yrs.	70%
2	Copper	1.184E+01	4.690E+00	lbs for 3 yrs.	60%
3	Lead	5.624E+00	1.949E+00	lbs for 3 yrs.	65%
4	Zinc	3.488E+01	3.453E+01	lbs for 3 yrs.	0%
Fort Dupont					
1	Arsenic	5.560E-01	1.651E-01	lbs for 3 yrs.	70%
2	Copper	1.933E+01	7.654E+00	lbs for 3 yrs.	50%
3	Lead	8.994E+00	3.561E+00	lbs for 3 yrs.	60%
4	Zinc	2.338E+02	5.589E+01	lbs for 3 yrs.	0%
Nash Run					
1	Arsenic	3.462E+00	8.569E-01	lbs for 3 yrs.	75%
2	Copper	1.337E+02	5.293E+01	lbs for 3 yrs.	60%
3	Lead	6.614E+01	1.965E+01	lbs for 3 yrs.	70%
4	Zinc	4.007E+02	3.967E+02	lbs for 3 yrs.	0%
5	Chlordane	2.349E-02	3.488E-03	lbs for 3 yrs.	85%
6	DDD	1.404E-02	1.390E-03	lbs for 3 yrs.	90%
7	DDE	3.610E-02	2.859E-03	lbs for 3 yrs.	92%
8	DDT	9.623E-02	2.858E-03	lbs for 3 yrs.	97%
9	Dieldrin	1.645E-03	3.290E-04	lbs for 3 yrs.	80%
10	Heptachlor Epoxide	3.146E-03	3.115E-04	lbs for 3 yrs.	90%
11	PAH1	1.610E+00	1.594E+00	lbs for 3 yrs.	0%
12	PAH2	9.696E+00	1.920E-01	lbs for 3 yrs.	98%
13	PAH3	6.150E+00	1.230E-01	lbs for 3 yrs.	98%
14	TPCBs				
Popes Branch					
1	Arsenic	1.763E+00	5.237E-01	lbs for 3 yrs.	70%
2	Copper	6.483E+01	2.567E+01	lbs for 3 yrs.	60%
3	Lead	3.122E+01	1.082E+01	lbs for 3 yrs.	65%
4	Zinc	1.921E+02	1.902E+02	lbs for 3 yrs.	0%
5	Chlordane	1.172E-02	1.740E-03	lbs for 3 yrs.	85%
6	DDD	1.007E-02	7.582E-04	lbs for 3 yrs.	90%
7	DDE	3.610E-02	1.568E-03	lbs for 3 yrs.	92%
8	DDT	5.414E-02	1.608E-03	lbs for 3 yrs.	97%
9	Dieldrin	1.250E-03	2.500E-04	lbs for 3 yrs.	80%
10	Heptachlor Epoxide	1.962E-03	1.942E-04	lbs for 3 yrs.	90%
11	PAH1	1.944E+00	8.746E-01	lbs for 3 yrs.	0%
12	PAH2	4.675E+00	9.166E-02	lbs for 3 yrs.	98%
13	PAH3	2.950E+00	5.900E-02	lbs for 3 yrs.	98%
14	TPCB				
Texas Ave. Tributary					
1	Arsenic	1.341E+00	3.984E-01	lbs for 3 yrs.	70%
2	Copper	4.996E+01	1.978E+01	lbs for 3 yrs.	60%
3	Lead	1.343E+00	4.653E-01	lbs for 3 yrs.	65%
4	Zinc	1.351E+00	1.337E+00	lbs for 3 yrs.	0%
5	Chlordane	8.975E-03	1.333E-03	lbs for 3 yrs.	85%
6	DDD	7.059E-03	6.989E-04	lbs for 3 yrs.	90%

7	DDE	1.477E-02	1.170E-03	lbs for 3 yrs.	92%
8	DDT	4.012E-02	1.180E-03	lbs for 3 yrs.	97%
9	Dieldrin	8.700E-04	1.740E-04	lbs for 3 yrs.	80%
10	Heptachlor Epoxide	1.420E-03	1.406E-04	lbs for 3 yrs.	90%
11	PAH1	6.192E-01	6.130E-01	lbs for 3 yrs.	0%
12	PAH2	3.609E+00	7.075E-02	lbs for 3 yrs.	98%
13	PAH3	2.250E+00	4.500E-02	lbs for 3 yrs.	98%
14	TPCB				
Upper Watts Branch					
	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	TSS	2.220E+01	9.900E+00	tons/yr	55%
2	Chlordane	6.509E-02	9.533E-03	lbs for 3 yrs.	85%
3	DDD	4.000E-02	3.960E-03	lbs for 3 yrs.	90%
4	DDE	9.987E-02	7.908E-03	lbs for 3 yrs.	92%
5	DDT	1.334E-02	3.962E-04	lbs for 3 yrs.	97%
6	Dieldrin	4.725E-03	9.450E-04	lbs for 3 yrs.	80%
7	Heptachlor Epoxide	8.913E-03	8.704E-04	lbs for 3 yrs.	90%
8	PAH1	4.419E+00	4.375E+00	lbs for 3 yrs.	0%
9	PAH2	2.650E+01	5.194E-01	lbs for 3 yrs.	98%
10	PAH3	1.675E+01	3.350E-01	lbs for 3 yrs.	98%
11	TPCB				
Lower Watts Branch					
	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	TSS	8.200E+00	3.700E+00	tons/yr	55%
2	Chlordane	2.478E-02	3.813E-03	lbs for 3 yrs.	85%
3	DDD	1.556E-02	1.541E-03	lbs for 3 yrs.	90%
4	DDE	3.886E-02	3.077E-03	lbs for 3 yrs.	92%
5	DDT	5.190E-03	1.542E-04	lbs for 3 yrs.	97%
6	Dieldrin	1.840E-03	3.680E-04	lbs for 3 yrs.	80%
7	Heptachlor Epoxide	3.393E-03	3.482E-04	lbs for 3 yrs.	90%
8	PAH1	1.719E+00	1.702E+00	lbs for 3 yrs.	0%
9	PAH2	1.031E+01	2.021E-01	lbs for 3 yrs.	98%
10	PAH3	6.500E+00	1.300E-01	lbs for 3 yrs.	98%
11	TPCB				
Hickey Run					
	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	5.761E-02	8.556E-03	lbs for 3 yrs.	85%
2	DDD	3.261E-02	3.197E-03	lbs for 3 yrs.	90%
3	DDE	8.707E-02	6.896E-03	lbs for 3 yrs.	92%
4	DDT	2.314E-01	6.872E-03	lbs for 3 yrs.	97%
5	Dieldrin	3.436E-02	6.872E-03	lbs for 3 yrs.	80%
6	Heptachlor Epoxide	7.510E-03	7.435E-04	lbs for 3 yrs.	90%
7	PAH1	3.922E+00	7.765E-02	lbs for 3 yrs.	0%
8	PAH2	2.372E+01	4.649E-01	lbs for 3 yrs.	98%
9	PAH3	1.502E+01	3.004E-01	lbs for 3 yrs.	98%
10	TPCB				
Upper Rock Creek					
	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Fecal Coliform Bacteria	1.265E+15	6.266E+13	MPN/ 100 ml	95%
2	Copper	155.600	147.820	lbs/yr.	0%
3	Lead	71.820	9.550	lbs/yr.	86%
4	Zinc	365.040	346.790	lbs/yr.	0%
5	Mercury	3.800E-01	5.500E-02	lbs/yr.	85%
Lower Rock Creek					
	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Fecal Coliform Bacteria	4.457E+14	2.206E+13	MPN/ 100 ml	95%
2	Copper	149.670	142.190	lbs/yr.	0%
3	Lead	69.080	9.190	lbs/yr.	86%
4	Zinc	351.140	333.580	lbs/yr.	0%
5	Mercury	3.600E-01	5.300E-02	lbs/yr.	85%
Broad Branch					
	Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	1.895E-02	2.815E-03	lbs/yr	85%
2	DDD	1.393E-02	1.379E-03	lbs/yr	90%
3	DDE	3.059E-02	2.423E-03	lbs/yr	92%
4	DDT	8.271E-02	2.457E-03	lbs/yr	97%
5	Dieldrin	1.713E-03	3.391E-04	lbs/yr	80%
6	Heptachlor Epoxide	2.875E-03	2.847E-04	lbs/yr	90%
7	PAH1	1.303E+00	1.290E+00	lbs/yr	0%

8	PAH2	7.665E+00	1.518E-01	lbs/yr	98%	
9	PAH3	4.877E+00	9.656E-02	lbs/yr	98%	
10	TPCB	1.275E-01	1.275E-04	lbs/yr	100%	
Dumbarton Oaks		Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	4.193E-04	6.225E-05	lbs/yr	85%	
2	DDD	2.426E-04	2.401E-05	lbs/yr	90%	
3	DDE	6.369E-04	5.043E-05	lbs/yr	92%	
4	DDT	1.695E-03	5.032E-05	lbs/yr	97%	
5	Dieldrin	2.860E-05	5.661E-06	lbs/yr	80%	
6	HeptachlorEpoxide	5.532E-05	5.475E-06	lbs/yr	90%	
7	PAH1	2.856E-02	2.827E-02	lbs/yr	0%	
8	PAH2	1.724E-01	3.413E-03	lbs/yr	98%	
9	PAH3	1.103E-01	2.183E-03	lbs/yr	98%	
10	TPCB	2.736E-03	2.736E-06	lbs/yr	99.90%	
Fenwick Branch		Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	3.317E-03	4.926E-04	lbs/yr	85%	
2	DDD	2.747E-03	2.719E-04	lbs/yr	90%	
3	DDE	5.542E-03	4.389E-04	lbs/yr	92%	
4	DDT	1.511E-02	4.489E-04	lbs/yr	97%	
5	Dieldrin	3.435E-04	6.801E-05	lbs/yr	80%	
6	HeptachlorEpoxide	5.424E-04	5.369E-05	lbs/yr	90%	
7	PAH1	2.294E-01	2.271E-01	lbs/yr	0%	
8	PAH2	1.328E+00	2.630E-02	lbs/yr	98%	
9	PAH3	8.425E-01	1.668E-02	lbs/yr	98%	
10	TPCB	2.275E-02	2.275E-05	lbs/yr	99.90%	
Klingle Valley		Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	9.244E-03	1.373E-03	lbs/yr	85%	
2	DDD	5.529E-03	5.473E-04	lbs/yr	90%	
3	DDE	1.415E-02	1.121E-03	lbs/yr	92%	
4	DDT	3.774E-02	1.121E-03	lbs/yr	97%	
5	Dieldrin	6.561E-04	1.299E-04	lbs/yr	80%	
6	HeptachlorEpoxide	1.242E-03	1.230E-04	lbs/yr	90%	
7	PAH1	6.305E-01	6.242E-01	lbs/yr	0%	
8	PAH2	3.794E+00	7.511E-02	lbs/yr	98%	
9	PAH3	2.424E+00	4.800E-02	lbs/yr	98%	
10	TPCB	6.046E-02	6.046E-05	lbs/yr	99.90%	
Luzon Branch		Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	3.226E-03	4.790E-04	lbs/yr	85%	
2	DDD	1.974E-03	1.954E-04	lbs/yr	90%	
3	DDE	4.965E-03	3.932E-04	lbs/yr	92%	
4	DDT	1.326E-02	3.938E-04	lbs/yr	97%	
5	Dieldrin	2.352E-04	4.658E-05	lbs/yr	80%	
6	HeptachlorEpoxide	4.392E-04	4.348E-05	lbs/yr	90%	
7	PAH1	2.202E-01	2.180E-01	lbs/yr	0%	
8	PAH2	1.322E+00	2.617E-02	lbs/yr	98%	
9	PAH3	8.444E-01	1.672E-02	lbs/yr	98%	
10	TPCB	2.117E-02	2.117E-05	lbs/yr	99.90%	
Melvin-Hazen		Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	3.583E-03	5.321E-04	lbs/yr	85%	
2	DDD	2.200E-03	2.178E-04	lbs/yr	90%	
3	DDE	5.520E-03	4.372E-04	lbs/yr	92%	
4	DDT	1.474E-02	4.379E-04	lbs/yr	97%	
5	Dieldrin	2.623E-04	5.194E-05	lbs/yr	80%	
6	HeptachlorEpoxide	4.888E-04	4.839E-05	lbs/yr	90%	
7	PAH1	2.446E-01	2.422E-01	lbs/yr	0%	
8	PAH2	1.468E+00	2.907E-02	lbs/yr	98%	
9	PAH3	9.377E-01	1.857E-02	lbs/yr	98%	
10	TPCB	2.355E-02	2.355E-05	lbs/yr	99.90%	
Normanstone Creek		Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	5.233E-03	7.771E-04	lbs/yr	85%	
2	DDD	3.363E-03	3.329E-04	lbs/yr	90%	
3	DDE	8.152E-03	6.457E-04	lbs/yr	92%	
4	DDT	2.184E-02	6.487E-04	lbs/yr	97%	

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5	Dieldrin	4.044E-04	8.008E-05	lbs/yr	80%	
6	HeptachlorEpoxide	7.328E-04	7.255E-05	lbs/yr	90%	
7	PAH1	3.579E-01	3.543E-01	lbs/yr	0%	
8	PAH2	2.137E+00	4.232E-02	lbs/yr	98%	
9	PAH3	1.364E+00	2.701E-02	lbs/yr	98%	
10	TPCB	3.457E-02	3.457E-05	lbs/yr	99.90%	
Pinehurst Branch		Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	4.441E-03	6.595E-04	lbs/yr	85%	
2	DDD	3.984E-03	3.944E-04	lbs/yr	90%	
3	DDE	7.605E-03	6.023E-04	lbs/yr	92%	
4	DDT	2.086E-02	6.196E-04	lbs/yr	97%	
5	Dieldrin	5.032E-04	9.963E-05	lbs/yr	80%	
6	HeptachlorEpoxide	7.649E-04	7.572E-05	lbs/yr	90%	
7	PAH1	3.084E-01	3.053E-01	lbs/yr	0%	
8	PAH2	1.765E+00	3.494E-02	lbs/yr	98%	
9	PAH3	1.117E+00	2.211E-02	lbs/yr	98%	
10	TPCB	3.085E-02	3.085E-05	lbs/yr	99.90%	
Portal Branch		Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	1.228E-03	1.824E-04	lbs/yr	85%	
2	DDD	1.024E-03	1.014E-04	lbs/yr	90%	
3	DDE	2.056E-03	1.628E-04	lbs/yr	92%	
4	DDT	5.610E-03	1.666E-04	lbs/yr	97%	
5	Dieldrin	1.282E-04	2.538E-05	lbs/yr	80%	
6	HeptachlorEpoxide	2.017E-04	1.997E-05	lbs/yr	90%	
7	PAH1	8.496E-02	8.411E-02	lbs/yr	0%	
8	PAH2	4.913E-01	9.728E-03	lbs/yr	98%	
9	PAH3	3.116E-01	6.169E-03	lbs/yr	98%	
10	TPCB	8.394E-03	8.394E-06	lbs/yr	99.90%	
Soapstone Creek		Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	1.323E-02	1.965E-03	lbs/yr	85%	
2	DDD	7.355E-03	7.282E-04	lbs/yr	90%	
3	DDE	1.992E-02	1.578E-03	lbs/yr	92%	
4	DDT	5.287E-02	1.570E-03	lbs/yr	97%	
5	Dieldrin	8.601E-04	1.703E-04	lbs/yr	80%	
6	HeptachlorEpoxide	1.708E-03	1.691E-04	lbs/yr	90%	
7	PAH1	9.003E-01	8.913E-01	lbs/yr	0%	
8	PAH2	5.455E+00	1.080E-01	lbs/yr	98%	
9	PAH3	3.491E+00	6.912E-02	lbs/yr	98%	
10	TPCB	8.579E-02	8.579E-05	lbs/yr	99.90%	
Piney Branch		Pollutant	Existing MS4 Load	TMDL MS4 WLA	Units	MS4 % Reduction
1	Chlordane	2.731E-04	5.407E-05	lbs/yr	80%	
2	DDD	3.173E-04	3.141E-05	lbs/yr	90%	
3	DDE	5.115E-04	4.051E-05	lbs/yr	92%	
4	DDT	1.432E-03	4.253E-05	lbs/yr	97%	
5	Dieldrin	4.118E-05	8.154E-06	lbs/yr	80%	
6	HeptachlorEpoxide	5.618E-05	8.342E-06	lbs/yr	85%	
7	PAH1	1.927E-02	1.907E-02	lbs/yr	0%	
8	PAH2	1.054E-01	2.086E-03	lbs/yr	98%	
9	PAH3	6.606E-02	2.616E-03	lbs/yr	96%	
10	Arsenic	4.229E-02	1.465E-02	lbs/yr	65%	
11	Copper	1.471E+00	5.096E-01	lbs/yr	65%	
12	Lead	6.845E-01	1.694E-01	lbs/yr	75%	
13	Zinc	4.295E+00	4.252E+00	lbs/yr	0%	
14	TPCB	2.434E-03	1.377E-06	lbs/yr	99.90%	